Spring 2012

University of Windsor Graduate Calendar 2012 Spring

University of Windsor

Spring 2012 Graduate Calendar

GRADUATE CALENDAR

The Graduate Calendar is a comprehensive guide to all graduate programs and courses available at the University of Windsor. It outlines academic regulations and standards, program degree requirements, and general University policies.

The online calendars are the official calendars. The University of Windsor publishes graduate web calendars on a semester basis(Fall, Winter, and Spring).

Note: Students may follow the academic rules and program regulations set out in the calendar of the term in which they were first admitted to the program or any subsequent calendar.

FEDERATED AND AFFILIATED INSTITUTIONS:
Assumption University
Canterbury College
Iona College

The University of Windsor is a full member of the Association of Universities and Colleges of Canada, and the the International Association of Universities.

Spring 2012 Graduate Calendar

HOT TIPS

1. Make sure you are familiar with the graduate *Academic Regulations*, including the Graduate Studies Faculty Regulations for the Doctor of Philosophy and/or the Master's Degree, as well as the specific regulations set out by the area offering your program.

2. Refer to the Glossary and Course Numbering System when registering for courses.

3. Check the Academic Dates on the Office of the Registar's website (www.windsor.ca/registrar).

4. Bookmark the online graduate calendar in your FAVORITES! (www.uwindsor.ca/calendars)

5. Don't forget to complete your Application to Graduate by the application deadline.

6. Students may follow the academic rules and program regulations set out in the calendar of the term in which they were first admitted or any subsequent calendar.

Spring 2012 Graduate Calendar

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.

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).

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"

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.

Spring 2012 Graduate Calendar

Programs (Listed Alphabetically)

Listed Alphabetically by Department/Program Area

The University offers the following Masters and Doctoral programs.
[Programs with a Co-op or Internship option are identified in the list.]

A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z

B
Biological Sciences (MSc)
Biological Sciences (PhD)
Business Administration (MBA)
Business Administration (MBA) (Co-op)
Business Administration (MBA) (Fast-track)
Business Administration (MBA for Managers and Professionals)
Business Administration/Bachelor of Laws (Integrated MBA/LLB)
See also Management

C
Chemistry and Biochemistry (MSc)
Chemistry and Biochemistry (PhD)
Civil Engineering (MASc)
Civil Engineering (MEng)
Civil Engineering (PhD)
Communication and Social Justice (MA)
See also *Sociology and Social Justice*
Computer Science (MSc) (With and without Co-op)
Computer Science (PhD)
Criminology (MA)

E
Earth Sciences (MSc)
Earth Sciences (PhD)
Economics (MA)
Education (MEd)
Educational Studies (PhD Joint program)
Electrical Engineering (MASc)
Electrical Engineering (MEng)
Electrical Engineering (Computer Engineering Field) (MEng)
Electrical Engineering (PhD)
Engineering Materials (MASc)
Engineering Materials (MEng)
Engineering Materials (PhD)
English (MA)
Environmental Engineering (MASc)
Environmental Engineering (MEng)
Environmental Engineering (PhD)
Environmental Science (MSc)
Environmental Science (PhD)

H
History (MA)
Human Kinetics (MHK)

I
Industrial Engineering (MASc)
Industrial Engineering (MEng)
Industrial and Manufacturing Systems Engineering (PhD) (Multi-Disciplinary Ph.D. Program)

M
Management (MM)
Mathematics and Statistics (MSc)
Mathematics and Statistics (PhD)
Mechanical Engineering (MASc)
Mechanical Engineering (MEng)
Mechanical Engineering (PhD)

N
Nursing (MSc)
Nursing (MN) - Advanced Clinical Field, Nursing Leadership Field
Nursing - Primary Health Care Nurse Certificate
Nursing - Graduate Diploma in Advanced Practice Oncology/Palliative Nursing
See also Certificate programs

P
Philosophy (MA)
Physics (MSc)
Physics (PhD)
Political Science (MA)
Political Science (MPP Articulation)
Psychology (PhD and MA)

S
Social Work (MSW) (Internship)
Social Work (Phd)
Social Work and Juris Doctor (Joint Program) (MSW/JD)
Social Data Analysis (MA)

Sociology (MA)
Sociology with Specialization in Social Justice (PhD)
See also *Communication and Social Justice*

V
Visual Arts (MFA)

Spring 2012 Graduate Calendar

Programs (Listed by Department)

Departments/Program Areas Listed Alphabetically.

Spring 2012 Graduate Calendar

Programs (Listed by Faculty)

Departments/Program Areas are listed Alphabetically by Faculty. Click on the Department or Program Area and follow the link for program information.

Faculty of Arts and Social Sciences (FASS)
Communication Studies
English Language, Literature, and Creative Writing
History
Philosophy
Political Science
Psychology
Social Work
Sociology, Anthropology and Criminology
Visual Arts

Faculty of Business Administration (Odette School of Business)

Faculty of Education

Faculty of Engineering
Civil and Environmental Engineering
Electrical and Computer Engineering
Industrial and Manufacturing Systems Engineering
Mechanical, Automotive and Materials Engineering

Faculty of Human Kinetics

Faculty of Nursing

Faculty of Science
Biological Sciences
Chemistry and Biochemistry
Computer Science
Earth and Environmental Sciences
Economics
Mathematics and Statistics
Physics

Faculty of Law

Great Lakes Institute for Environmental Research

Spring 2012 Graduate Calendar

Certificate Programs

Ontario Primary Health Care Nurse Practitioner Certificate

Spring 2012 Graduate Calendar

Courses (Listed Alphabetically by Department)

Listed Alphabetically by Department/Program Area

Spring 2012 Graduate Calendar

Instructors

Listed Alphabetically by Department/Program Area

Spring 2012 Graduate Calendar

APPLICATION INFORMATION

Application for admission may be made online at www.uwindsor.ca/grad.

Applicants are advised to check departmental 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 and following these dates to qualified applicants. All positions may be filled before the deadline dates. 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. It is recommended that international students apply at least 6-8 months prior to the semester in which they desire admission.

Admission to the Faculty of Graduate Studies is by letter of offer from the Dean of Graduate Studies.

A decision to admit or not to 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 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 updated file.

DEFERRED APPLICATIONS

DOCUMENTATION REQUIRED

ADMISSION LEVELS (an applicant may be admitted to a graduate program as a master's student, qualifying master's student, transitional master's student, probationary master's student. or a PhD student)

POSTGRADUATE AWARDS AND FINANCIAL AID(Information regarding graduate scholarships, awards and financial aid.)

Spring 2012 Graduate Calendar

POSTGRADUATE AWARDS AND FINANCIAL AID

ELIGIBILITY FOR GRADUATE FUNDING

Full-time graduate students in research-based programs may receive funding from three main sources: scholarships (internal and external), Graduate Assistantships (GAs), and Research Assistantships (RAs). This latter category is Department or even supervisor specific. Eligibility for the first two, scholarships and GAs, are subject to constraints dictated by the funding sources and, in the case of GAs, by the Collective Agreement.

One of the constraints upon funding eligibility is temporal and depends upon continuous registration. Support from the University of Windsor at the Master's level can be offered within the first two years from the first term of registration at the Master's level (M2). Support from the University of Windsor at the Doctoral level can be offered within the first four years from the first term of registration at the Doctoral level (D2). While external awards are administered according rules defined by the source agencies, and these can differ slightly from program to program, their rules regarding eligibility are similar to the above listed.

In order to retain support once it is awarded, students must maintain continuous full-time registration; rare exceptions can be made to accommodate a Leave of Absence for medical, maternity or paternity leave. Where leave is granted for other reasons, the term(s) on leave will diminish the number of terms that a student was eligible to receive support.

Failure to register by the posted late registration deadline for each semester will result in forfeiture of support for that semester. Students who are eligible to apply for external awards are obliged to do so, or they may forfeit their funding from the University of Windsor.

For up-to-date detailed information on the funding available to graduate students, please refer to the website of the Faculty of Graduate Studies (**www.uwindsor.ca/grad**).

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REGISTRATION

Registration
Students whose applications for admission to graduate study have been approved for full- or part-time study should present themselves to their program advisors prior to registration on the dates recorded in the section "Academic Dates".

Categories of Registration (includes definitions of "full-time graduate student" and "part-time graduate student")

Graduate Registration Regulations (includes information on leaves of absence, non-degree registration and auditing courses)

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FACULTY REGULATIONS FOR THE DOCTOR OF PHILOSOPHY AND THE MASTER'S DEGREES

THE DEGREE OF DOCTOR OF PHILOSOPHY

THE MASTER'S DEGREE

Spring 2012 Graduate Calendar

EXAMINATION AND GRADING PROCEDURES

Spring 2012 Graduate Calendar

AUTHORSHIP AND PLAGIARISM

Authorship

Click on the link for the Senate Policy on Plagiarism and Authorship (Policy P5).

The Policy Statement on Research Personnel is available by contacting the Office of Research Services.

Plagiarism

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.

Click on the link for the Senate Policy on Plagiarism and Authorship (Policy P5).

In case of any doubt, students are strongly urged to consult with the instructor or thesis supervisor. In cases where students feel that their intellectual property or copyrighted material has been plagiarized, complaints should be made in writing to the Dean of Graduate Studies.

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GRADUATION

In order to allow the necessary time for the printing of the diploma and the Convocation program, the candidate's completed work must be approved by the Faculty of Graduate Studies and the major paper, project, thesis or dissertation, if one is presented, must be received by the Office of Graduate Studies at least two weeks before Convocation following requirements prescribed in *Guidelines for Major Papers, Theses, and Dissertations.*

Registration in any program does not constitute an application for a degree or diploma. An "Application to Graduate" must be completed and filed with the Registrar's Office by the specified date prior to the Convocation at which the applicant expects to graduate.

Spring 2012 Graduate Calendar

FACULTY OF GRADUATE STUDIES

OFFICERS OF ADMINISTRATION

(Ext. 2107)

Dean
Dr. Patricia L. Weir; B.H.K., M.H.K. (Windsor), Ph.D. (Waterloo) - 1991

Associate Dean
Dr. Paul F. Henshaw; B.E.Sc. (Western), M.A.Sc., Ph.D. (Windsor)-1997.

Fluid Dynamics Research Institute
Interim Director: Dr. Gary W. Rankin

Great Lakes Institute for Environmental Research
Director: Dr. Daniel Heath

Humanities Research Group
Director: Dr. Antonio Rossini

Institute for Diagnostic Imaging Research
Director: Dr. Roman Maev

GRADUATE COUNCIL

One graduate faculty representative from each discipline or group of disciplines offering an OCGS approved program.

Ex-officio Members (with vote): Dean of Graduate Studies; Associate Dean, Graduate Studies; Vice-President, Research;
President of the Graduate Student Society; University Librarian;
Four (4) decanal representatives, elected by the Faculty Deans;
Other members, to a maximum of two invited from the academic and/or administrative support services (non-voting);
Nine additional student representatives from the Graduate Student Society

COMMITTEES

Academic Standing Committee
Admissions Committee
Awards Committee
Executive Committee
Graduate Support Committee
New Programs Committee
Nominating Committee

Membership elected annually from Graduate Council and graduate faculty.

For more on the Faculty of Graduate Studies, visit its website at www.uwindsor.ca/grad

FACULTY OF GRADUATE STUDIES: GENERAL COURSES

Spring 2012 Graduate Calendar

COURSE NUMBERING SYSTEM AND FACULTY AND PROGRAM CODES

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 02-46-501 would be a course in the Faculty of Arts and Social Sciences (02-), in the subject area of Psychology (46-) and would be at the graduate level. 100, 200, 300, and 400 numbers indicate undergraduate courses, while 500, 600 and 700 numbered courses are graduate level courses.

Note: some 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 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-

Languages, Literatures and Cultures:

- Aboriginal Studies, 01-06-
- Intercultural Studies, 01-07-
- Multicultural Studies, 01-08-
- Asian Studies, 01-10-
- Classical Studies, 01-11-
- Greek & Roman History, 01-12
- Greek Languages & Literature, 01-13-
- Latin Languages & Literature, 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, 03-41-
Education, 05-80-
Electrical and Computer Engineering, 06-88-
English, 01-26-

Environmental Studies, 14-58-
Forensics, 14-57-
French Studies, 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 Justice: 02-38-
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-

Spring 2012 Graduate Calendar

RESEARCH INSTITUTES

THE GREAT LAKES INSTITUTE FOR ENVIRONMENTAL RESEARCH (GLIER)

The Great Lakes Institute for Environmental Research (GLIER) is a world-class combination of researchers, graduate programs, facilities and location - on the Canada-US border at the heart of the world's most economically significant freshwater system.

GLIER research is currently focussed on two interrelated themes that assess the impact of multiple stressors on large lakes and their watersheds. The stressors include metal and organic chemical contamination, species invasions, climate change, harvesting of populations, nutrient enrichment, and habitat destruction. The themes are environmental chemistry and toxicology, and conservation and resource management. GLIER's 5200 m2, tri-level, dedicated facility on the Detroit River is without parallel in Canada. It includes over 25 extensively equipped laboratories, offices for researchers and post-doctoral and gradaute students, and conference and meeting rooms. GLIER maintains a private boat launch on the Detroit River and has dedicated boats.

GLIER has the distinction of housing the only university-based environmental analytical laboratory in Canada accredited by the Canadian Association of Environmental Analytical Laboratories (CAEAL) to international standards of performance.

Further details of activities and facilities appear on GLIER's website at www.uwindsor.ca/glier.

The Environmental Science graduate programs are offered through GLIER. See Environmental Science.

FLUID DYNAMICS RESEARCH INSTITUTE

The Fluid Dynamics Research Institute was founded to foster interdepartmental and inter-Faculty research and postgraduate teaching related to the dynamics of fluids. Members conduct basic and applied research, and are committed to providing a broad training for graduate students in all aspects of fluid mechanics and heat transfer. Members are drawn from Mechanical Engineering, Civil and Environmental Engineering, and Applied Mathematics. Research ranges from theoretical studies on stability and exact solutions to enhancement of flow measurement techniques to implementation of commercial computer codes and development of new codes for industrial problems. Application areas include civil engineering, environmental engineering, the automotive, defence and petroleum industries, biomechanics and aeronautics. Graduate students affiliated with Institute members in their research projects will register in the member's department and complete the degree requirements of that department.

Further details are available from http://venus.uwindsor.ca/research/fdri/ index.htm.

INSTITUTE FOR DIAGNOSTIC IMAGING RESEARCH

The University of Windsor Institute for Diagnostic Imaging Research (the "Institute") is a multi-disciplinary collaborative research and innovation consortium dedicated to the development of innovative diagnostic imaging technologies and products using advanced and diverse imaging techniques. The Institute will develop intellectual property that will strengthen the University's ability to directly help diversify the region's economic sectors and increase the general competitiveness of the local region.

Spring 2012 Graduate Calendar

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 publication, 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. The official University of Windsor academic calendars are: the Undergraduate Web Calendar, the Graduate Web Calendar, and the Faculty of Law Calendar.

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.

Spring 2012 Graduate Calendar

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.

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FACULTY REGULATIONS FOR THE DOCTOR OF PHILOSOPHY AND THE MASTER'S DEGREES

THE DEGREE OF DOCTOR OF PHILOSOPHY

THE MASTER'S DEGREE

Spring 2012 Graduate Calendar

GLOSSARY

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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).

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"

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.

Spring 2012 Graduate Calendar

GRADUATION

In order to allow the necessary time for the printing of the diploma and the Convocation program, the candidate's completed work must be approved by the Faculty of Graduate Studies and the major paper, project, thesis or dissertation, if one is presented, must be received by the Office of Graduate Studies at least two weeks before Convocation following requirements prescribed in *Guidelines for Major Papers, Theses, and Dissertations.*

Registration in any program does not constitute an application for a degree or diploma. An "Application to Graduate" must be completed and filed with the Registrar's Office by the specified date prior to the Convocation at which the applicant expects to graduate.

Spring 2012 Graduate Calendar

BIOLOGICAL SCIENCES

THE MASTER OF SCIENCE DEGREE

Admission Requirements

1) Applicants with an honours degree in Biological Sciences or a related field may be admitted to the Master's Candidacy (M2) program.

2) Applicants with a general B.Sc. degree in Biological Sciences or a related field may be admitted to the Master's Qualifying (M1) program.

3) For the Neuroscience and Behaviour field, agreement with a research supervisor for supervision will also be required.

Program Requirements

Students may pursue one of the following fields within the MSc in Biological Sciences: 1) Molecular/Cellular Biology; 2) Ecology, Evolution, Environment, and Behaviour; and 3) Neuroscience and Behaviour.

1) Students admitted to the Master's Candidacy program will be expected to:

(a) comply with the general regulations;
(b) attend all departmental seminars in Biological Sciences (formal presentations of visiting speakers, graduate student seminars, thesis defense presentations and dissertation defense presentations) each year of full-time registration;
(c) present a departmental seminar in each year of enrollment (the thesis defense may count as one of these);
(d) successfully complete a minimum of two graduate courses with approval of the Master's Committee, courses may be in a cognate area. Statistics 65-453 (Statistics for Life/Social Sciences) may be allowed for graduate credit;
(e) complete an original research project and embody it in a thesis;
(f) defend the thesis orally at a public lecture or seminar.

2) Students admitted to the Master's Qualifying program, besides meeting the minimum requirements of the Master's Candidacy program, are expected in the first year of the two-year program to achieve a level of qualification equivalent to an honours degree through research and a minimum of four courses.

3) *Grading:* A student must maintain at least a B- average in each Biological Sciences course and at least a B- average in any non-Biological Sciences courses.

4) *Master's Committee:* Within one term of the student's registration in the program, the research committee will be formed and the names submitted to the Dean of Graduate Studies. The full committee will consist of at least three members - the research supervisor, one other faculty member from within Biological Sciences, and one University faculty member from outside of Biological Sciences.

The student should meet with individual committee members on an informal basis at least twice a year. The committee, in turn, must meet to:

(a) review and approve course work and the research proposal no later than six months into the program;
(b) discuss the student's research and thesis at least six months before the anticipated time of the final oral examination;
(c) participate in the final oral examination.

Research Progress: Each year from the date of initial registration, the student must submit a Research Progress Report to and meet with his or her Master's committee. In addition, the student must review his or her research in a meeting with the Master's committee at least six months before the anticipated date of the final oral examination.

Research Thesis: A thesis embodying the results of an original investigation in the student's major field is required of all candidates. The student must defend the thesis orally at a public lecture or seminar, which will be the final oral examination.

BIOLOGICAL SCIENCES: COURSES

BIOLOGICAL SCIENCES: PROGRAMS

BIOLOGICAL SCIENCES: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

BIOLOGICAL SCIENCES

THE DOCTOR OF PHILOSOPHY DEGREE

In addition to the general requirements as set out in the Faculty of Graduate Studies Regulations, the following requirements must be met by all students proceeding to the Ph.D. degree.

Admission Requirements

Applicants with an honours degree in Biological Sciences or related field and who have been judged to be outstanding students may be admitted directly into the Ph.D. program. Applicants holding an M.Sc. degree or equivalent from the University of Windsor or from another recognized university or college may be admitted to the Ph.D. program with advanced standing in course work as described below.

Program Requirements

Students may pursue one of the following fields within the PhD in Biological Sciences: 1) Molecular/Cellular Biology; 2) Ecology, Evolution, Environment, and Behaviour; and 3) Neuroscience and Behaviour.

Course Work: Students proceeding toward the Ph.D. degree will follow one of the programs given below:

1) Students proceeding directly to the Ph.D. from an Honours B.Sc. degree will be expected to:

(a) comply with the general regulations;
(b) attend all departmental seminars in Biological Sciences (formal presentations of visiting speakers; graduate student seminars, thesis defense presentations and dissertation defense presentations) each year of full-time registration;
(c) present a departmental seminar in each year of enrollment (the dissertation defense may count as one of these);
(d) successfully complete a minimum of four graduate courses. With the approval of the Doctoral Committee, courses may be in a cognate area. Statistics 65-453 (Statistics for Life/Social Sciences) may be allowed for graduate credit;
(e) complete a dissertation embodying the results of an original investigation;
(f) defend the dissertation at a public lecture or seminar.

Students recommended and approved for transfer into the Ph.D. program after having completed one year of an M.Sc. degree in Biological Sciences at the University of Windsor will normally receive credit for graduate course work completed during the M.Sc. program.

2) Students entering into a Ph.D. program with an M.Sc. degree will be expected to:

(a) comply with the general requirements;
(b) attend all departmental seminars in Biological Sciences (formal presentations of visiting speakers, graduate student seminars, thesis defense presentations and dissertation defense presentations) each year of full-time registration;
(c) present a departmental seminar in each year of enrollment (the dissertation defense may count as one of these);
(d) successfully complete a minimum of two graduate courses for a minimum total of four (4) courses for the M.Sc. and Ph.D. combined. With the approval of the Doctoral Committee, courses may be in a cognate area. Statistics 65-453 (Statistics for Life/Social Sciences) may be allowed for graduate credit;
(e) complete a dissertation embodying the results of an original investigation;
(f) defend the dissertation at a public lecture or seminar.

Grading: A student must maintain at least a B- standing in each course in Biological Sciences and at least a B- average in any non-Biological Sciences courses. Any student whose performance is deemed unsatisfactory in course work or research will be asked to withdraw.

Doctoral Committee: Within the first term of the student's registration, the doctoral committee will be formed except for the external examiner, who is to be appointed during the student's final year of study/research. The full committee will consist of at least five members; one must be from outside the University, one from the University faculty but outside Biological Sciences, and three must be within Biological Sciences. The research advisor will act as chairperson of this committee. The student should meet with individual committee members on an informal basis at least twice a year.

The doctoral committee must meet for the following:

(a) to review and approve course work and the research proposal no later than six months into the program;
(b) to prepare and administer the comprehensive examination within the first two years of the student's registration in the program;
(c) to discuss the student's progress within two months after the comprehensive examination. (The extramural committee member need not participate.);
(d) to discuss the student's research and dissertation at least two months before the anticipated time of the final oral examination;
(e) the final oral examination.

Research Progress: Each year from the date of initial registration, the student must submit a Research Progress Report to

and meet with his or her doctoral committee. In addition, the student must review his or her research in a meeting with the doctoral committee at least six months before the anticipated date of the final oral examination.

Dissertation: Six months before the anticipated date of the final oral examination the student must review the research and dissertation in a meeting with the committee.

A dissertation embodying the results of an original investigation in the student's major field is required of all candidates. The dissertation is expected to be of a quality suitable for publication in a refereed biological journal.

Examinations:

(a) *Comprehensive Examination:* The primary purpose of the Comprehensive Examination is to ensure that the student demonstrates both a reasonable mastery of the field of specialization, and knowledge of broader areas of Biology; it is designed to test the student's command of knowledge and ability to integrate that knowledge. This examination must be completed within two years of the student's initial registration in the program. Prior to the examination, the student will have provided the doctoral committee with a written proposal outlining the background, approach and general expectations of the intended research project; however the Comprehensive Examination is not intended to be, and should not be limited to, a defense of this proposal. The Comprehensive Examination will normally be an oral examination administered by the doctoral committee, and chaired by the Biological Sciences Graduate Coordinator (or designate). The student's Academic Advisor will communicate the results of the examination and any recommendations to the student, and to the Biology Graduate Committee. Following the Comprehensive Examination the doctoral committee may assign the student appropriate remedial or supplementary course work. Successful completion of the examination and any remedial studies or course work recommended by the doctoral committee is prerequisite to the student's admission to candidacy in the doctoral program.

(b) Finally, the student will be requested to defend the dissertation orally at a public lecture or seminar (final oral examination).

BIOLOGICAL SCIENCES: COURSES

BIOLOGICAL SCIENCES: PROGRAMS

BIOLOGICAL SCIENCES: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

ODETTE SCHOOL OF BUSINESS

THE MASTER OF BUSINESS ADMINISTRATION DEGREE (MBA)

M.B.A. PROGRAM SEQUENCE

The program will consist of five teaching modules

Module 1: Business Fundamentals
76-501 Interpersonal Dynamics
76-503 Introduction to Financial Management
76-502 Core Concepts of Accounting I
76-511 Research Methodology
75-692 Topics in Strategic Management

Module 2: New Venture
76-504 Quantitative Techniques in Management
76-505 Marketing Management
76-510 Core Concepts of Accounting II
75-690 Entrepreneurship: New Venture Formation and Management

Module 3: Managing Growth
76-512 Financial Management
76-513 Human Resources Management
76-514 Management Information Systems
74-631 Consumer Behaviour

Module 4: Managing in a Mature Market
71-613 Leadership and Organizational Change
74-639 Marketing Strategy and Planning
72-673 Topics in Finance
75-698 Strategic Management

Module 5: Specialization
Three 600-level business courses

ODETTE SCHOOL OF BUSINESS: PROGRAM INFORMATION (MBA)

ODETTE SCHOOL OF BUSINESS: COURSES

ODETTE SCHOOL OF BUSINESS: PROGRAMS

ODETTE SCHOOL OF BUSINESS: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

ODETTE SCHOOL OF BUSINESS

MASTER OF BUSINESS ADMINISTRATION DEGREE CO-OPERATIVE EDUCATION

Note: Admissions to the MBA Co-op Program will be suspended as of Fall 2008.

Course Requirements

The M.B.A Co-op requires eleven 500-level courses in the first year.

The major paper is weighted as two courses; the thesis as four. A student writing a major paper or thesis would require eight or six additional courses respectively. Fast Track students who do not complete a co-op work term will be required to complete a major paper in addition to the ten courses. 75-698 is required of all MBA students.

Students will be allowed to pursue a general M.B.A. or choose one specific area of concentration. Areas of concentration include Business Strategy and Entrepreneurship, Finance, International Business, Marketing, Management and Labour Studies, Management Science and Production/Operations Management. To obtain an area of concentration, courses must be completed as follows:

BUSINESS STRATEGY AND ENTREPRENEURSHIP

75-680. Managing the International Enterprise
75-682. Manufacturing Strategy
75-690. Entrepreneurship: New Venture Formation and Management

Plus any two of:
75-692. Topics in Strategic Management
74-639. Marketing Strategy and Planning
71-613. Leadership and Organizational Change

FINANCE

72-672. Cases in Financial Management
70-651. Reporting, Analyzing, and Using Accounting Information

Plus any three of:
72-670. Investment Analysis and Management
72-671. Portfolio Management
72-673. Topics in Finance
72-674. International Financial Management

INTERNATIONAL BUSINESS

71-643. International Management
72-674. International Financial Management
74-635. International Marketing Strategy
75-680. Managing the International Enterprise

Plus any one of:
45-566. International Political Economy
41-510. Theory of International Trade
or a Topics course with an international focus offered by any of the Areas

MARKETING

74-639. Marketing Strategy and Planning

Plus any three of:
74-631. Consumer Behaviour
74-632. Marketing Research
74-635. International Marketing
74-638. Special Topics in Marketing

Plus any one of:
72-672. Cases in Financial Management
75-680. Managing the International Enterprise
75-682. Manufacturing Strategy
or a Topics course being offered by one of the other Areas whose content is relevant to Marketing.

MANAGEMENT SCIENCE

73-603. Management Science Methods
73-605. Operations Management
73-606. Strategic Implementation for Technologies Management

Plus any two of:
73-602. Topics in Management Science
60-537. Database Management Systems
60-538. Information Retrieval Systems
60-539. Emerging Non-traditional Database Systems
91-504. Advanced Operations Research I
91-505. Advanced Operations Research II
91-511. Stochastic Processes
91-502. Manufacturing Systems Simulation
91-500. Optimization
91-503. Production and Inventory Control Systems
91-508. Reliability Engineering

MANAGEMENT AND LABOUR STUDIES

71-613. Leadership and Organizational Change
71-643. International Management
71-646. Business Negotiations and Problem Solving
71-647. Managing Diversity in the Work-place

Plus any one of:
71-648. Topics in Management and Labour Studies
95-500. Sport Leadership

PRODUCTION/OPERATIONS MANAGEMENT

73-604. Operations Management
75-682. Manufacturing Strategy

Plus any three of:
73-602. Topics in Management Science
74-631. Consumer Behaviour
75-680. Managing the International Enterprise
41-531. Industrial Organization
91-509. Computer-Integrated Manufacturing
91-512. Flexible Manufacturing Systems

THE MAJOR PAPER

Students may choose a major paper option. All students choosing this option must have a detailed major paper proposal approved by at least two faculty members in the Odette School of Business. These two faculty members will have primary responsibility for supervising the student's work. The approved proposal application form must be submitted to the Assistant to the Dean in order to register for the major paper (76-796). An oral defence will be required.

The major paper will be graded, will receive six credits and will substitute for two 600-level course electives.

THE THESIS

Students may choose a thesis option. All students choosing this option must have a detailed thesis proposal approved by at least two faculty members in the Odette School of Business and by one faculty member external to the School but from within the University. An oral defence will be required.

The thesis will be graded, will receive twelve credits and will substitute for four 600-level course electives.

ODETTE SCHOOL OF BUSINESS: PROGRAM INFORMATION (MBA)

ODETTE SCHOOL OF BUSINESS: COURSES

ODETTE SCHOOL OF BUSINESS: PROGRAMS

ODETTE SCHOOL OF BUSINESS: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

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ODETTE SCHOOL OF BUSINESS

MASTER OF BUSINESS ADMINISTRATION DEGREE (FAST-TRACK PROGRAM)

Note: Admissions to the MBA Co-op Program will be suspended as of Fall 2008.

This program is designed for students who have graduated from a four-year honours business program. Fast Track M.B.A. students are exempt from the first (qualifying) year of the regular program, entering directly into the second (candidate) year. It includes not only traditional academic course work but also a co-operative work placement with selected organizations. The program is purposely designed to provide practical knowledge based experience usually not available at an undergraduate level.

FAST TRACK M.B.A. PROGRAM STUDY SEQUENCE

Fall Term
76-660. Management Skills Development
plus workshops and four 600-level Business courses

Winter Term
76-711. Work Term

Summer Term
75-698. Strategic Management
plus workshops and four 600-level Business courses

Students who are unable to complete the work term (76-711) will write a major paper (76-796).

ODETTE SCHOOL OF BUSINESS: PROGRAM INFORMATION (MBA)

ODETTE SCHOOL OF BUSINESS: COURSES

ODETTE SCHOOL OF BUSINESS: PROGRAMS

ODETTE SCHOOL OF BUSINESS: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

ODETTE SCHOOL OF BUSINESS

M.B.A FOR MANAGERS AND PROFESSIONALS

The M.B.A for Managers and Professionals is an accelerated program geared toward students who are employed full-time and have accumulated significant experience in management and business practices. For additional information contact the Centre for Executive Education at www.uwindsor.ca/execed.

Admission Requirements

1) Four-year (honours) undergraduate degree;

2) Three years of work experience in managerial or professional positions;

3) Applicants must achieve a satisfactory score on the GMAT to be granted admission to the MBA for Managers and Professionals. Applicants who hold an M.B.A from a non-Canadian University or a Ph.D. (or equivalent degree) in any discipline will not be required to write the GMAT. The GMAT requirement may be waived for applicants who can demonstrate the following: (1) Successful performance in a job that has an extensive quantitative component (comptroller, quality assurance supervisor, engineer, etc.); and (2) a B average or better in an undergraduate degree that emphasizes quantitative skills (such as Engineering, Mathematics, Statistics, and the like), or performance at the B or better level in a recent Mathematics or Statistics course at a recognized University. The GMAT will strengthen the application.

4) An applicant whose first language is not English and who has not worked in an English-speaking environment for at least three years would have to demonstrate adequate command of English by an appropriate score on the TOEFL, CAEL, or other recognized test;

5) Satisfactory performance on a personal interview. Interviews will be conducted for prospective students.

Students with an Honours B.Comm.

Applicants who have a four-year B.Comm. or equivalent business degree could be admitted directly to the second year of the Professional M.B.A if they meet the above criteria and furthermore:

(a) have completed their degree no more than five years before the cut-off date for applications;
(b) had an average grade of B or higher in their program.

Program Curriculum

Total courses: 20

As with the regular M.B.A. program, all required courses are offered by the Odette School of Business Administration. In this program students will follow a prescribed sequence of courses in cohort fashion, with no electives - an approach that is not uncommon in M.B.A. programs directed at working managers and executives.

Program Sequencing

Courses are scheduled on alternate weekends; contact time is supplemented by Web-based instruction and team assignments. Students complete two courses concurrently before moving to the next two courses.

Year 1
77-521. Core Concepts of Accounting I
77-522. Introduction to Financial Management
77-523. Quantitative Techniques in Management
77-524. Managing People in Organizations
77-525. Business Research Methods
77-531. Core Concepts of Accounting II
77-532. Financial Management
77-533. Management Information Systems
77-534. Managing Human Resources
77-535. Marketing Management

Year 2
77-620. Reporting, Analyzing, and Using Accounting Information
77-621. Leadership and Organizational Change
77-623. Maximizing the Value of the Organization
77-624. Managing in the International Arena
77-625. Strategic Management
77-626. Strategic Implementation for Technologies Management
77-627. Business Negotiation and Problem Solving
77-628. Entrepreneurship and Intrapreneurship

77-629. Current Issues in Business

ODETTE SCHOOL OF BUSINESS: PROGRAM INFORMATION (MBA)

ODETTE SCHOOL OF BUSINESS: COURSES

ODETTE SCHOOL OF BUSINESS: PROGRAMS

ODETTE SCHOOL OF BUSINESS: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

ODETTE SCHOOL OF BUSINESS / FACULTY OF LAW

INTEGRATED M.B.A./J.D. 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 J.D degrees in four years. It is administered by the Integrated M.B.A./J.D Program Committee composed of representatives from the Odette School of Business, the Faculty of Law and the Faculty of Graduate Studies.

The M.B.A integrated with the J.D program requires seven 600-level courses.

Admission Requirements

The admission procedure for the integrated program consists of two stages. At the first stage, students applying to the program must meet the admission requirements of both the M.B.A. and J.D programs. Therefore separate applications must be submitted to the Faculty of Law and the Faculty of Graduate Studies for admission to the regular degree program in Law and the M.B.A. To facilitate academic and career planning, it is strongly suggested that these applications be made simultaneously. Students who are accepted to both the M.B.A. and J.D programs will be accepted to the integrated program, and will proceed to attend first year in either Faculty. Such students will be granted a deferred admission to the other Faculty in the program.

This special deferred admission will be revoked if the applicant's performance in the first program fails to meet the first-year academic standards of the program. In such case the applicant may re-apply for regular admission to the second degree program.

Applications will also be considered for entry to the program from candidates who are attending the first year of either the J.D or M.B.A. programs. They must meet the admissions requirements and application deadline for the program for which they are seeking entry.

Application Deadlines

Faculty of Law - November 1 (J.D)
Faculty of Graduate Studies - June 1 (M.B.A.)

For application materials please contact each of the following separately:

For the J.D:
Ontario Law School Application Service
P.O. Box 1328
170 Research Lane
Guelph, Ontario
N1G 5E2
Telephone: (519) 823-5232
Website: www.ouac.on.ca/olsas

For the M.B.A:
Odette School of Business
M.B.A. Admissions
University of Windsor
Windsor, Ontario
N9B 3P4
mba@uwindsor.ca
Website: www.uwindsor.ca/mba

TERM PLANNING

First and Second Years

The first two years of study in the integrated program will consist of the regular first-year programs of each faculty.

Third and Fourth Years

The third and fourth years of the integrated program will be devoted to required and elective courses offered in both the Faculty of Law and the Odette School of Business.

In the M.B.A. program students will be required to take five candidate-level courses. These must include 75-698 (Strategic Management) and four courses selected from a minimum of two of the following areas: Accounting, Management and Labour Studies, Finance, Management Science, Marketing, and Business Strategy and Entrepreneurship. In addition, the M.B.A. major paper or thesis must have a substantial legal component.

In the Faculty of Law, the student will enrol in courses for a minimum of forty credits. These must include Torts, Civil Procedure, one course from the Legal Perspectives Group, and one course requiring a substantial paper that must account for at least 50 percent of the student's grade in the course. The M.B.A. paper will ordinarily satisfy this requirement, subject to the approval of the Faculty of Law Academic Programs Committee.

In addition to the requirements outlined above, the candidate must choose three additional candidate-level M.B.A. courses or a further three law courses totalling at least nine credit hours or any equivalent combination. The student's elective choices shall be reviewed by the Integrated M.B.A./J.D Committee in light of the student's personal and career objectives, and the necessity of scheduling core business and law courses.

ADVANCEMENT

Continuation in the program is conditional on students meeting the following requirements:

First and Second Years: Standing in the top half of the class; no Faculty of Law course grade lower than C-.

Third and Fourth Years: In courses taken in the Odette School of Business, candidates must attain at least one A- or above grade and not receive any grades below B-. In courses taken in the Faculty of Law, candidates must attain in each year at least one grade of B- or above and must not receive any grade lower than C-.

Candidates who fail to meet the above standards may be advanced upon the approval of the Program Committee if such action is warranted. Candidates who either fail to advance from First to Second Year, Second Year to Third Year, Third to Fourth Year, or who choose to leave the program will be free to continue on for both degrees, but within normal degree requirements, and subject to any conditions set out by the two Faculties. Students who fail to advance or who leave the program after Third Year and who have taken the appropriate electives may petition the Odette School of Business to be allowed to complete the regular requirements for the M.B.A. degree.

YEAR	LAW STREAM	BUSINESS STREAM
I	Law I	Qualifying Year-M.B.A.
II	Qualifying Year-M.B.A.	Law I
III*	Candidate Year-M.B.A. Law II & III	Candidate Year-M.B.A. Law II & III
IV*	Candidate Year-M.B.A. Law II & III	Candidate Year-M.B.A. Law II & III

*Please consult the Cashier's Office about the tuition structure and the Faculty of Graduate Studies for inquiries about awards.

Students with an Honours Bachelor of Commerce Degree

Students holding an Honours B.Comm. degree may obtain both the J.D and M.B.A. degrees without the assistance of a special integrated program. However, by submitting applications simultaneously to both the Faculty of Law and the Faculty of Graduate Studies and indicating an interest in the program, such students may be granted a deferred admission to whichever degree program he or she elects to take second. This special deferred admission will be revoked if the applicant's performance in the first program fails to meet the first-year academic standards of the program. In such case the applicant may re-apply for regular admission to the second degree program.

Note: The University reserves the right to make changes in the integrated program and any rules or regulations applying to it.

ODETTE SCHOOL OF BUSINESS: PROGRAM INFORMATION (MBA)

ODETTE SCHOOL OF BUSINESS: COURSES

ODETTE SCHOOL OF BUSINESS: PROGRAMS

ODETTE SCHOOL OF BUSINESS: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

CHEMISTRY AND BIOCHEMISTRY

THE MASTER OF SCIENCE DEGREE

In addition to the University's general requirements and stipulations for the Master's degree, the following requirements must be met by students proceeding to the M.Sc. degree.

1) *Course Work:* Candidates must complete successfully at least three courses chosen from the available graduate offerings in the student's field or from related and cognate courses, with the approval of the Program Committee. The student may be required to take additional courses, as stipulated by the student's Master's committee.

2) *Seminars:* In addition to the above course work, students must attend the regular departmental Seminar (59-795) throughout their M.Sc. studies as a fulfilment of this requirement.

3) *Thesis:* A student must undertake original research and embody the results in a thesis(59-797). The student will then be examined by a committee.

A student who fails to achieve satisfactory performance in all aspects of the program (*e.g.*, course work, seminars, thesis work or major critique) may be required to withdraw.

4) *Master's Committee and Final Examinations:* The Master's committee is chosen in the manner described under Master's Program Requirements. The final examination will take the form of an open seminar in the presence of the Master's committee. The examination will be open to the public.

CHEMISTRY AND BIOCHEMISTRY: COURSES

CHEMISTRY AND BIOCHEMISTRY: PROGRAMS

CHEMISTRY AND BIOCHEMISTRY: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

CHEMISTRY AND BIOCHEMISTRY

THE DOCTOR OF PHILOSOPHY DEGREE

In addition to the University's general requirements, the following requirements must be met by all students proceeding to the Ph.D. degree:

1) *Course Work:* Candidates must complete successfully at least six courses, including 59-710 (or three courses if the candidate enters the program with an MSc degree) chosen from the available graduate offerings in the student's field or from related and cognate courses, with the approval of the Program Committee. The student may be required to take additional courses, as stipulated by the student's Doctoral committee.

2) *Seminars:* In addition to the above course work, students must attend the regular departmental Seminar (59-795) throughout their Ph.D. studies and present at least one seminar on their research as a fulfilment of this requirement.

3) *Dissertation:* The principal requirement for the Ph.D. degree is the presentation of a dissertation which embodies the results of an original investigation (59-798). For general requirements of the dissertation, see Ph.D, The Dissertation.

A student who fails to achieve satisfactory performance in all aspects of the program (*e.g.*, course work, seminars, and dissertation work) may be required to withdraw.

4) *Doctoral Committee:* The Ph.D. committee is chosen in the manner described under Ph.D Program Requirements. This committee will meet with the student annually to review his or her progress. As part of this review the student will present a short seminar on his or her research progress.

5) (a)*Transfer to the Ph.D. program:* M.Sc. students with a minimum of an A- average in a minimum of two courses taken as a graduate student may transfer directly to the Ph.D. program following a meeting with the Graduate Advisory Committee (with participation of the Outside Reader optional) at which approval to transfer is recommended. Such transfers will normally take place between the 12th month to the 24th month after admission to the M.Sc. II program.

(b) *Comprehensive Examination:* Students in the Ph.D. program will be required to complete an oral comprehensive examination within the first twelve months following admission into the Ph.D. program. The examination will take the form of a ten to twenty minute presentation of the student's research work to date, followed by a question and answer session in which the student's depth of knowledge of the field of research and the underlying chemical and/or biochemical principles will be examined. The student will be assessed by a committee of three members comprised of the research advisor and two other faculty members from Chemistry and Biochemistry, with additional members optional. As a guide to the student, the committee may provide some directed readings prior to the examination. The student will be expected to understand the subject matter and background of these topics. A grade of Pass or Fail will be given. In the event of a failing grade, the student may be allowed a second examination within one month, or a specific assignment for subsequent evaluation at the discretion of the examining committee. It may be possible that the student will not be allowed to repeat the examination.

(c) *Final Examination:* Each candidate will take a final oral examination in defense of the dissertation on the recommendation of the doctoral committee. An external examiner, chosen for acknowledged scholarship in the appropriate field of chemistry or biochemistry, will normally be present during the oral examination. The external examiner will be selected by the doctoral committee, subject to the approval of the Dean of Graduate Studies. The examination will be public and will involve a short seminar presentation by the candidate. The examination will be chaired by the Dean of Graduate Studies or delegate.

CHEMISTRY AND BIOCHEMISTRY: COURSES

CHEMISTRY AND BIOCHEMISTRY: PROGRAMS

CHEMISTRY AND BIOCHEMISTRY: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

FACULTY OF ENGINEERING

[DEPARTMENTS: CIVIL AND ENVIRONMENTAL ENGINEERING; ELECTRICAL AND COMPUTER ENGINEERING; INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING; MECHANICAL, AUTOMOTIVE AND MATERIALS ENGINEERING]

MASc program requirements are common for all Engineering program areas.

The following requirements are supplementary to the University's general requirements as set out by the Faculty of Graduate Studies.

THE DEGREE OF MASTER OF APPLIED SCIENCE

Areas of Specialization

The areas of specialization are listed by Department.

Admission Requirements

A candidate for the degree of Master of Applied Science shall hold the degree of Bachelor of Applied Science from this University or an equivalent degree in Engineering or Applied Science. In addition, the applicant must have at least second-class standing or its equivalent in the final year and be recommended by the Program Graduate Committee in which the candidate plans to undertake studies.

Applicants with degrees in related fields will be considered but will normally require strengthening of their background in Engineering. At the discretion of the Program, the Graduate Record Examination (GRE) may be required.

All applicants whose native language is not English are required to satisfy the English proficiency requirement as described in the application procedures listed in this calendar.

Possession of the minimum requirements does not automatically ensure acceptance.

Degree Requirements

The specific minimum program requirements for the M.A.Sc. include the successful completion of:

1) *Course Requirements:* Satisfactory completion of courses comprising between twelve and twenty-four term hours, depending on the term hour equivalence assigned to the mandatory thesis or major paper. A thesis may be equivalent to as many as eighteen term hours, and a major paper to as many as six term hours of the total minimum requirement of thirty term hours.

2) Either a thesis or a major paper as specified below:

(a) *Thesis:* A thesis incorporating the results of an original investigation is required of all candidates except those students who are doing non-thesis research toward a major paper. Before writing the thesis the student must meet with the Master's committee to obtain permission to write the thesis. The Master's committee will grant this permission when the student has shown sufficient competence and has accomplished substantial research. After completion of the thesis, each candidate will be required to make a satisfactory oral presentation and defense of the thesis as described below.

(b) *Major Paper:* For those candidates doing non-thesis research, a major paper is required. The topic of the major paper is normally research based on the existing literature in the field of study. The candidate will be required to make an acceptable oral presentation to the Master's committee based on the major paper (see below).

3) Mechanical Engineering students must take 92-595 (Graduate Seminar)

4) Industrial Engineering students must additionally take 91-595 (Graduate Seminar). They are expected to register in it every semester offered. Normally in the final year of their degree, they are to give a seminar presentation and will receive a Pass/Fail grade. For the M.A.Sc. thesis or Major Paper in Industrial Engineering the final grade is “Satisfactory” or “Unsatisfactory”.

Residence and Time Limits: The minimum period of study for a Master's candidate is twelve months. The maximum duration of full-time study as a Master's candidate is three years. Part-time Master's candidates will undertake the equivalent of a minimum of one year of full-time study. For a part-time Master's candidate the maximum time limit generally will not exceed five calendar years. Master's candidates who expect to require an extension of these time limits must petition the Dean of Graduate Studies, giving reasons for the request and plans for completion of the work. The Chair of the Program Graduate Committee will then make a recommendation to the Dean of Graduate Studies.

Committees: Research undertaken as part of a Master's program is normally directed and supervised by a Master's committee. Whereas the student's advisor provides day-to-day guidance and direction, the committee is ultimately responsible for the overall supervision to ensure that adequate progress is maintained. The Master's committee will consist

of at least three members with the student's advisor as chairperson. The advisor must be a member of graduate faculty.

At least one member shall be from a Program within the University of Windsor other than the one in which the student is majoring. The student's advisor will propose the names of the Master's committee and these will be subject to the approval of the Program Graduate Committee and the Executive Committee of the Faculty of Graduate Studies. Within one month after registration, each student will be assigned to a Master's committee.

The final appraisal of the thesis and the conduct of the final oral examination of the dissertation will be carried out by the examining committee. The examining committee will consist of the Master's committee and the Chair of the Program Graduate Committee or designate of the Dean of Graduate Studies as chairperson (non-voting).

Examinations: At the discretion of the Program Graduate Committee a qualifying examination may be required. A qualifying examination is one in which the student is asked to demonstrate a reasonable mastery of the fundamentals in the major subject; it is designed to test the student's preparation for advanced graduate work. If such an examination is required, it must be administered and passed before the student registers for the final candidate year of Master's work.

In addition to the usual examination on course work, all students must meet the following requirements:

1) *Review of Progress on Research or Major Paper:* Within the first year a full-time student will present in the form of a seminar an outline of his or her proposed thesis research or outline the content of his or her major paper. This will be presented to the Master's committee, who must approve, with or without modifications, or reject the proposal. Thereafter, at least once a year, the student will report his or her progress in the form of a seminar.

2) *Final Examinations:* The passing of the final oral examination on the thesis (or the major paper) requires both an adequate thesis (or major paper) and a satisfactory defense. The examination will be conducted by the examining committee and the thesis defence will be chaired by the Chair of the Program Graduate Committee or appointed designate. If the examining committee cannot arrive at a unanimous decision to award a passing grade, a majority decision will be accepted provided there is no more than one dissenting vote. If there is more than one dissenting vote, the student may be required to carry out additional work if the thesis is judged to be adequate in all other respects, or the student may be required to withdraw.

Grading: The grading system is outlined in "Faculty Regulations".

The Faculty of Engineering requires that students maintain at least a B average at all times.

Courses in which a grade of B- or higher is received will be accepted for graduate credit. In addition, upon the positive recommendation of the Chair of the Program Graduate Committee and advisor concerned, credit may be granted by the Faculty of Graduate Studies for not more than two term courses in which a grade of C or C+ has been obtained.

If a student fails to obtain credit in a course, the course may be repeated only once, at the discretion of the Chair of the Program Graduate Committee concerned and the Dean of Graduate Studies. No student may repeat, or replace with another course, more than two term courses in which credit was not obtained.

All research work for which a letter grade is assigned must be graded B- or better to receive credit.

Make-up courses will not count for graduate credit. Make-up courses are those courses required to compensate for deficiencies in the student's academic background.

In exceptional cases, at the discretion of the Chair of the Program Graduate Committee and the advisor, a graduate student may take one undergraduate course for credit.

INTEGRATED B.A.Sc./M.A.Sc.

The Faculty of Engineering offers a Bachelor's/Master's Integrated Engineering Degree program which allows students with outstanding academic ability to achieve both a B.A.Sc. and M.A.Sc. degree in a time period as short as five years. This program treats the educational process through the B.A.Sc. to the M.A.Sc. degree as a single coherent integrated whole, while ensuring that the requirements for both degrees are fully satisfied. This structured program represents a complementary alternative to the existing separate undergraduate and graduate degree programs.

Application to the integrated B.A.Sc./M.A.Sc. can be made early in the Winter semester of the student's third year of undergraduate B.A.Sc. study. Normally, only applicants who have a cumulative grade point average of at least 9.5 (B+), and a semester grade point average of 9.5 (B+) in the Fall semester of their third year of undergraduate B.A.Sc. study may be granted admission to the integrated program which confers conditional admission status to the M.A.Sc. program.

Contact the appropriate Engineering Department for more information.

RESEARCH IN OUTSIDE INSTITUTIONS

Research for the Ph.D. or M.A.Sc. degree, in part or in whole, may be carried out in an outside institution (e.g., industrial, governmental, or academic university). A student who does research at an outside institution must fulfil the same requirements as a student doing on-campus research. The only exception is that the time spent doing the off-campus research relevant to the thesis or dissertation will be credited toward the residence requirement. In addition to the general requirements, a student applying for permission to do research at an outside institution must provide:

1) A detailed statement of the research proposal, including arrangements for supervision, and of the circumstances under which the research is to be carried out;

2) Evidence that the institution has adequate facilities for the research; and that the applicant will be able to pursue independent research;

3) A proposed time schedule;

4) A letter of support from a responsible person in the outside institution giving approval of the proposal and accepting these regulations.

CIVIL AND ENVIRONMENTAL ENGINEERING: COURSES
ELECTRICAL AND COMPUTER ENGINEERING: COURSES
INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING: COURSES
MECHANICAL, AUTOMOTIVE, AND MATERIALS ENGINEERING: COURSES

CIVIL AND ENVIRONMENTAL ENGINEERING: PROGRAMS
ELECTRICAL AND COMPUTER ENGINEERING: PROGRAMS
INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING: PROGRAMS
MECHANICAL, AUTOMOTIVE, AND MATERIALS ENGINEERING: PROGRAMS

CIVIL AND ENVIRONMENTAL ENGINEERING: INSTRUCTORS
ELECTRICAL AND COMPUTER ENGINEERING: INSTRUCTORS
INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING: INSTRUCTORS
MECHANICAL, AUTOMOTIVE, AND MATERIALS ENGINEERING: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

FACULTY OF ENGINEERING

The following requirements are supplementary to the University's general requirements as set out by the Faculty of Graduate Studies.

THE DEGREE OF MASTER OF ENGINEERING

Faculty of Engineering

Master of Engineering (MEng) Degree in Civil Engineering, Environmental Engineering, Electrical Engineering, Electrical Engineering with Computer Engineering Field^, Industrial Engineering, Mechanical Engineering and Engineering Materials

1. General

The Master of Engineering (MEng) degree offered at the University of Windsor is a course work professional program open to students who satisfy the admission requirements. The MEng Program takes three to five semesters to complete but is structured in such a way that it may be completed in one year by a full-time student. The minimum period of full-time registration for the MEng degree is three semesters and the maximum allowable time is five semesters. For part-time students, the minimum period of registration for the MEng degree is six semesters and the maximum allowable time is fifteen consecutive semesters. Practical work-experience placements (paid and unpaid) may be available for full-time students only, but cannot be guaranteed.

2. Degree, Course and Credit Requirements

Eight (8) courses, equivalent to 24 credits, taken from the 400 and 500 courses (or courses acceptable for graduate credit) and one (1) technical/professional writing course for engineers, are required for graduation. The professional writing course can be waived at the discretion of the department.

2.1 A candidate, with the permission of the host Department, may register for at most one senior undergraduate course (400-level) in the MEng Program. All courses must be for credit only. Auditing a course is not permitted.

2.2 A candidate must complete a minimum of 6 (six) courses, equivalent to 18 credits from the Faculty of Engineering, with a minimum of 5 (five) courses, equivalent to 15 credits taken in the specific program.

2.3 For non-engineering courses, candidates will be expected to choose courses from an approved list and must receive permission from the Departmental MEng Coordinator and the Faculty of Engineering Coordinator. No more than 2 (two) courses, equivalent to 6 credits, can be taken from another graduate program.

2.4 MEng students will be generally expected to choose their courses from the MEng Course List. Special permission from the MEng Coordinator will be needed for registering in a course outside the MEng Course List.

2.5 The candidate must obtain a pass in all courses credited to her or his program, with a minimum overall average of 72% (B-). A grade of less than 63% (C) in any course counts as a failure (F).

3. Schemes of Study

The Master of Engineering may be taken by full-time students or those who wish to study on a part-time basis while remaining in full-time employment external to the University. All applicants for the MEng program are expected to be entirely self-funded and no financial assistance will be provided by the Faculty of Engineering or the University of Windsor. International students are admitted as full-time students only.

3.1 Full-Time Students will be:

3.1.1 required to register for a maximum of three courses per semester,
3.1.2 required to register for a minimum of one course per semester,
3.1.3 expected to complete all degree requirements within 5 academic semesters.

3.2 Part-Time Students will be:

3.2.1 required to register for a maximum of admissible two courses per semester,
3.2.2 required to complete all degree requirements within 15 academic semesters and should not have more than two semesters of continuous "inactive" status

4. Admission Requirements

The Department should approve the application and in addition, MEng applicants shall be recommended for admission by the Faculty of Engineering Coordinator. Official admission to any program of graduate studies is in the form of a "Letter of Acceptance" issued by the Faculty of Graduate Studies. Please note that the following are minimum requirements and do not guarantee admission.

4.1 Undergraduate degree (BASc / B.Sc. / B.Eng. degree or equivalent*) with at least 73% (B) average over the last two years. International applicants are advised to refer to the specified minimum admission requirements, listed by country, at the Faculty of Engineering's Professional and Graduate Studies (FEPGS) web-site and the Faculty of Graduate Studies web-site.

*Candidates with degrees in such areas as Mathematics, Physics and Computer Science will also be considered. Students whose undergraduate degree programs do not provide them with sufficient background in Design, Applied Science and Professional/Technical communications are required to enter a qualifying program of courses at the undergraduate level before admission to candidature for the MEng degree. Students entering and successfully completing the MEng qualifying program may receive an Advanced Certificate in Engineering.

4.2 A candidate who has not fulfilled the minimum requirement of 73% average (B) standing may be admitted to the MEng Program as a probationary student** provided that he/she has either:

4.2.1 at least 2 years of industrial or engineering experience following graduation

or

4.2.2 achieved at least 77% (B+) overall standing in the Final Year of the graduation.

**Such candidates will be required to achieve a grade of at least 73% (B) in the first two MEng courses to be regularized in the MEng Program.

4.3 The language of instruction for the MEng courses is English. Applicants will be required to provide certification of English language proficiency, if he or she has:

4.3.1 not completed three or more years of post-secondary work at a Canadian institution or at an institution at which English was the primary language of instruction***,

*** *Countries in which English is the Official Language of Instruction, as recognized by the Faculty of Engineering are listed on the Faculty of Engineering's FEPGS web-site and the Faculty of Graduate Studies web-site. English Language proficiency may be met by the language coursework at the secondary school level in the countries listed on the FEPGS web-site.*

or

4.3.2 not been employed for a similar period of time in a position in which English was the primary language of business.

4.4 Where applicable a student's certification of English language proficiency can be demonstrated by a minimum score set by the department. For minimum requirements in other equivalent exams, information is available in the Faculty of Graduate Studies web-site. The Faculty of Engineering and the Faculty of Graduate Studies reserve the right to require further demonstration of English Language proficiency.

4.5 The Department may consider for admission to its degree programs students from outside Canada who have excellent academic preparation, but who do not meet the usual standards of English language proficiency. Successful completion of the English Language Improvement Program (ELIP) will be considered as a means to gain admission to the Department for such students.

4.6 Students who do not meet the academic requirements outlined above may be considered for admission to a transitional, probationary or qualifying program depending on their academic background.

4.7 Students seeking admission to the Department's MEng programs must also complete the Department's Graduate Student Information Form and the Faculty of Graduate Studies Admission Reference form.

5. Degree Program Transfers (MEng, MASc and PhD)

5.1 The MEng is a course-based professional degree and does not require a research thesis. As admission to the Department's PhD program requires a demonstrated record of research capabilities, MEng graduates are not eligible for direct admission to the PhD program, see 5.2.

5.2 On successful completion of the MEng degree with an overall average of at least 77% (B+) a student may apply for admission into the Department's MASc (fast-track) program, see section 6.

5.3 A full-time MEng student may apply for transfer into the MASc research degree track after successfully completing 5 MEng courses from the Department's MEng approved course list with an overall average of at least 77% (B+). A maximum of two courses of advanced standing may be granted towards the requirements of the MASc degree. Applications for admission to the MASc from the MEng program must conform to the general regulations for admission to the MASc program. Admission to the MASc program also requires that a faculty member in the department is able and willing to act as a research advisor. Admission is not guaranteed.

5.4 While strongly discouraged, a full-time MASc student may apply for admission into the MEng degree track. A maximum of two courses of advanced standing may be granted towards the requirements of the MEng degree provided the courses are on the Department's approved MEng course list. Applications for admission to the MEng from the MASc program must conform to the general regulations regarding admission to the MEng program. Admission is not guaranteed. Students

transferring from the MASc research degree to the MEng course based degree will be expected to be self-supporting and can expect no financial assistance from the Department or University during the remainder of their studies.

5.5 MASc students transferring to the MEng will not be eligible for continuing occupation of a research student office and will be required to return any computer equipment provided for their use as an MASc research student.

6. MEng-MASc Fast-Track Program

6.1 As described in section **5.2 above,** on successful completion of the MEng degree with an overall average of at least 77% (B+) a student may apply for admission into the Department's MASc program. Applications for admission to the MASc from the MEng program must conform to the general regulations for admission to the MASc program.

6.2 Admission to the fast-track MASc program also requires that a faculty member in the department is able and willing to act as a research advisor.

6.3 The fast-track MASc program which can only be entered following the successful completion of the MEng degree, as described above, consists of a research project which must be completed within 6 semesters for a part-time student or 3 semesters for a full-time student after completion of the MEng degree. A major paper may be substituted for the research project at the discretion of the Department and the student's advisor.

6.4 The MASc thesis must conform to the general regulations regarding Master's theses as described in the Faculty of Graduate Studies regulations and guidelines. A maximum of two courses of advanced standing may be granted towards the requirements of the MASc degree (subject to the approval of FGS). The nature of the remaining two or more courses is at the discretion of the supervisor.

^Contact the department for the specific courses in Computer Engineering.

COURSE TRANSFERS:
Students who have either failed to complete, or cannot continue in, the Degree of Master of Engineering (M.Eng.), and have been accepted into the Honours Certificate in Electrical Engineering, can be allowed to retain as credit a maximum of four (4) graduate courses in which they have received a B grade or higher. The transfer of the courses is at the discretion of the Department Head and Associate Dean Academic, Faculty of Engineering. Students who transfer to the HCP from the MEng, and have successfully completed the HCP with the required GPA for entrance to graduate studies, may reapply for admission into an Engineering Graduate program but will not be given credit for any courses they previously transferred to the HCP.

CIVIL AND ENVIRONMENTAL ENGINEERING: COURSES
ELECTRICAL AND COMPUTER ENGINEERING: COURSES
INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING: COURSES
MECHANICAL, AUTOMOTIVE, AND MATERIALS ENGINEERING: COURSES

CIVIL AND ENVIRONMENTAL ENGINEERING: PROGRAMS
ELECTRICAL AND COMPUTER ENGINEERING: PROGRAMS
INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING: PROGRAMS
MECHANICAL, AUTOMOTIVE, AND MATERIALS ENGINEERING: PROGRAMS

CIVIL AND ENVIRONMENTAL ENGINEERING: INSTRUCTORS
ELECTRICAL AND COMPUTER ENGINEERING: INSTRUCTORS
INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING: INSTRUCTORS
MECHANICAL, AUTOMOTIVE, AND MATERIALS ENGINEERING: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

FACULTY OF ENGINEERING

[DEPARTMENTS: CIVIL AND ENVIRONMENTAL ENGINEERING; ELECTRICAL AND COMPUTER ENGINEERING; INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING; MECHANICAL, AUTOMOTIVE AND MATERIALS ENGINEERING]

PhD program requirements are common for all Engineering program areas.

The following requirements are supplementary to the University's general requirements as set out by the Faculty of Graduate Studies.

THE DEGREE OF DOCTOR OF PHILOSOPHY

Areas of Specialization

The areas of specialization are listed by Department.

Admission Requirements

An applicant for admission to a course of graduate studies leading to the Doctor of Philosophy degree in Engineering must normally be a graduate of a recognized university with a Master's degree in Engineering or Applied Science. Applicants with degrees in related fields will be considered but will normally require strengthening of their background in engineering. At the discretion of the Program Graduate Committee, Graduate Record Examinations (GREE) may be required.

All applicants whose native language is not English are required to satisfy the English proficiency requirement as described in the application procedures listed in this calendar.

Possession of the minimum requirements does not automatically ensure acceptance to the degree program.

Candidacy: Admission to graduate study does not imply admission to candidacy for a degree. The candidacy of a student normally will be determined within the second year after initial registration in the doctoral program.

Candidacy will be granted to students who meet all of the following requirements:
(a) satisfactory completion of the comprehensive examination;
(b)demonstration to the doctoral committee of ability to conduct independent research;
(c)acceptance by the doctoral committee of the research proposal.

The doctoral committee will assess the student's competence to continue research on the basis of (a), (b) and (c), and inform the Chair of the Program Graduate Committee.

Program Requirements

The specific minimum program requirements for the Ph.D. include the successful completion of:

1) *Course Requirements:* Satisfactory completion of at least four courses, comprising a minimum of eight term hours, beyond the courses required for the Master's degree. Industrial, Manufacturing and Systems Engineering PhD students must also take 91-595. Students are expected to register in 91-595 every semester offered. Normally in the final year of their degree, students are to give a seminar presentation and will receive a Pass/Fail grade. In addition to Graduate Seminar 91-595, at least 2 from the 16 course listed in Category A and a minimum of one from Category B would be selected. Please contact the Department for the list of courses in Category A and B.

2) A comprehensive examination.

3) Satisfactory progress in research within each review period. The doctoral committee will establish by periodic review, which will include at least one formal seminar a year, that adequate progress in research has been accomplished by the candidate. The doctoral committee will also grant permission to write the dissertation when it decides the candidate has achieved sufficient competence in carrying out research, and when the candidate has done substantial research.

4) A dissertation on the research. Each candidate will be required to make an oral presentation of the dissertation research and will be examined orally on the subject of the dissertation and related fields.

Residence and Time Limits: Every student will undertake a full program of study for a minimum of three years beyond the Baccalaureate of Engineering or its equivalent. Credit for one of these years may be given for the time spent in proceeding to a Master's degree. Credit for one of these years may also be given for work done at another institution. However, in no case shall the student spend fewer than two of the three required years of residence in full-time attendance at the University of Windsor.

A student admitted to a Ph.D. program requiring the student's attendance for a minimum of three years must complete all requirements within seven years. Students admitted to a program requiring a minimum of two years' residence must complete all requirements within six years.

Committees: Research undertaken as part of a doctoral program is normally directed and supervised by a doctoral committee. Whereas the student's advisor provides day-to-day guidance and direction, the committee is ultimately responsible for the overall supervision to ensure that adequate progress is being maintained. The doctoral committee will consist of at least four members, with the student's advisor as chairperson. The advisor must be a member of graduate faculty. At least one member shall be from a program area within the University of Windsor other than the one in which the student is majoring.

The student's advisor will propose the names of members for the doctoral committee, and these will be subject to the approval of the Program Graduate Committee and the Executive Committee of the Faculty of Graduate Studies. Within one month after initial registration, each student will be assigned to a doctoral committee.

The final appraisal of the dissertation and the conduct of the final oral examination of the dissertation will be carried out by an examining committee. The examining committee will consist of the doctoral committee, the Dean of Graduate Studies or designate as chairperson (non-voting), and an external examiner.

Examinations: At the discretion of the doctoral committee a qualifying examination may be required. A qualifying examination is one in which the student is asked to demonstrate a reasonable mastery of the fundamentals in the major subject; it is designed to test the student's preparation for advanced graduate work. If such an examination is required, it must be administered and passed before the student registers for the second year of Ph.D. work.

In addition to the usual examinations on course work, all students must meet the following requirements:

1) Review of Progress on Research: Within the first year, the student will present in the form of a seminar an outline of his or her proposed thesis research. This will be presented to the doctoral committee who must approve, with or without modifications, or reject the proposal. Thereafter, at least once a year the student will report his or her progress in the form of a seminar.

2) Comprehensive Examination: Students who have previously obtained a Master's degree must attempt this examination within twelve months of registering for the Ph.D. program. Other students must take it within twenty-four months of registration for the Ph.D. program. This set of examinations requires the students to demonstrate an adequate background in the general discipline of engineering, and an advanced knowledge in their fields of specialization. The comprehensive examination will be conducted by a program comprehensive committee in one or two sections at the discretion of the Program Graduate Committee:

(a) a scheduled, supervised written portion, of at least three hours' duration, designed to test the student's general knowledge on core subjects in the field of study, with questions set and answers evaluated by the program comprehensive committee;

(b)an oral examination to be evaluated by the program comprehensive committee. The objective of this part of the examination is to test the student's ability to integrate general knowledge from different areas of the field of study in order to solve problems the student has not previously encountered.

The student's overall success in the comprehensive examination will be determined by the program comprehensive committee. If the student is unsuccessful, the committee may require:

(a) that the student repeat all or part of the comprehensive examination at a specified time,

(b)that the student take and pass remedial coursework before repeating all or part of the examination, or

(c)after consultation with and approval by the doctoral committee, that the student withdraw from the program.

3) *Final Examination:* The passing of the final oral examination of the dissertation requires both an adequate dissertation and a satisfactory defense of the dissertation. This examination will be conducted by the examining committee. Following the acceptance and provisional approval of the dissertation by the doctoral committee, and a satisfactory preliminary report from the external examiner, a date for the oral examination can be set. Except under very unusual circumstances, the external examiner must be present at the oral examination. If the examining committee cannot arrive at a unanimous decision to award a passing grade, the majority decision will be accepted provided that there is no more than one dissenting vote. However, if the dissenting vote is that of the external examiner, a new external examiner may be appointed and another oral examination will be required. If the new examiner also gives a dissenting vote, the dissertation will not be accepted.

RESEARCH IN OUTSIDE INSTITUTIONS

Research for the Ph.D. or M.A.Sc. degree, in part or in whole, may be carried out in an outside institution (e.g., industrial, governmental, or academic university). A student who does research at an outside institution must fulfil the same requirements as a student doing on-campus research. The only exception is that the time spent doing the off-campus research relevant to the thesis or dissertation will be credited toward the residence requirement. In addition to the general requirements, a student applying for permission to do research at an outside institution must provide:

1) A detailed statement of the research proposal, including arrangements for supervision, and of the circumstances under which the research is to be carried out;

2) Evidence that the institution has adequate facilities for the research; and that the applicant will be able to pursue independent research;

3) A proposed time schedule;

4) A letter of support from a responsible person in the outside institution giving approval of the proposal and accepting these regulations.

CIVIL AND ENVIRONMENTAL ENGINEERING: COURSES
ELECTRICAL AND COMPUTER ENGINEERING: COURSES
INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING: COURSES
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MECHANICAL, AUTOMOTIVE, AND MATERIALS ENGINEERING: PROGRAMS

CIVIL AND ENVIRONMENTAL ENGINEERING: INSTRUCTORS
ELECTRICAL AND COMPUTER ENGINEERING: INSTRUCTORS
INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING: INSTRUCTORS
MECHANICAL, AUTOMOTIVE, AND MATERIALS ENGINEERING: INSTRUCTORS

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Spring 2012 Graduate Calendar

COMMUNICATION, MEDIA, AND FILM

THE MASTER OF ARTS DEGREE

M.A. IN COMMUNICATION AND SOCIAL JUSTICE

Admission Requirements

Applicants should submit a portfolio consisting of : (i) a completed application form; (ii) a personal profile in accordance with the format prescribed by the Program; (iii) a C.V.; (iv) an official transcript of grades attained in undergraduate courses; (v) two letters of reference; and (vi) a sample of writing from undergraduate courses and/or a media production or multimedia portfolio. Normally, successful applicants will have an Honours B.A. in Communication or a cognate discipline; however, students lacking this formal requirement but having equivalent qualifications (for example, significant experience with a social justice agency or having engaged for a significant time in social justice related activities) are also encouraged to apply. Students lacking formal admission requirements may be required to enroll in a make-up year.

Program Curriculum Structure

Students choosing to prepare a thesis will be required to complete four courses in addition to the thesis, two of which must be the Pro-Seminar (40-500) and Critical Communication Theories (40-501). Students electing not to prepare a thesis will be required to complete six courses, two of which must be 40-500 and 40-501; they must also prepare a major paper which may evolve from one of the courses; presentation of the paper proposal and its defense, however, will be open to all faculty and students, as will be the case for all thesis proposals and defences. (Courses taken in other programs may be counted for credit with the prior permission of the Graduate Chair.)

COMMUNICATION, MEDIA, AND FILM: COURSES

COMMUNICATION, MEDIA, AND FILM: PROGRAMS

COMMUNICATION, MEDIA, AND FILM: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

COMPUTER SCIENCE (With and without Co-op Option)

THE MASTER OF SCIENCE DEGREE

Admission Requirements

Graduates of the University of Windsor or of other recognized colleges or universities may be admitted to programs leading to the Master's degree. A student with an honours Bachelor's degree or equivalent with adequate specialization in Computer Science and with at least B standing in the major subject may be admitted to a minimum one-year Master's program (II Master's Candidate). A student with an honours Bachelor's degree in a related subject and with at least B standing in the major subject may be admitted to a minimum two-year Master's program (I Master's Qualifying followed by II Master's Candidate) or to a minimum two-year II Master's Candidate program depending upon prior qualifications.

Students with deficiencies in some areas of Computer Science may be required to make up those deficiencies by registering in undergraduate courses prior to or as part of their graduate program or by following a program of supervised reading.

Students eligible to participate in the proposed co-op education will have successfully completed at least one semester of full-time study at the Master's level in the School of Computer Science at the University of Windsor, which includes fulfilling the requirement of attending regular departmental seminars.

Program Requirements (Major Requirements)

1) The requirements for the degree of Master of Science will be satisfied by pursuing a program of studies consisting of five approved courses and a thesis. (A thesis is a major research project which must involve substantial innovative work generally culminating in original results.)

2) In addition to the above course work, students must attend regular departmental seminars throughout their M.Sc. studies, as a fulfilment of this requirement.

3) With prior approval of the graduate coordinator, candidates may be permitted to include graduate courses offered by other departments in their program.

4) No student will be allowed to include in his or her program a course which substantially overlaps a course previously taken.

5) All candidates' programs are subject to approval by the Computer Science program graduate committee.

6) Students must maintain a minimum overall average of B-, and obtain a passing grade in all courses to remain in good standing in the program. A grade of less than B- in a graduate course will be considered as a failure for that course.

7) A student who fails to maintain the minimum overall average of B- will be automatically placed on probation in the following term.

8) A student who obtains a grade of F or less in any course will be automatically placed on probation in the following term.

9) A student who fails to achieve satisfactory performance in any aspect of the program (course work, thesis or major paper) may be required to withdraw.

The Master's thesis committee is chosen in the manner described under the section titled, The Program Requirements for the Master's Degree. The final examination will take the form of an open seminar in the presence of the Master's committee. The examination will be open to the public.

Each student must obtain approval of his or her program, in writing, from the graduate coordinator within three weeks of registration. Subsequent changes require written approval from the graduate coordinator.

Co-op Program Requirements

In addition to the Program Requirements for the Master of Science Degree, students participating in the co-op option must satisfy the following conditions:

1) Have been a full-time student in the Master's program in Computer Science;

2) Have successfully completed a minimum of one study term;

3) Have at least one semester remaining in a maximum of three years in the Master's program;

4) Have obtained written permission from the academic supervisor/co-supervisors;

5) Have their placement(s) confirmed by the Centre for Career Education

6) Are not planning to take courses during the work terms.

COMPUTER SCIENCE: COURSES

COMPUTER SCIENCE: PROGRAMS

COMPUTER SCIENCE: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

COMPUTER SCIENCE

THE DOCTOR OF PHILOSOPHY DEGREE

The general regulations for the Degree of the Doctor of Philosophy (Ph.D.) at the University of Windsor, as set out in the section titled, The Degree of Doctor of Philosophy, will apply together with the more specific requirements for the degree of Ph.D. in Computer Science given in the following section. For admission, continuation in good standing, and graduation, students must satisfy both the general university regulations and the specific regulations for Computer Science.

Admission Requirements

In order to be considered for admission to the doctoral program in Computer Science, applicants must have completed a thesis-based Master's degree in Computer Science, or, have completed a course-based Master's degree in Computer Science, and have demonstrated to the Admissions Committee, the ability to conduct independent research through the completion of research-oriented project work or appropriate research experience in industry or academia-, or have completed an honours undergraduate degree in Computer Science, and a thesis-based Master's in a closely related field.

Outline of Degree Requirements

All Ph.D. students must fulfill the following graduate academic requirements:
(a) A qualifying examination within four months after entering the program.
(b) No less than two and usually no more than four graduate courses.
(c) A comprehensive examination within two years after entering the program.
(d) A research proposal within two years of entering the program.
(e) Submission of an annual progress report.
(f) Presentation of three seminars, including the research proposal.
(g) A final examination consisting of a Ph.D. dissertation defense (60-798).

Qualifying Examination

The qualifying examination must be taken by all students entering the doctoral program.

The qualifying examination is intended to ensure that the student has a mastery of the fundamentals in Computer Science in order to undertake research. This is a breadth requirement in that it does not require the student to be able to undertake research in each of the fundamental areas. Rather, the student must demonstrate knowledge, in each of the fundamental areas, at a level that would be expected of a graduate from a four-year honours Computer Science university-degree program.

The student must obtain at least an overall grade of B in the tests and/or course works done for the qualifying examination.

Graduate Courses

Each student must complete no less than two and usually no more than four graduate Computer Science courses, not including those taken for credit in a Master's degree, and not including seminar or thesis courses. Graduate course selection will be determined by the student's Doctoral Committee. Graduate credit will be given for a grade of B- or higher in a graduate course.

Comprehensive Examination

The comprehensive examination is one in which the student is asked to demonstrate a reasonable mastery of the field of specialization; it is designed to test the student's command of knowledge and ability to integrate that knowledge, after completion of all or most of the graduate course work. Normally, this examination is completed during the second year of graduate study and is a prerequisite to admission to candidacy.

Admission to Candidacy

A student is admitted to candidacy when the student has passed the qualifying examination, has completed all of the required graduate courses, and has passed the comprehensive examination.

COMPUTER SCIENCE: COURSES

COMPUTER SCIENCE: PROGRAMS

COMPUTER SCIENCE: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

SOCIOLOGY, ANTHROPOLOGY AND CRIMINOLOGY

THE MASTER OF ARTS DEGREE IN CRIMINOLOGY

Admission Requirements

For admission to the Criminology MA, applications must hold an Honours (4 year) Degree in Criminology, Sociology, or related field from a recognized university.

The admission criteria are as follows:

1) A minimum grade point average of B+/A-;

2) Strong recommendations based on faculty observations of academic performance demonstrating clear commitment to, and understanding of, criminological concerns, or strong recommendations from a community professionals' observations of work experience or community involvement in areas relevant to criminology;

3) Consideration of the applicant's background preparation:
a) Applicants with an honours degree in Criminology or a related field may be admitted into the candidate year of the M.A. program provided they have an adequate background in criminological and sociological theory and social science methodology. Students not having a sufficient background in statistics and/or social/criminological theory may be required to take 02-250 and 48-308 and/or 48-202 and 48-302 or 48-466. An overall B- average must be maintained.

b) Applicants with a three-year degree in Criminology, transferring into Criminology from another discipline, or those with insufficient preparatory background may be required to take up to ten additional courses before proceeding into the candidate year. These may include: 48-210 or 48-310; 48-466; one course from 48-403, 48-404, 48-405, 48-406, 48-408 or 48-415 and six other courses at the 300 or 400 level, two of which may be outside the program. An overall B average must be maintained.

c) Students not having a sufficient background in statistics and/or social theory may be required to take 02-250 and 48-308 and/or 48-202 and 48-302. An overall B average must be maintained.

4) Full-time registered students admitted to the programme must normally complete all requirements for the Criminology MA within 24 months from commencement of study. During the end of the first year of registration, all graduate students are required to complete a progress report detailing the achievements of the previous year and the objectives for the next year. At this time, students in the Criminology MA will be required to declare a title and provide an abstract for their thesis as well as to list the members of their supervisory committee. Permission to continue to register in the program depends on a satisfactory report.

Program Curriculum Structure
The graduate course offerings and proposed graduate Criminology course offerings, and related graduate courses from other areas within the Department of Sociology and Anthropology will complement the research focus of the core faculty in the area of criminology. The Criminology MA requires the completion of coursework and the completion of an MA thesis.

Program Requirements

The program requirements are as follows:

Course requirements: Satisfactory completion of five (5) graduate courses.

Total courses: Five (5) 500-level credit courses

Major requirements: 48-566 Contemporary Criminological Theory; 48-505 or 48-506 (Qualitative or Quantitative Research Methods); Two of (48-561, 48-562, 48-567, 48-568,or 48-565); and, 48-590 (Directed Readings: Development of the Thesis Proposal)

The minimum passing grade in a graduate course is "B-". A student who fails to achieve a grade of "B-"in a graduate course may repeat the course once (scheduling considerations may require the Graduate Committee to substitute an alternative course). If a student fails to achieve a grade of "B-" in their second attempt, or fails to achieve a grade of "B-" in two courses, a recommendation will normally be made to the Dean of Graduate Studies and Research that the student be required to withdraw from the program.

Students are required to achieve an overall "B" average in all five courses.

Students have the option of taking one graduate course outside the Criminology program. Permission may be required from the department or program offering the course. Advance permission from the departmental Graduate Committee is required in order to take courses outside the Criminology program.

Satisfactory progress in research within each review period: The graduate committee in the Department of Sociology and Anthropology will conduct a periodic review, to establish that the candidate is making adequate progress.

The Proposal: Normally within the first year of the program, the student will present in the form of a seminar an outline of their proposed thesis research. This will be presented to the MA committee who must approve, with or without modifications, or reject the proposal. The proposal will be assigned a letter grade.

The Thesis: Normally completed within the second year of the program, the student will present their main research findings in the form of a seminar. This will be presented to the MA committee who must approve, with or without modifications, or reject the thesis. Graduate students in the Criminology MA will work on specific thesis topics within the scope of the Criminology program area. Their program of studies will be formulated in consultation with their graduate advisor(s) and approved by the thesis supervisor.

Spring 2012 Graduate Calendar

EARTH AND ENVIRONMENTAL SCIENCES

THE MASTER OF SCIENCE DEGREE IN EARTH SCIENCES

Program Requirements

1) *Course Requirements:* The candidate for a Master's degree will be required to take 61-580 and 61-582, plus a minimum of two graduate courses normally from Earth and Environmental Sciences but may include courses from cognate disciplines with prior approval. Not more than one course may be in Special Topics (61-590), and not more than two courses may be from the same instructor. Additional 500-level Science or Engineering courses may be taken on the recommendation of the student's Master's Committee. Up to three additional courses may be required to be taken as prerequisites or required background courses. The total of all courses taken shall not exceed eight. The student's Master's Committee shall recommend to the program coordinator all courses to be taken for graduate credit after discussion with the candidate. In addition, original research work must be pursued and embodied in a thesis submitted for degree credit. Credit for graduate study previously undertaken may be given for a maximum of two courses, but the duration of study at the University of Windsor may not be reduced to less than the minimum of one year.

2) *Examination Requirements:* The final examination of a candidate for the Master's degree shall be an oral defense of the thesis at a public lecture.

EARTH AND ENVIRONMENTAL SCIENCES: COURSES

EARTH AND ENVIRONMENTAL SCIENCES: PROGRAMS

EARTH AND ENVIRONMENTAL SCIENCES: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

EARTH AND ENVIRONMENTAL SCIENCES

THE DOCTOR OF PHILOSOPHY DEGREE IN EARTH SCIENCES

In addition to the general requirements outlined in the section titled, The Degree of Doctor of Philosophy, the following requirements must be met by all students proceeding to the Ph.D. degree.

Admission Requirements

The normal requirement for entry into the Ph.D. program shall be an M.Sc. in Earth Sciences or an appropriate degree in a cognate discipline. Students who have enrolled in the M.Sc. program may apply to transfer to the Ph.D. program after one year of registration, and must have achieved a minimum A- average in course work and have a strong recommendation from their thesis committee.

Program Requirements and Structure

Students entering the Ph.D. program with an M.Sc. degree will be required to:
a) take a minimum of four, one-semester courses, including the doctoral research proposal and graduate seminar courses.
b) Additional courses may be required if the doctoral committee feels that a particular area of the student's background needs to be strengthened.

The required courses will be chosen in the context of the student's previous education to ensure a sufficient intellectual challenge, commensurate with the Ph.D. degree.

Students transferring into the Ph.D. program after having completed one year of the M.Sc. degree will be required to take a minimum of six courses in total, including the doctoral research proposal and graduate seminar courses.

Grading: The minimum passing grade in graduate courses is “B-”. Any student whose performance is deemed unsatisfactory in course work or research will be required to withdraw.

Doctoral Committee: The doctoral committee shall comprise the advisor(s), two other faculty members from the Department of Earth Sciences and one faculty member from another department at the University of Windsor. Other committee members can be added where appropriate (e.g. from other universities or from industry).

Research Proposals: Doctoral candidates will be required to prepare research proposals that must be successfully defended in a public forum, prior to continuation in the program. Presentation of the research proposal will normally be at the end of the first calendar year after enrollment.

Dissertation: The student will be required to submit a dissertation that is a compilation of original research carried out by the student, under the supervision of the student's advisor(s) and the doctoral committee. The dissertation may be submitted in a traditional format or as a compilation of published papers and/or manuscripts, linked by introductory and conclusion chapters. In the latter case, the contribution of the student to any jointly authored papers must be clearly stated and justified.

Progress reports: The student will submit annual research progress reports to the doctoral committee. Continuation in the program is dependent on a satisfactory progress report. The Faculty of Graduate Studies also monitors student progress via an annual progress report submitted by the student and supervisor.

Examinations

Comprehensive Examination: The comprehensive examination will normally occur at the end of the first year and will typically be held in conjunction with the defense of the research proposal. However, the two may be held at different times for logistical or other reasons. The comprehensive exam is complementary to the defense of the research proposal, and is designed to assess whether the student's scientific knowledge is appropriate for continuance in the Ph.D. program, and to ensure that the student has the background knowledge that is required for their research. A pass/fail decision will be by a majority vote of the committee. If a student should fail the comprehensive exam, he or she will be allowed to re-sit the exam within a four-month period after the first exam. The student will be required to withdraw from the program should he or she fail the second exam.

Defense: The dissertation will be defended by the student and examined by an examination committee in a public defense. The examination committee will comprise the student's doctoral committee and an external examiner.

EARTH AND ENVIRONMENTAL SCIENCES: COURSES

EARTH AND ENVIRONMENTAL SCIENCES: PROGRAMS

EARTH AND ENVIRONMENTAL SCIENCES: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

ECONOMICS

THE MASTER OF ARTS DEGREE

Admission Requirements

1) A student with an honours Bachelor's degree in Economics or its equivalent, with at least a major average of B, may be admitted to a minimum one-year Master's program. Applicants are expected to have completed one course in each of calculus, linear algebra and statistics. Applicants who have not completed the above mathematics requirements are encouraged to do so prior to beginning their graduate course work. 2) A student with a general degree, or an honours graduate in another discipline, with at least a B standing, may be admitted to a minimum two-year Master's program.

Program Requirements

1) Students in the two-year program are required to take a make-up or qualifying year in their first year of the M.A. program. Selection of courses is to be made in consultation with a graduate advisor.

2) Students in the one-year M.A. program (Candidate year) are required to complete:
a) seven graduate courses and a major paper normally to be in conjunction with one of the courses OR eight graduate courses (no major paper);
b) at least one course in microeconomics, one in macroeconomics and one in econometrics. Students intending to enter a Ph.D. program are advised to take 41-501, 41-502, 41-503, 41-504, 41-541, and 41-542.

ECONOMICS: COURSES

ECONOMICS: PROGRAM

ECONOMICS: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

EDUCATION

THE MASTER OF EDUCATION DEGREE

The objectives of the Master of Education program are to provide candidates with opportunities to develop:

1) a commitment to intellectual enquiry and scholarship as a basis for continuing professional growth;

2) a knowledge of current theory and research relevant to the curriculum and administration of elementary and secondary schools; and

3) an understanding of, and respect for, the principles of educational research.

Admission Requirements

1) In addition to the requirements set forth in the section titled Application Information and the section titled, the Admission Requirements for the Master's Degree, for admission to the Faculty of Graduate Studies, and to programs leading to a Master's degree, applicants to the Master of Education program must:

(a)present an undergraduate degree from an approved university with standing in the B range overall and at least B standing in the final two years of study;
(b)present a Bachelor of Education degree with standing in the B range or the equivalent professional preparation;
(c)have at least one year of successful professional experience in education;
(d)submit a "Statement of Personal Objectives" outlining the applicant's professional background and reasons for seeking a graduate degree in education.

2) Applicants who fulfill the requirements above with the exception of (c) may be considered if they hold an honours Bachelor's degree or the equivalent with standing in the B range overall and at least a B standing in the final two years of study.

Moreover, in exceptional cases, applicants may be considered who do not possess a Bachelor of Education degree or equivalent, but who hold an honours Bachelor's degree or the equivalent with standing in the B range overall and at least a B standing in the last two years, and who can demonstrate experience, interests, and motivation that make them appropriate applicants to the program.

3) *Advanced Standing:* Applicants may be granted credit for up to two graduate term courses completed before application to the Master of Education program and taken in another program at the University of Windsor or at another accredited institution. Requests for advanced standing will be considered only at the time of application and only for graduate courses completed with at least B standing. The Faculty will not grant credit for any course taken more than seven years before all the requirements for the degree have been fulfilled.

4) Admission to the Master of Education program is to the II Master's Candidate level.

Program Requirements

1) Candidates for the Master of Education degree will pursue studies in one of two areas of concentration:
(a)Curriculum Studies;
(b)Educational Administration.

2) Candidates will follow either a major paper, a thesis, or a course-based program.

Additional information concerning the procedures for theses and major papers may be obtained from the Coordinator of Graduate Studies.

3) In addition to the general requirements for a Master's degree set forth in the section titled, Faculty Regulations for the Master's Degree, candidates in:

The thesis and major paper program are required to complete successfully the equivalent of a minimum of ten term courses.

Specific requirements include:
(a) three compulsory courses, 80-510 (Statistics in Education), 80-527 (Research in Education), and 80-524 (Fundamentals of Curriculum Theory and Development) or 80-529 (Theories of Educational Administration), depending on their area of concentration;
(b) a research project resulting in either a major paper (80-796), with the value of two term courses, or a thesis (80-797), with the value of four term courses;
(c) candidates proceeding to the degree by major paper are required to complete five additional courses, at least three of which must be chosen from the option courses listed for their area of concentration;
(d) candidates proceeding to the degree by thesis must complete three additional courses, at least two of which must be selected from the option courses listed for their area of concentration;

*Students in the Thesis stream are required to submit a thesis proposal to their Masters committee for approval prior to starting the thesis.

The course-based program are required to successfully complete:

(a) 80-527 (Research in Education), and 80-795 (Final Project Seminar)
(b) one of 80-510 (Statistics in Education) or 80-530 (Qualitative Methods in Educational Research)
(c) one of 80-524 (Fundamentals of Curriculum Theory and Development) or
80-529 (Theories of Educational Administration); and
(d) six optional courses from the list of courses under "Studies in the Area of Concentration",to include a minimum of four courses from the candidate's area of concentration.

4) Candidates with previous courses in research methods or statistics may request the Graduate Committee of the Faculty for permission to substitute other courses for either one or both of 80-527 and 80-510.

5) Transfer Credit: While the student is registered in the M.Ed. program, credit for up to two graduate term courses normally may be applied towards the degree from another Faculty at the University of Windsor or transferred from another accredited institution. Candidates must receive the approval of the Executive Dean of Graduate Studies or designate before taking such courses. Credit will be granted only for courses completed with at least a B standing.

6) Full-time candidates must complete all requirements for the degree within three years of their first registration.

7) Part-time students may not carry more than two courses in any term and must complete all requirements for the degree within five years of their first registration.

STUDIES IN THE AREA OF CONCENTRATION

Compulsory Courses

80-510. Statistics in Education
80-527. Research in Education
80-524. Fundamentals of Curriculum Theory and Development*
80-795. Final Project Seminar**
80-796. Major Paper**
80-797. Thesis**
80-529. Theories of Educational Adminstration***

* Compulsory for students in Curriculum Studies.

** All students must complete either a Final Project, a Major Paper or a Thesis.

*** Compulsory for students in Educational Administration.

Educational Administration Options

80-515. Comparative and International Education
80-529. Theories of Educational Administration
80-530. Qualitative Methods in Educational Research
80-531. Supervision of the Instructional Process
80-532. Organization and Administration of the School
80-533. Survey Design and Research
80-534. Individual Reading
80-535. Organizational Behaviour in Educational Institutions
80-536. Introduction to Educational Policy Analysis
80-538. The Arts and Education
80-550. Issues in Education
80-551. Information and Communication Technologies (ICT) for Teaching and Learning
80-545. Teaching for Sustainability: An Introduction to Environmental Education
80-555 Strategies for the implementation of Change
80-556. Approaches to Literacy Development
80-558. Psychology of Learning Problems
80-559. The Recent History of Education in Ontario
80-560. Politics of Education
80-561. Legal Aspects of Education
80-562. Educational Finance
80-565. Sociological Aspects of Education
80-566. Interpersonal Relationships in Education
80-591. Special Topics in Education

Curriculum Studies Options

80-503. The Psychology of Learning and Teaching
80-515. Comparative and International Education

80-524. Fundamentals of Curriculum Theory and Development
80-530. Qualitative Methods in Educational Research
80-533. Survey Design and Research
80-534. Individual Reading
80-537. Language Arts in the Elementary School
80-538. The Arts and Education
80-539. Second Language Teaching: Theories and Applications
80-541. The Social Sciences Curriculum
80-545. Teaching for Sustainability: An Introduction to Environmental Education
80-547. Learning in Science
80-550. Issues in Education
80-551. Information and Communication Technologies (ICT) for Teaching and Learning
80-552. Curriculum Developments in Mathematics Education
80-553. The Teaching and Learning of Mathematics
80-554. Fundamentals of Instructional Design
80-555 Strategies for the implementation of Change
80-556. Approaches to Literacy Development
80-557. The English Language Arts
80-558. Psychology of Learning Problems
80-565. Sociological Aspects of Education
80-572. Theory and Practice in Early Childhood Education
80-591. Special Topics in Education

EDUCATION: COURSES

EDUCATION: PROGRAMS

EDUCATION: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

EDUCATION

JOINT DOCTOR OF PHILOSOPHY IN EDUCATIONAL STUDIES

The Joint Ph.D. in Educational Studies is offered jointly by Brock University, Lakehead University, and the University of Windsor. The designation of "home university" is applied to the home university of the doctoral candidate's dissertation supervisor. The student has the right to take courses and seminars or to use the academic facilities at any of the participating universities in accordance with the approved plan.

The regulations governing the preparation of theses and conduct of examinations will be those of the supervisor's home university.

The degree requirements, regulations and procedures for the Joint Ph.D. program have been approved by the appropriate governing body of each institution. Where there is a conflict in regulations and procedures:

(a)in academic matters, the regulations of the institution offering the course will prevail;
(b)in non-academic matters, the regulations of the institution at which the student is registered will prevail.

PROGRAM GOALS AND OBJECTIVES

The joint program will accomplish the following goals:

1) provide greater access to advanced study in education for qualified candidates across a wider geographic range in the province;

2) promote the growth of research activity and professional development through collaboration among practitioners, scholars, educational institutions, and Faculties of Education;

3) foster inter-university links and promote partnerships among Ontario universities;

4) further the expansion of research culture and service throughout the province; and

5) contribute to the renewal of the professoriate and educational leadership in Ontario during the upcoming period of heavy retirement in the universities and school systems.

The objectives of the program are to produce graduate students who will:

1) contribute to the development of knowledge and expertise in teaching/ learning at all levels on the education continuum;

2) contribute to the solution of problems/issues in Canadian education;

3) promote scholarly enquiry and the development of methodological advances in the study of education;

4) integrate theory and practice in education; and

5) assume positions of leadership in Faculties of Education, school systems, and other public- and private-sector institutions concerned with education.

ADMISSION REQUIREMENTS

Normally, the minimum academic requirement for admission to the Ph.D. is successful completion of a Master of Education or Master of Arts in Education with an A standing.

In exceptional circumstances, applicants with lower formal academic qualifications but with a strong track record of professional experience related to the proposed area of doctoral study may be admitted. In these cases, however, the Admissions Committee may place additional requirements upon the applicant. Additional requirements will be stated on the offer of admission.

Applicants must provide evidence of research competence normally demonstrated by a master's thesis.

English is the primary language of communication and instruction in the program. Applicants from other countries who have not completed a degree at a university where the primary language of instruction is English must pass the Test of English as a Foreign Language (TOEFL) with a minimum score of 600 (250 computer-based) or an equivalent demonstration of proficiency.
Candidates who are working on the degree at a distance from the home university must purchase the software and access to the internet which will enable them to participate fully in the required courses.

ADMISSION WITH ADVANCED STANDING

Students may receive advance credit for a maximum of one-half course specialization elective at the graduate level provided that this course has not been credited to a degree or certificate already awarded, is relevant to the proposed area of study

and has been taken within three years of admission. Requests for advanced credit must be declared prior to admission. No substitution may be made for Core Seminars I and II or the Joint Specialization Elective via distance education.

RESEARCH PLAN

Applicants must submit a description of their proposed area of research (approximately 2-3 typed pages). When an applicant meets the basic requirements for admission, the potential supervisor and/or the Program Director will assist the applicant in developing a plan of study which will be presented to the Program Committee for approval. If approved, the applicant will proceed to register as a doctoral student at the home university of the dissertation supervisor and will be subject to the general degree regulations of that university. The offer of admission will be made to the applicant by the home university.

Dissertation supervisors will be required to report candidates' progress annually to the Program Committee and to appropriate authorities at the participating universities. Normally, candidates will be expected to complete course requirements and the comprehensive portfolio, and to submit a research proposal within three years of their initial registration. Changes to the approved plan of study must be approved in advance by the Program Director in consultation with the candidate and the supervisor.

PROGRAM FIELDS OF STUDY

1) Cognition and Learning: Cognition and learning draws primarily upon cognitive, developmental, social, and educational psychology as well as science and technology, to examine critically the cognitive, behavioural, emotional, and social processes of educators and students as they engage in teaching and learning. Integral components of this field include, but are not limited to, issues concerning best practices, remedial and contemporary instruction, assessment and evaluation, professional development, curriculum development and implementation, metacognition, and learning theories.

2) Educational Leadership and Policy Studies: This field of study encompasses a range of humanities and social science disciplines to explore the morale, social, and cultural purposes of educational organizations, policy and leadership. It draws upon the works of key scholars in organizational, administrative and policy studies to articulate the philosophical, theoretical and methodolgical frameworks that inform scholarship and practice. These frameworkds situate the major issues and debates confronting educational systems within their larger socio-political and socio-cultural contexts.

3) Social/Cultural/Political Contexts of Education: Education occurs in a dynamic, complex, and contested milieu. The Social/Cultural/Political Contexts of Education field of study critically explors the interplay between culture and education from caried historical, philisophical, and theoretical perspectives with the intent of fostering emancipatory research and democratic practice. Consideration is given but not limited to social constructs of race, class, gender, sexuality, and ability/disability, and how they intersect and influence educational experiences.

Applicants to the program must declare a field of study prior to admission to the program.

PROGRAM REQUIREMENTS

Doctoral candidates must be familiar with the academic regulations governing graduate studies at the home university.

Course Requirements

(a) Doctoral Seminar I (80-602) and Doctoral Seminar II (80-604);
(b)The Specialized Elective (80-651). Candidates may meet this requirement through a graduate level course offered at any of the participating institutions;
(c) One Joint Ph.D. Specialization Elective Course (one of 80-621, 80-631, 80-641)
(d) Research Proposal Colloquium (80-669) (via distance education). (Prerequisite: must have completed two terms of full-time residency or equivalent.)

Comprehensive Portfolio

The Comprehensive Portfolio (80-680) requires doctoral candidates to demonstrate their potential as scholars through the satisfactory completion of authentic tasks. The criteria used by the dissertation supervisory committee to set tasks and assess a candidate's performance are:

(a)an understanding of the concepts, theories, and issues in the field of study;
(b)a knowledge of current literature and research methods in the field of study;
(c)the ability to analyze and synthesize current literature on a specific problem within the field of study;
(d)an understanding of and ability to critique research in the field of study and research paradigms.

The tasks candidates are expected to complete include the dissertation research proposal, and three other tasks. Candidates must defend their portfolios.

The candidate's defence will be evaluated by the dissertation supervisory committee and at least one other member of the core faculty selected by the Program Director. Candidates are required to present their completed portfolio to an audience in a forum such as the Core Seminar.

Candidates may not begin their dissertation research until the portfolio requirements have been completed successfully.

Dissertation

The Dissertation supervisory committee will involve faculty from at least two participating universities, including whenever possible and reasonable, a member from the university closest to the candidate's home to serve as co-supervisor in cases where the supervisor is at some distance. The regulations and procedures governing the preparation of theses and conduct of examinations will be those of the supervisor's university.

Residence

Candidates must meet a minimum residency of four terms. Two terms of residency may be fulfilled by completion of the Core Seminars I and II. The other two terms of residency must be consecutive. It is strongly recommended that candidates complete two of the terms of residency after they have defended their comprehensive portfolio and are authorized to commence their doctoral research. Credit for residency may be given, with the approval of the Program Committee and the home university, for research carried out off-campus.

Candidates are required to maintain continuous registration. They shall complete the requirements for the degree within a minimum of three years and a maximum of six years.

Recommendations for a time extension or leave of absence are subject to the regulations and procedures at the home university and must be approved in advance by the supervisor and the Joint Program Committee.

DOCTORAL COURSES

Core Seminars

80-602. Doctoral Seminar I: Research, Theories, and Issues
80-604. Doctoral Seminar II: Research, Theories, and Issues

Specialization Elective Courses

Policy and Leadership
80-621. Educational Leadership and Policy Studies

Sociocultural Contexts of Education
80-631. Social/Cultural/Political Contexts of Education

Cognition and Learning
80-641. Conceptual Bases for Cognition and Learning

Other Required Courses
80-651. The Specialized Elective
80-669. Research Proposal Colloquium
80-680. Comprehensive Portfolio
80-798. Doctoral Dissertation

EDUCATION: COURSES

EDUCATION: PROGRAMS

EDUCATION: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

ENGLISH LANGUAGE, LITERATURE AND CREATIVE WRITING

THE MASTER OF ARTS DEGREE

Programs of Study

The English department offers two fields within the M.A. Program in English: Language and Literature and, Creative Writing and Language and Literature. Within the Language and Literature field, there are two options: the Thesis Option and the Course Work Option.

The Creative Writing and Language and Literature field allows students to combine graduate-level study of literature with advanced work on creative writing in a two-term workshop and by developing a significant independent writing project. Within the Language and Literature field, the Course Work Option offers exposure to a wide variety of topics in literature, composition and rhetoric, and theory. The Thesis Option allows students to investigate a single topic in depth through independent, extended research with faculty supervision.

The specific requirements for each field are:

M.A. IN ENGLISH: CREATIVE WRITING AND LANGUAGE AND LITERATURE

Four graduate seminar courses
26-591. Creative Writing Seminar A
26-592. Creative Writing Seminar B
26-794. Creative Writing Project (a novel, a play, a collection of poems or short stories)

M.A. IN ENGLISH: LANGUAGE AND LITERATURE

THESIS OPTION
Five graduate seminar courses
26-797. Thesis/Project (of at least 20,000 words)

COURSE WORK OPTION
Eight graduate seminar courses.

For both fields, students must include 26-500, Scholarship and the Profession (or equivalent) in their program in addition to their regular course load.

Admission Requirements

In addition to the requirements under section titled, Application Procedures and under section titled, The Master's Degree - Admission Requirements, for admission to the Faculty of Graduate Studies and to programs leading to the Master's degree, applicants for admission to the Candidate year in the programs leading to the Master of Arts degree in English should have the following undergraduate preparation:

1) Some courses, normally four, in the pre- and early-modern periods, that is, from Old English through the Eighteenth Century;

2) Some courses, normally four, in the modern period, that is, the Nineteenth and Twentieth Centuries, including Canadian and American;

3) Some courses, normally two, from the areas of Critical History, Theory and Approaches, Scholarship and Bibliography, and Language and Linguistics;

4) Additional courses from any of the above areas to make up the total number of courses required for a four-year English B.A.

Students who do not have a four-year B.A. or its equivalent may be admitted to the Faculty of Graduate Studies in a qualifying (M1) program. In such a program, the student is expected to register in appropriate undergraduate courses in order to satisfy the requirements above. Alternatively, students who are deficient in any of the stated requirements for admission may be invited or may request to write a qualifying examination (see below, "Qualifying or Placement Examination").

Students who are admitted to the Faculty of Graduate Studies in the M.A. program will be expected to select courses in their first year to complete the requirements specified above.

In addition to the documents required, applicants must submit a "Proposal of Studies" (about 500 words) with their applications indicating the program and option to which they are applying and discussing such issues as their areas of academic or creative interest, their undergraduate training, and their academic or career goals. Students applying to the field in Creative Writing must submit, with their application, a portfolio of representative creative work (20-25 pages). Students with a four-year B.A. in English may apply to either of the fields and to any of the options. Students with interdisciplinary

Spring 2012 Graduate Calendar

GREAT LAKES INSTITUTE FOR ENVIRONMENTAL RESEARCH (GLIER)

THE MASTER OF SCIENCE DEGREE IN ENVIRONMENTAL SCIENCE

In addition to the general requirements, the following requirements must be met by all students proceeding to the M.Sc. degree.

Admission Requirements

Applicants must submit a letter of intent that clearly outlines his/her interest in the program, proposed focus of study and the prospective supervisor.

Prospective students will be encouraged to contact a potential supervisor before applying for admission to the GLIER graduate program. If a suitable supervisor cannot be identified, the student will be dissuaded from applying for admission.

For admission to the GLIER M.Sc. program, applicants must hold an appropriate Honours Bachelor's degree (or equivalent) from a recognized university. Students must maintain no less than a B+ average in their final two years of undergraduate, full-time study to be eligible for admission into the GLIER M.Sc. program.

Program Requirements

(a) compliance with regulations outlined in University of Windsor Graduate Calendar;

(b) successful completion of the GLIER Multidisciplinary Graduate Seminar course (this course is taken over the first two semesters and is equivalent to two credits). The course will be graded in accordance with university standards. Following successful completion of this course, all M.Sc. students will be required to continue registering in this course as an audit;

(c) successful completion of the GLIER Environmental Research Proposal course (M.Sc. level). The course will be graded according to university standards.

(d) any additional course work mandated by the student's Examining Committee to eliminate perceived weaknesses in the student's background preparation or to increase awareness of other disciplines;

(e) submission for publication of an original research article derived from the thesis to a refereed journal. Exemption from this requirement is granted only with permission from the GLIER Graduate Committee;

(f) submission of a Research Progress Report to the Master's Committee every six months and a meeting with the committee to review progress and problems encountered during the preceding six months and to plan future work;

(g) completion of an original research project reported in a thesis;

(h) defense of the thesis in a public lecture and before the Master's Committee.

ENVIRONMENTAL SCIENCE: COURSES

GREAT LAKES INSITUTE FOR ENVIRONMENTAL RESEARCH: PROGRAMS

GREAT LAKES INSITUTE FOR ENVIRONMENTAL RESEARCH: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

GREAT LAKES INSTITUTE FOR ENVIRONMENTAL RESEARCH (GLIER)

THE DOCTOR OF PHILOSOPHY DEGREE IN ENVIRONMENTAL SCIENCE

In addition to the general requirements, the following requirements must be met by all students proceeding to the Ph.D. degree.

Admission Requirements

Initial Application Procedure: The initial application procedure for students who wish to enrol in the Ph.D. program through GLIER includes:

1) Completion of the "Application for Admission to the Faculty of Graduate Studies " form;

2) two official transcripts of all undergraduate and graduate studies from all colleges and universities attended;

3) three confidential letters of reference;

4) Graduate Record Examination, if required; and TOEFL results, as required;

5) letter of intent by the student that clearly outlines his/her interest in the program, proposed focus of study and the prospective supervisor.

Prospective students will be encouraged to contact a potential supervisor before applying for admission to the GLIER graduate programs. If a suitable supervisor cannot be identified, the student will be dissuaded from applying for admission.

Two streams of Ph.D. applicants are envisaged. Applicants holding an M.Sc. degree from the University of Windsor or from another recognized university may be admitted directly to the GLIER Ph.D. program. Alternatively, students enrolled in the GLIER M.Sc. program who are making exceptional progress may transfer to the PhD program after one year on the recommendation of their Master's Committee and with the approval of the GLIER Graduate Committee and the Faculty of Graduate Studies. Students eligible for transfer will have made outstanding progress in both course work and research, and have a first-author research article submitted to a refereed journal at the time of transfer.

Program Requirements

(1) Students entering the program with an M.Sc. degree must fulfill all requirements listed below:

(a) compliance with regulations outlined in University of Windsor Graduate Calendar;

(b) successful completion during the first year of enrolment in the program of an oral qualifying exam, administered by the student's Doctoral Committee. Students will be required to possess comprehensive knowledge of their field of study as well as any ancillary fields relevant to the dissertation topic (as determined in advance by the Doctoral Committee). Students will be evaluated on a satisfactory/ unsatisfactory basis;

(c) successful completion of the GLIER Multiple Stressors and Environmental Modelling course (one credit). The course will be graded in accordance with university standards;

(d) successful completion of the GLIER Multidisciplinary Graduate Seminar course (this course is taken over two semesters and is equivalent to two credits). The course will be graded in accordance with university standards. All Ph.D. students who have successfully completed this course will be required to audit the course each year following their first year of residency;

(e) any additional course work mandated by the student's Doctoral Committee to eliminate perceived weaknesses in the student's background preparation or to increase awareness of other disciplines;

(f) submission of a Research Progress Report to the Doctoral Committee every six months and meetings with the committee every six months to discuss progress and research plans;

(g) completion of an original research project reported in a dissertation;

(h) defence of the dissertation in a public lecture and before the Doctoral Committee; and

(i) publication of at least one original research article and submission of at least one additional article derived from the dissertation in a refereed journal. Exemption from this requirement is granted only with permission of the Graduate Program Committee.

(2) Students transferring to the Ph.D. program must have received no grade less than A- or satisfactory for all course work taken in the GLIER M.Sc. program. In addition, transfer students must have at least one first-author research article submitted to a refereed journal at the time of transfer. Transfer can be granted only by the Faculty of Graduate Studies acting on a recommendation from the student's Doctoral Committee and the Graduate Program Committee. Students approved for transfer into the Ph.D. program must comply with regulations (a) through (j) above.

interests, with honours degrees combining English with another discipline, or with abilities or backgrounds that do not correspond to the particular requirements for admission listed above, but who have an overall average of A-, apply to either field but may be required to take additional courses.

Qualifying or Placement Examination: An applicant for admission to the Candidate year for the Master's degree who is deficient in any of the stated requirements for admission to this level of graduate study may be invited, or may request, to write a qualifying examination. A similar examination is available as a placement test, on the basis of which students in the two-year M.A. program may be granted advanced standing.

Students from other universities may arrange to take these examinations in other centres provided the program coordinator is notified well in advance.

Counselling: Students admitted to one of the fields of the M.A. program in English will be assigned a faculty advisor who will be available to counsel them on all aspects of their work. The program coordinator (or a delegate) must approve a student's program of study before registration.

Grades: After admission to candidacy, graduate students in the M.A. program in English must maintain at least a B- average, but graduate credit is given only at the A and B level. A student whose grade in a graduate course is less than B- may be allowed to repeat the course or to substitute another for it, at the discretion of the Dean of Graduate Studies and the program coordinator. The student may not repeat more than one course.

ENGLISH LANGUAGE, LITERATURE AND CREATIVE WRITING: COURSES

ENGLISH LANGUAGE, LITERATURE AND CREATIVE WRITING: PROGRAMS

ENGLISH LANGUAGE, LITERATURE AND CREATIVE WRITING: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

In addition to courses offered in the GLIER programs, students will be advised to enroll in additional courses in other AAUs, as needed. It is expected that these courses will offer intensive treatments of particular topics to assist students in resolving perceived weaknesses. These courses are offered in a variety of AAUs including Earth Sciences, Biological Sciences, and Chemistry and Biochemistry and involve various combinations of theory and lab work. All graduate students must complete the GLIER Multidisciplinary Graduate Seminar course and must complete the GLIER Environmental Research Proposal course. The Multiple Stressors and Environmental Modelling Course is required for all Ph.D. students. Other courses will supplement core GLIER courses, be offered on a rotating basis, and be mandated by Doctoral Committees, depending on students' perceived deficiencies in background preparation.

ENVIRONMENTAL SCIENCE: COURSES

GREAT LAKES INSITUTE FOR ENVIRONMENTAL RESEARCH: PROGRAMS

GREAT LAKES INSITUTE FOR ENVIRONMENTAL RESEARCH: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

HISTORY

THE MASTER OF ARTS DEGREE

Admission Requirements

The normal requirement for admission to the M.A. program is an honours degree in History, with at least a 75% average in undergraduate History courses. Students with an honours degree in fields other than History will be considered on the basis of their academic background and standing, and may be required to complete extra undergraduate courses as part of their program. Students with a three-year degree will be required to complete a full year (ten courses) of undergraduate courses (I Masters Qualifying -- see section titled Application Procedures – Admission Levels).

Program Requirements

Students must successfully complete five courses and a Major Paper. Students must take two required courses: 43-503 and 43-504 as well as three more History graduate courses. A student may, with the consent of the Graduate Advisor or AAU Head, take one course in another University of Windsor graduate program or in History at Wayne State University. Students usually complete the coursework in their first two semesters. The Major Paper will normally be written under the supervision of two History faculty members.

Although it is possible for students to complete the master's program in one calendar year (three terms in residence), many students complete in 4-5 semesters.

HISTORY: COURSES

HISTORY: PROGRAM

HISTORY: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

HUMAN KINETICS

THE MASTER OF HUMAN KINETICS DEGREE

General Nature of the Program

There are two streams to the program, Sport Management and Applied Human Performance: both streams include a thesis option which normally will lead to doctoral work. Both offer an Internship option which combines coursework with practical work term placement designed to serve as an enrichment experience.

Admission Requirements

1) In addition to the general admission requirements of the Faculty of Graduate Studies and Research outlined in the section titled, Application Procedures, and in the section titled, The Master's Degree - Admission Requirements, the following are employed in the determination of a candidate's admission status:

(a) Thesis students must have a faculty research advisor before being admitted into one of the following areas of specialization:
i) Applied Human Performance
ii) Sport Management

(b) A person who holds a three-year degree in another discipline is required to complete the requirements for the Master's degree as outlined in the Graduate Calendar. Up to ten Kinesiology undergraduate courses beyond the minimum requirement may be deemed necessary by the graduate committee.

(c) A person who holds a four-year degree in another discipline will be required to take up to five Kinesiology undergraduate courses prior to taking graduate courses.

Normally, the makeup courses are to be selected from the areas of specialization: Applied Human Performance and Sport Management.

Undergraduate courses, assigned at the discretion of the admissions committee and the student's advisor to form the make-up requirements, may be found in the Undergraduate Calendar (under section titled Human Kinetics - Courses).

Program Requirements

1) In addition to the general requirements for the Master's degree, the candidate must:

(a) complete a minimum of four graduate-level courses and a thesis; and pass a oral examination based on a thesis,

or

(b) complete a minimum of seven graduate-level courses and an internship; and present an internship report

2) Only one Special Problems (95-510) course may be taken regardless of area of specialization.

3) *Master's Committee and Advisors:* Prior to a candidate's initial registration, the Graduate Coordinator will assign a program advisor for each candidate.

The appointed advisor may or may not act as chairperson of the Master's thesis committee, which will include at least two additional members, one of whom shall be a faculty member from outside Human Kinetics. An additional member from the graduate faculty of another university may be invited to serve on the Master's thesis committee.

4) *Examinations*

(a)*Thesis Option:* The thesis committee will conduct the oral examination of the thesis proposal. When the thesis has been completed, the thesis committee, in consultation with the candidate, will determine whether to proceed with or postpone the final oral examination. For the final oral examination of the thesis, the committee will be supplemented by another member of the Kinesiology graduate faculty who will act as the chairperson. Following the successful defense, the candidate will deposit all copies of the thesis in the Office of the Faculty of Graduate Studies and Research for binding and distribution (two copies for the Leddy Library, a copy to the Faculty of Human Kinetics).

(b)*Internship Option:* The internship consists of a minimum of 360 hours of applied work experience in a sport management or applied human performance setting. The internship option is open to students who have completed four graduate courses. Students develop an internship experience in conjunction with a graduate faculty member prior to registering for the internship. Students are required to complete the "Internship Objectives Form" prior to completing 50 hours of their experience. Their work experience is supervised and evaluated (mid-term and final evaluation) by the cooperating field professional. Students are also required to prepare and defend a research report. Final evaluation is on a Pass/Non-Pass basis and the student is required to pass both the experience and the research report components of the internship. Following the successful completion, the candidate deposits two copies of the internship and research report in the Faculty

of Human Kinetics.

APPLIED HUMAN PERFORMANCE

The program focuses on the application of movement science in sport, the workplace, and activities of daily living. Students pursue course work, thesis research, and internships that examines the basic and applied principles of human biomechanics, motor performance and exercise physiology. To fulfil the degree requirements, each candidate must complete the following:

Thesis Option
1) Three courses from 95-504, 95-510, 95-511, 95-522, 95-523, 95-524, 95-525, 95-526, 95-527, 95-528, 95-595
2) A Thesis (95-797).
3) One other graduate course chosen in consultation with the thesis advisor.

Internship Option
Five of 95-504, 95-511, 95-522, 95-523, 95-524, 95-525, 95-526, 95-527, 95-528, 95-595
Two other graduate courses chosen in consultation with the internship advisor.
Internship (95-795).

SPORT MANAGEMENT

The program focuses upon the understanding of the components of organizational behaviour in the context of amateur and professional sport environments. Students will pursue course work and either thesis research or an internship that focuses on topics such as leadership, organizational effectiveness, sport marketing, organizational change, and legal, philosophical and social issues of management. To fulfil the degree requirements, each candidate must complete all of the following:

Thesis Option
1) Two courses from 95-500, 95-501, 95-502, 95-503, 95-505, 95-506, 95-508, 95-510, 95-595
2) Research Methods (95-562)
3) A Thesis (95-797)
4) One other graduate course chosen in consultation with the thesis advisor

Internship Option
1) Four courses from 95-500, 95-501, 95-502, 95-503, 95-505, 95-506, 95-508
2) Research Methods (95-562)
3) Two other graduate courses chosen in consultation with the internship advisor
4) Internship (95-795)

KINESIOLOGY: COURSES

KINESIOLOGY: PROGRAM

KINESIOLOGY: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

Multi-Disciplinary Ph.D. Program in Industrial and Manufacturing Systems Engineering (IMSE)

Program Overview

The objective of the multi-disciplinary Ph.D. program is to impart multi-disciplinary education and skills in an environment that fosters excellence in research and awareness of the many challenges of modern Industrial and modern Manufacturing Systems. The program will provide students with an opportunity to acquire, through courses, seminars and networking, advanced academic and professional knowledge in the multi faceted area of industrial and manufacturing systems and related subjects as well as develop basic and applied research skills to become independent research investigators capable of disseminating knowledge and research results through scholarly publications.

The multi-disciplinary Ph.D. program in Industrial and Manufacturing Systems Engineering is based in, and coordinated by, the Department of Industrial and Manufacturing Systems Engineering (IMSE) , in collaboration with faculty from other Faculties. The participating faculty for the Multi-Disciplinary PhD program in Industrial and Manufacturing Systems Engineering are drawn from several disciplines and departments within the University, namely, Department of Industrial and Manufacturing Systems Engineering, the Faculty of Human Kinetics (Department of Kinesiology), the Odette School of Business, the Faculty of Science (Operational Researchers), Mechanical, Automotive and Materials Engineering Department, Electrical and Computer Engineering Department and the School of Computer Science.

Faculty involved in the program
A. Alfakih, Ph.D., Associate Professor, Mathematics and Statistics.
D. Andrews, Ph.D., Associate Professor, Human Kinetics.
A. Azab, Ph.D., Assistant Professor, Industrial and Manufacturing Systems Engineering (IMSE) .
W. Abdul-Kader, Ph.D.,P.Eng., Associate Professor, Industrial and Manufacturing Systems Engineering (IMSE) .
F. Baki, Ph.D., Assistant Professor, Business.
R. Caron, Ph.D., Professor, Mathematics and Statistics.
X. Chen, Ph.D., P.Eng., Professor, Electrical and Computer Engineering.
H. ElMaraghy, Ph.D., P.Eng.,Professor, Industrial and Manufacturing Systems Engineering (IMSE); [Tier 1 Canada Research Chair (CRC) Manufacturing Systems].
W. ElMaraghy, Ph.D., P.Eng., Professor and Head, Industrial and Manufacturing Systems Engineering (IMSE); [Chair of the Graduate Program].
M. Hlynka, Ph.D., Professor, Mathematics and Statistics.
R. Lashkari, Ph.D., P.Eng.,Professor, Industrial and Manufacturing Systems Engineering (IMSE) .
L. Oriet, Ph.D., P.Eng., Associate Professor, Industrial and Manufacturing Systems Engineering (IMSE) .
Z. Pasek., Ph.D., Associate Professor, Industrial and Manufacturing Systems Engineering (IMSE) .
J. Urbanic, Ph.D., P.Eng., Assistant Professor, Industrial and Manufacturing Systems Engineering (IMSE) .
M. Wang, Ph.D., P.Eng., Professor, Industrial and Manufacturing Systems Engineering (IMSE) .
G. Zhang, .Ph.D., P.Eng., Professor, Industrial and Manufacturing Systems Engineering (IMSE);[Graduate Coordinator]
X. Yuan, Ph.D., Associate Professor, Computer Science.

Admission Requirements
The Ph.D. program in Industrial and Manufacturing Systems Engineering will be governed by the general regulations regarding the Ph.D. degree of the Faculty of Graduate Studies. (**click here for general admissions regulations**.)

Program Curriculum Structure

Total courses:
Satisfactory completion of at least four graduate courses, comprising a minimum of twelve semester hours, beyond the courses required for the Master's degree. See Section on "Major Requirements" for details.

Major requirements:
The graduate course offerings through the Department of Industrial and Manufacturing Systems Engineering and selected related courses from other areas are designed to complement the research focus of the core faculty in the area of Industrial and Manufacturing Systems Engineering. The minimum course requirement for the multi disciplinary Ph.D. Program is 4; at least 2 from the 91-5XX courses listed in category A and a minimum of one from category B would be selected. This is addition to the Graduate Seminar course (91-595). Students will be required to register throughout the entire program and give presentations, and all students will be expected to attend each seminar (no less than 75% of all seminars). The course will be graded on a PASS/FAIL basis (1 Lecture Hour a week). This course will include presentations by graduate students, staff, and visiting scientists.

The current list of A and B courses will be made available to the students through the Department of Industrial and Manufacturing Systems Engineering. (**Click here**)

Area of Specialization:
Research within the Industrial and Manufacturing Systems Ph.D. program focuses on modern manufacturing systems that are flexible and well integrated. It deals with various modules such as: 1) physical components of the system (machines, robots, inspection devices, material handling equipment, etc.), 2) effective information systems for controlling, monitoring, scheduling and operating in a dynamically changing environment, 3) human related issues such as ergonomics, interaction among people and between people and machines as well as human modeling, 4) management of technologies and

operational issues throughout the manufacturing enterprise, and 5) integration of all elements to ensure achieving the desired competitiveness.

Candidacy
Admission to graduate study does not imply admission to candidacy for a degree. The candidacy of a student normally will be determined within the second year after initial registration in the doctoral Program.

Candidacy will be granted to students who meet all of the following requirements:
(a) Satisfactory completion of the comprehensive examination;
(b) Demonstration to the doctoral committee of ability to conduct independent research;
(c) Acceptance by the doctoral committee of the research proposal.

The doctoral committee will assess the student's competence to continue research on the basis of (a), (b) and (c) above, and make a recommendation accordingly to the Dean of the Faculty of Graduate Studies through the Chair of the Graduate Program.

Program Requirements

The specific minimum Program requirements for the Ph.D. degree include the successful completion of:
1) Course requirements: Satisfactory completion of at least four graduate courses, comprising a minimum of twelve semester hours, beyond the courses required for the Master's degree. See Section "4.2.5 Graduate Courses" below for requirements details, as well as the Section: "Major Requirements" above.

2) A comprehensive examination. (See details under examinations)

3) Satisfactory progress in research within each review period. The doctoral committee will conduct a periodic review, which will include at least one formal seminar a year, after the first year of residency, to establish that adequate progress in research has been accomplished by the candidate. The doctoral committee will also grant permission to write the dissertation when it decides that the candidate has achieved sufficient competence in carrying out research and when the candidate has done substantial research. During the annual seminar, Ph.D. students will be required to review their research progress and results. The Ph.D. Supervisory Committee will complete the evaluation.

4) A dissertation on the research. A dissertation embodying the results of an original investigation in the field of specialization is required of all candidates for the degree of Doctor of Philosophy. Each candidate will be required to make an oral presentation of the dissertation research and will be examined orally on the subject of the dissertation and related fields.

Residence and Time Limits: Every student will undertake a full Program of study for a minimum of three years beyond the Baccalaureate of Engineering or its equivalent. Credit for one of these years may be given for the time spent in proceeding to a Master's degree. Credit for one of these years may also be given for work done at another institution. A student admitted to a Ph.D. Program requiring the student's attendance for a minimum of three years must complete all requirements within seven years. Students requiring a minimum of two years' residence must complete all requirements within six years.

Committees: Research undertaken as part of a doctoral Program is directed and supervised by a doctoral committee, which is assigned within the first term of registration. Whereas the student's advisor provides day to day guidance and direction, this committee is ultimately responsible for the overall supervision to ensure that adequate progress is being maintained.

The doctoral committee will be composed of at least 4 faculty members including:
1) the student's advisor,
2) two other faculty members from within the program, and
3) one internal external faculty member outside the student's department and within the University of Windsor.

The student's advisor will recommend the members of the doctoral committee, whose appointment must be approved by the Executive Committee of Graduate Studies and Research.

Examinations:

Qualifying Examination. At the discretion of the doctoral committee, a qualifying examination may be required. A qualifying examination is one in which the student is asked to demonstrate a reasonable mastery of the fundamentals in the major subject; it is designed to test the student's preparation for advanced graduate work. If such an examination is required, it must be administered and passed before the student registers for the second year of Ph.D. work.

The Proposal: Normally within the first 2 years, the student will present in the form of a seminar an outline of their proposed thesis research. This will be presented to the doctoral committee who must approve, with or without modifications, or reject the proposal. Thereafter, at least once a year the student will report their progress in the form of a seminar.

Comprehensive Examination: Students who have previously obtained a Master's degree must attempt this examination very early between twelve to eighteen months of registering for the Ph.D. Program. Other students must take it within twenty four months of registration for the Ph.D. Program. A comprehensive examination committee will conduct the comprehensive examination. The committee will consist of the chair, three members of the supervisory committee, including the supervisor, and an additional member who has a scholarly interest in the student's general area of specialization.

This set of examinations requires the students to demonstrate an adequate background in the general discipline of applied science, and an advanced knowledge in their fields of specialization and research.

The comprehensive examinations will be conducted in two parts:
a) In the first part, a scheduled supervised written portion, of three hours duration, designed to test the student's general knowledge on core subjects in the field of study as approved by the examination committee, with questions set and answers evaluated by the examination committee;
b) An oral examination to be evaluated by the examination committee. The objective of this part of examination is to evaluate the student's ability to integrate general knowledge from different areas into their research plan. The candidate will be required to submit a report, up to 25 pages in length, on the proposed research program. The report must include: (i) a critical survey of the directly related literature in the field, and (ii) an outline of the proposed research program, including its justification, the approach to be taken, specific analytical or experimental methods, perceived or anticipated problems, and a proposed timetable to accomplish the task. Five copies of the report must be in the hands of the examining committee at least seven days prior to the date of the oral examination. The oral examination will be conducted in two sessions. In the first part, the candidate will be required to present their report in a summary fashion to the committee followed by questions directly related to the proposal and the candidate's specific area of research. The second part of the oral examination will emphasize the candidate's comprehension as well as breadth and depth of knowledge of their discipline area. The duration of the two parts of the oral examination is expected to be about one and half hours each, separated by a recess of half an hour .

It is the responsibility of the examining committee chair to call a meeting of the committee at least seven days prior to oral examination to: (i) examine the candidate's records and the type of background necessary to carry on their research successfully, and (ii) assign the preparation of the written questions for the first part, to members of the committee, other than the supervisor. The supervisor will not participate in the preparation of the written questions but is expected to participate in the oral examination.

The Examination Committee will determine the student's overall performance and success in the comprehensive examination. If the student is unsuccessful, the committee may require:
i. That the student repeats all or part of the comprehensive examination at a specified time;
ii. That the student take and pass remedial course work before repeating all or part of the examination; or
iii. After consultation with, and approval by, the doctoral committee, that the student withdraws from the program.

Final Examination. The final appraisal of the dissertation and the conduct of the final oral examination of the dissertation will be carried out by an examining committee. The examining committee will consist of the doctoral committee, the Dean of Graduate Studies and Research (or designate) as chairperson (non voting) and an external examiner. The final examination normally follows a public seminar by the candidate, open to the public. The passing of the final oral examination of the dissertation requires both an adequate dissertation and a satisfactory defense of the dissertation. The examining committee will conduct this examination, in accordance with the Faculty of Graduate Studies procedures.

This set of examinations requires the students to demonstrate an adequate background in the general discipline of Industrial and Manufacturing Systems, and an advanced knowledge in their fields

INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING: COURSES

INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING: INSTRUCTORS

FACULTY OF ENGINEERING: PhD

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

ODETTE SCHOOL OF BUSINESS

MASTER OF MANAGEMENT

The Master of Management is a twelve-month program specifically designed for a cohort of international students. Students enrolled in the program may select a concentration from one of the four following fields: 1) Manufacturing Management; 2) Logistics and Supply Chain Management; 3) Human Resource Management; and 4) International Accounting and Finance. Please note that these concentrations are approved, but not necessarily offered. For more information contact the Centre for Executive Education at www.uwindsor.ca/execed.

Admission Requirements

Admission to the Master of Management program will be open to applicants who meet the following criteria:

1) Bachelor-level degree in an acceptable discipline from an academic institution approved by the University of Windsor;

2) The equivalent of a B- average in undergraduate studies;

3) Where appropriate a TOEFL score of at least 560 (or proof of equivalent English language proficiency, such as MELAB or CAEL tests);

4) A successful interview with a representative from the Odette School of Business.

Program Curriculum Structure

Total courses: 12

As with the regular M.B.A. program, all required courses are offered by the Odette School of Business Administration. In this program students will follow a prescribed sequence of courses in cohort fashion, with no electives. In addition, the academic program itself will be preceded by an intensive 8-week program of English language instruction and introductory courses to Canadian culture and business practices.

Program Sequencing

Pre-program: Intensive ESL instruction and orientation to Canadian culture and business practices.

First Term

78-611. Accounting concepts and techniques
78-612. Finance in a global perspective
78-613. Managing employees
78-614. Marketing

Second Term

Common Core Courses:
78-631. International Business
78-632. Quantitative Studies

Manufacturing Field
78-633. Introduction to Business Logistics Management
78-634. Leadership and Organizational Change

Logistics and Supply Chain Management Field
78-633. Introduction to Business Logistics Management
78-635. Purchasing and Procurement

International Accounting and Finance Field
78-636. International Financial Reporting
78-637. International Financial Management

Human Resources Management Field
78-638. Human Resources Management
78-634. Leadership and Organizational Change

Third Term

Common Core Courses:
78-651. Business Strategy (capstone course)

Manufacturing Field
78-652. Marketing Strategy and Planning
78-653. Manufacturing Strategy
78-654. Manufacturing and Globalization (Stream capstone)

Logistics and Supply Chain Management Field
78-655. Domestic Transportation and International Shipping
78-656. Quantitative Analysis for Logistics and Supply Chain Management
78-657. Supply Chain Management (Stream capstone)

International Accounting and Finance Field
78-661. Consolidated financial statements
78-662. Accounting Systems Control and Auditing
78-663. Corporate Governance (Stream capstone)

Human Resources Management Field
78-665. International Management
78-666. Managing for High Performance
78-667. Current HR Trends (Stream capstone)

ODETTE SCHOOL OF BUSINESS: COURSES

ODETTE SCHOOL OF BUSINESS: PROGRAMS

ODETTE SCHOOL OF BUSINESS: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

MATHEMATICS AND STATISTICS

PROGRAMS

Spring 2012 Graduate Calendar

MATHEMATICS AND STATISTICS

THE DOCTOR OF PHILOSOPHY DEGREE IN MATHEMATICS AND STATISTICS

Admission Requirements

For admission requirements and period of study, the general regulations of the Faculty of Graduate Studies should be consulted (see the section titled, The Degree of Doctor of Philosophy). Qualifying examinations will not normally be required.

CANDIDACY

Students will be recommended for candidacy (see section titled, The Degree of Doctor of Philosophy - Admission Requirements) only after successful completion of the Comprehensive Examinations and course work.

Program Requirements for the Ph.D. (Statistics Field)

1) *Course Work:* Students admitted with an M.Sc. or equivalent must successfully complete at least four graduate courses numbered with the prefix 65-; further graduate courses may be assigned by the Graduate Studies Committee in consultation with the advisor. Transfer credits will not be allowed. (Up to two courses prefixed 65- may be replaced by 62-510 and/or 62-511.)

Students admitted with an Honours B.Sc., or equivalent, which is done only in exceptional cases, must successfully complete at least twelve graduate courses, eight of which must be numbered with the prefix 65-; further graduate courses may be assigned by the Graduate Studies Committee in consultation with the advisor. Transfer credits will not be allowed.

It is strongly recommended that all Ph.D. students in Statistics take a measure theoretic probability course.

Students registered in the Dissertation are required to register in Seminar 65-795. Students must attend no less than 75 percent of all seminars in the first 3 years. Every doctoral student is required to give a presentation prior to dissertation defense.

2) *Doctoral Committee:* within the student's first term of study at the doctoral level, a doctoral committee will be appointed by the Head of the Department upon the advice of the Graduate Studies Committee. The doctoral committee must be approved by the Executive Committee of the Faculty of Graduate Studies and Research. The doctoral committee shall include the student's advisor as chairperson, at least two other members of the Department, one faculty member from outside the Department, and an external examiner, who shall not be involved in the preparation of the dissertation. The selection of the external examiner is subject to the approval of the Dean of Graduate Studies and Research. Members of other departments may also be invited to join the committee (see section titled, The Degree of Doctor of Philosophy - Program Requirements).

3) *Dissertation:* The dissertation shall be defended at an oral examination (see section titled, The Degree of Doctor of Philosohy - Program Requirements).

4) *Comprehensive Examinations:* A student must pass a series of three written comprehensive examinations as follows:
i.Paper I-Mathematical Statistics and Probability
ii.Paper II-Statistics OR Probability
iii.Paper III-Topics (two topics mutually agreed upon by the advisor and student).

If a student fails an examination, it may be repeated once, but if the examination is failed a second time, the student must withdraw from the program (see section titled, The Degree of Doctor of Philosohy - The Dissertation). In any case, these examinations must be successfully completed within twenty-five months of first registration in the doctoral program. If this deadline is not met, the student must withdraw from the program.

Program Requirements for the Ph.D. (Mathematics Field)

1) *Course Work:* Students admitted with an MSc. or equivalent must successfully complete at least two of the following semester courses: Algebraic Topology, Differential and Algebraic Geometry, Topics in Algebra, and Topics in Analysis.

Recommended Options: Most doctoral students, after consultation with their supervisor, will take either a two -semester sequence of courses in analysis or a two semester sequence of courses in algebra.

2) *Doctoral Committee:* within the student's first term of study at the doctoral level, a doctoral committee will be appointed by the Head of the Department upon the advice of the Graduate Studies Committee. The doctoral committee must be approved by the Executive Committee of the Faculty of Graduate Studies and Research. The doctoral committee shall include the student's advisor as chairperson, at least two other members of the Department, one faculty member from outside the Department, and an external examiner, who shall not be involved in the preparation of the dissertation. The selection of the external examiner is subject to the approval of the Dean of Graduate Studies and Research. Members of other departments may also be invited to join the committee (see section titled, The Degree of Doctor of Philosophy - Program Requirements).

3) *Dissertation:* The dissertation shall be defended at an oral examination.(see section titled, The Degree of Doctor of

Philosohy - Program Requirements).

4) *Comprehensive Examinations:* A student must pass a series of three written comprehensive examinations as follows:
i. Paper I - Algebra
ii. Paper II - Analysis
iii. Paper III - Specialty Written or Oral Examination to be set up by the students doctoral supervisor.

If a student fails an examination, it may be repeated once, but if the examination is failed a second time, the student must withdraw from the program (see section titled, The Degree of Doctor of Philosohy - The Dissertation). In any case, these examinations must be successfully completed within twenty-five months of first registration in the doctoral program. If this deadline is not met, the student must withdraw from the program.

MATHEMATICS AND STATISTICS: COURSES

MATHEMATICS AND STATISTICS: PROGRAMS

MATHEMATICS AND STATISTICS: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

NURSING

THE MASTER OF SCIENCE DEGREE IN NURSING

Admission Requirements

1) All general regulations of the Faculty of Graduate Studies and Research admission requirements are applicable.

2) Applicants must have a Bachelor of Science in Nursing or equivalent which includes physical assessment, and courses in research and statistics. Consideration may be given to nurse applicants holding degrees in other cognate disciplines.

3) Applicants must have maintained an overall B average in their undergraduate nursing program.

4) Applicants must be eligible for a current certificate of registration with the College of Nurses of Ontario.

5) Three Faculty of Nursing confidential reports must be completed by academic/professional referees, with at least one from an academic who has taught the applicant and one from a recent employment supervisor.

6) An "Applicant Profile" must be completed which includes a section addressing goals in seeking graduate education (narrative statement).

7) Applicants whose native language is not English must submit certification of English proficiency (official TOEFL score or equivalent MELAB).

8) Applications for admission must be completed by February 15 (or until seats have been filled).

9) An interview may be required.

Program Requirements

1) Candidates for the Master of Science degree in Nursing will pursue studies in one of two fields:
(a) Advanced Clinical Nursing
(b) Nursing Leadership

2) The requirements may be satisfied by pursuing a program of studies consisting of six compulsory courses and a thesis, or six compulsory courses, two elective courses and a major project/paper. Those who wish to include a thesis in their program must request approval from the Graduate Committee of the Faculty of Nursing.

Additional information concerning the procedure for theses and major papers may be obtained from the coordinator of graduate studies (see section titiled, The Master's Degree - Thesis or Major Paper).

3) Compulsory courses:

63-581. Theoretical Foundations of Nursing
63-582. Advanced Statistics
63-583. Research Methods in Nursing
63-599. Clinical Judgment in Nursing

and either 63-592 and 63-594, or 63-596 and 63-597, depending on the selected area of focus.

4) Clinical Judgement in Nursing Practice will involve one term of full-time study in a setting selected in consultation with the student. Students will select individuals, families, groups, populations and/or communities in various health care facilities, and/or community settings, to develop their knowledge and skill for advanced nursing practice.

5) All candidates' programs are subject to approval by the graduate coordinator.

6) The minimum grade required in all graduate courses is B-. Any student who does not successfully complete a course may repeat it once at the discretion of the Dean of the Faculty of Nursing and the Dean of Graduate Studies and Research. The student may not repeat more than one course.

7) The maximum time limit for part-time is five years; full-time is 3 years.

9) Students of the Faculty of Nursing are required to demonstrate behaviours consistent with the "Professional Standards for Registered Nurses and Registered Practical Nurses, Standards for the Therapeutic Nurse-Client Relationship and the Ethical Framework for Nurses in Ontario" of the College of Nurses of Ontario, and "Explanation of Professional Misconduct" of the College of Nurses of Ontario," and 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's programs.

The Master's thesis committee is chosen in the manner described in the section titled, The Master's Degree - Program

Requirements of this Graduate Calendar. The final examination will be conducted by the Master's committee.

NURSING: COURSES

NURSING: PROGRAMS

NURSING: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

NURSING

THE MASTER OF NURSING (MN) (ADVANCED CLINICAL FIELD) and (LEADERSHIP FIELD)

Admission Requirements

1) All general regulations of the Faculty of Graduate Studies are applicable.

2) Applicants must have a Bachelor of Science in Nursing or equivalent which includes physical assessment, and courses in research and statistics. Consideration may be given to nurse applicants holding degrees in other cognate disciplines.

3) Applicants must have maintained an overall B average in their undergraduate nursing program.

4) Applicants must be eligible for a current certificate of competence as Registered Nurses in Ontario.

5) Three Faculty of Nursing confidential reports must be completed by academic/professional referees, with at least one from an academic who has taught the applicant and one from a recent employment supervisor.

6) An "Applicant Profile" must be completed which includes a section addressing goals in seeking graduate education (narrative statement).

7) Applicants whose native language is not English must submit certification of English proficiency (official TOEFL score or equivalent MELAB).

8) Applications for admission must be completed by February 15 (or until seats have been filled).

9) An interview may be required.

Program Requirements

It should be noted that the two areas of concentration: Advanced Clinical and Nursing Leadership are the same as the M.Sc. program.

Total courses: Ten (10) courses

Major requirements: Students in the course-based master's (MN) must take the same six (6) compulsory courses required of students in the Master of Science Program (MSc):

63-581. Theoretical Foundations of Nursing
63-582. Advanced Statistics
63-583. Research Methods in Nursing
63-599. Clinical Judgment in Nursing

and either 63-592 (Health of Individuals Families and Groups) and 63-594 (Community and Population Health) .

or 63-596 (Theoretical Foundation of Nursing Leadership) and 63-597 (Innovations in Nursing Leadership) .

Other requirements: Students are required to take four elective courses, at least two of which must be nursing. Nursing electives may be selected from any of the following seven existing elective nursing courses:

63-570. Counselling Process in Nursing
63-572. Women and Health
63-574. Organizational and Management Theories Relevant to Health Care Organizations
63-576. Management of Resources in Nursing
63-578. Seminar in Current Nursing Issues
63-580. Selected Readings in Nursing
63-589. Summer Institute of Clinical Health Research

Two graduate course electives from other disciplines.

Course Sequencing

YEAR I

Fall Semester

63-581. Theoretical Foundations of Nursing
63-583. Research Methods In Nursing

Winter Semester

63-582. Advanced Statistics
63-592. Health of Individuals, Families and Groups
or
63-596. Theoretical Foundations of Nursing Leadership

Summer Semester

Nursing/Open Elective(s)

YEAR II

Fall Semester

Nursing/Open Elective
63-594. Community and Population Health
or
63-597. Innovations in Nursing Leadership

Winter Semester

63-599. Clinical Judgment in Nursing Practice

Summer Semester

Nursing/Open Elective(s)

NURSING: COURSES

NURSING: PROGRAMS

NURSING: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

NURSING - Post Baccalaureate Certificate

Ontario 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.

Program Information

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. An NP course may be repeated only once. If a learner fails two courses or fails one course twice, she/he must withdraw from the program. If a learner has a mandatory withdrawal from the NP program, reapplication cannot be processed at any of the other consortium NP programs for one year. There may be no more than a 3-year lapse between Nurse Practitioner courses. Application deadline February 15.

Course Sequencing

This is a twelve-month program designed for nurses who already have a baccalaureate degree in nursing.

Fall
63-550. Pathophysiology for the Nurse Practitioner (3 credit hours, 2 terms)
63-552. Roles and Responsibilities of the Nurse Practitioner in Primary Health Care. (3 credit hours, 2 terms)
63-557. Advanced Health Assessment and Diagnosis I (4.5 credit hours)
63-561. Therapeutics in Primary Health Care I (4.5 credit hours)

Winter
63-550. Pathophysiology for the Nurse Practitioner (cont'd, 3 credit hours, 2 terms)
63-552. Roles of the Nurse Practitioner in Primary Health Care (cont'd, 3 credit hours, 2 terms)
63-558. Advanced Health Assessment and Diagnosis II (4.5 credit hours)
63-562. Therapeutics in Primary Health Care II (4.5 credit hours)

Summer
63-595. Integrative Practicum (12 credit hours)

NURSING: COURSES

NURSING: PROGRAMS

NURSING: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

NURSING - GRADUATE DIPLOMA IN ADVANCED PRACTICE ONCOLOGY/PALLIATIVE NURSING*
*(*Pending Quality Council approval)*

Graduate Diploma in Advanced Practice Oncology/Palliative Nursing
The Graduate Diploma in Oncology/Palliative nursing is designed for advanced practice nurses who desire a series of nursing courses to facilitate the clinical and psychosocial care of oncology/palliative clients.

Admission Requirements
1) All general regulations of the Faculty of Graduate Studies admission requirements are applicable.
2) Completed or currently enrolled* in a Master's degree in a clinical nursing specialty with at least a B standing. Consideration may be given to BScN applicants holding master's degrees in other cognate disciplines. **Students currently enrolled in a master's program must have completed three-quarters of their program prior to being admitted to the program.*
3) Evidence of registration or license in her/his own province/country.
4) Minimum of two years' experience in nursing. Preference will be given to those with Oncology/Palliative care experience.
5) Current curriculum vitae
6) Original post-secondary transcripts
7) Three confidential reports must be completed by academic/professional referees, with at least one from an academic who has taught the applicant and one from a recent employment supervisor.
8) A narrative statement must be submitted, which will address the candidate's rationale for seeking the graduate diploma.
9) Applicants whose native language is not English must submit certification of English proficiency (official TOEFL score or equivalent MELAB).
10) Applications for admission must be completed by February 15 (or until seats have been filled).
11) Completed Application form and application fee
12) An interview may be required.

Category 1: Nursing MSc or MN Program (completed or currently enrolled)
1) Proof of completion of MSc or MN Program, or students must have completed least three quarters of their course work requirements prior to admission, since the Diploma requirements are additional to those requirements for the M.Sc. or M.N. degree. Students may apply and register in this Diploma Program while completing their M.Sc. thesis research. However, a separate application and tuition fee are required for enrolment in the Advanced Oncology/Palliative Diploma Program.
2) For the Graduate Diploma Program in Advanced Oncology/Palliative Nursing, at least two (2) years experience is required in nursing. Applicants with Oncology/Palliative care experience will be given admission preference.

Category 2: NP certificate with MN or MSc
1) NP-MN or NP-MSc with at least a B program average.
2) Minimum of two years' experience as an NP in any practice setting. Preference will be given to those with Oncology/Palliative care experience.

Category 3: PhD in nursing or related field
1) Students with a PhD in nursing or a related field. Preference will be given to those with a research focus in Oncology/Palliative care.

Required Courses:
1) Advanced Health Assessment, Diagnostics, and Therapeutics of the Oncology/Palliative Patient (2 courses, part I and part II)
2) Interdisciplinary Psychosocial Aspects of Cancer/Palliative Care (one course)
3) Leadership and Management in Oncology/Palliative care settings (one course)
4) The Summer Institute (Inter professional research)
5) Practicum with two phases:1) Simulation; and, 2) Preceptorship

NURSING: COURSES

NURSING: PROGRAMS

NURSING: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

PHILOSOPHY

THE MASTER OF ARTS DEGREE

General Nature of the Program

The aim of the program is to give students the opportunity to deepen their philosophical understanding both by broadening their undergraduate background and/or by allowing them to concentrate their studies in one of the two specific areas of focus in our program. The first area is informal logic, the theory of argument, and the theory of critical thinking; the second is twentieth-century continental philosophy. It is expected that theses and major papers will be written in one of these two areas. The possibility of concentrating in some other area exists, but is conditional upon staffing resources, which are subject to change. The Philosophy M.A. program is structured in such a way as to encourage maximum participation by students in seminars and to allow extensive contact with professors outside of formal class time.

Admission Requirements

See 1.6.1 for general requirements for admission into an M.A. program at the University of Windsor. The Philosophy program normally requires the equivalent of twenty one-term courses in philosophy for admission to the one-year Master's program and the equivalent of ten one-term courses in philosophy for admission to the two-year Master's program.

Program Requirements

For general requirements for the Master's degree, see section titled, The Master's Degree - Program Requirements. The following are particular requirements for the M.A. in Philosophy:

1) The student may proceed to the degree in any one of the following ways:

(a) successfully complete at least four and not more than six graduate courses (the fifth and sixth courses may be in a cognate field), and satisfactorily complete a thesis on which there shall be an oral examination;

(b) successfully complete six courses, two of which may be in a cognate field, and satisfactorily complete a major research paper on which there shall be an oral examination;

(c) successfully complete eight courses, two of which may be in a cognate field.

Note:
i. Students wishing to pursue Ph.D. studies are advised to take option (a) or (b), but not (c).
ii. Students choosing option (c) should recognize that students in their candidate year normally take two graduate courses each term and that it will take more than one year to complete their program.

2) All students proceeding to the degree must:

(a) include the Departmental Seminar (Philosophy 34-590) among their courses for the degree;

(b) successfully complete the Master's Examination in Philosophy.

3) M.A. Qualifying Year: Students at the I Master's level are required to take 34-491 (Honours Seminar) (see section titled, Philosophy Courses in the Undergraduate Calendar).

4) Program Approval: Each student must have his or her projected program authorized by the Graduate Coordinator.

PHILOSOPHY: COURSES

PHILOSOPHY: PROGRAM

PHILOSOPHY: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

PHYSICS

THE MASTER OF SCIENCE DEGREE

Admission Requirements

The basic qualification for admission consists of a Bachelor's degree with adequate specialization in Physics, obtained with first or second class honours or an A or B average. Students with deficiencies may be required to make up these deficiencies by registering in undergraduate courses or by following a program of supervised reading.

Applicants whose academic credentials are difficult to assess may be required to write the Graduate Record Examination (GRE) administered by the Educational Testing Service. Inquiries should be made at the time of application. Details of the examination may be obtained from the Educational Testing Service, Princeton, New Jersey, U.S.A., 08540.

Program Requirements

(1) The requirements for the degree of Master of Science may be satisfied by pursuing a program of studies consisting of:
Option (a) at least 4 courses and a thesis; or
Option (b) at least 6 courses and a major paper; or
Option (c) not less than 8 courses.

(2) 64-550 (Advanced Quantum Theory I), 64-510 (Seminar for MSc Students) and at least one further physics course at the 500 level or higher is required of all candidates.

(3) Additional courses needed to fulfill the requirements in (1) above may be chosen from graduate courses in the Department of Physics. Alternatively, candidates may include in their program, with the permission of the Graduate Coordinator and with the approval with the Supervisor,

Option (a):one undergraduate course in physics (at the 400-level), or one course from another Department †.
Option (b): *either* (i) up to two undergraduate courses in physics (at the 400-level), and one course from another department†, *or* (ii) up to one undergraduate course in physics (at the 400-level), and two courses from another department†,
Option (c):up to two undergraduate courses in physics (at the 400-level), and three courses from another department†.

† normally at the 400 level or higher and from the Faculty of Science or the Faculty of Engineering.

PHYSICS: COURSES

PHYSICS: PROGRAMS

PHYSICS: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

PHYSICS

THE DOCTOR OF PHILOSOPHY DEGREE

Admission Requirements

The basic qualification for admission consists of a Bachelor's degree with adequate specialization in Physics, obtained with first or second class honours or an A or B average. Students with deficiencies may be required to make up these deficiencies by registering in undergraduate courses or by following a program of supervised reading.

Applicants whose academic credentials are difficult to assess may be required to write the Graduate Record Examination (GRE) administered by the Educational Testing Service. Inquiries should be made at the time of application. Details of the examination may be obtained from the Educational Testing Service, Princeton, New Jersey, U.S.A., 08540.

Program Requirements

***Period of Study**:* A minimum of three years in full-time graduate studies is required. Credit for one of the three years may be given for a Master's degree obtained in Physics at the University of Windsor or for graduate work carried out at another institution. Not more than seven years should elapse between registration and completion of the requirements for the degree; an extension of this period may be granted only on recommendation from the program coordinator and approval by the Faculty of Graduate Studies and Research.

Candidates with a Master's degree in Physics (or equivalent): a minimum of 4 graduate courses:
(1) 64-520: Classical Electrodynamics, 64-550: Advanced Quantum Theory I and 64-551: Advanced Quantum Theory II must be taken, if previous equivalent credit has not been obtained.
(2) At least one course chosen from: (a) 64-630: Statistical Physics I and (b) 64-650: Classical and Quantum Field Theory I is required.
(3) 64-610 (Seminar for PhD Students) will be required of all candidates.
(4) Candidates may include in their program, with the permission of the Graduate Coordinator and with the approval with the Supervisor, other graduate courses in Physics and up to one graduate-level course from another department (normally from the Faculty of Science or the Faculty of Engineering).
(5) The student may be required to take up to two additional courses, as stipulated by the Doctoral Committee.

Candidates who do not have a Master's degree in Physics (or equivalent): a minimum of 7 courses:
(1) 64-520: Classical Electrodynamics, 64-550: Advanced Quantum Theory I and 64-551: Advanced Quantum Theory II, or equivalent, are required.
(2) At least one course chosen from: (a) 64-630: Statistical Physics I and (b) 64-650: Classical and Quantum Field Theory I is required.
(3) 64-610 (Seminar for PhD Students) is required of all candidates. [Note: 64-510 (Seminar for MSc Students) cannot be taken for credit.]
(4) Candidates may include in their program, with the permission of the Graduate Coordinator and with the approval with the Supervisor, other graduate courses in Physics and up to:

(i) one undergraduate course in physics (at the 400-level) or one course from another department† (normally at the 400 level or higher), and

(ii) one graduate-level course from another department†.

† normally from the Faculty of Science or the Faculty of Engineering.

(5) The student may be required to take up to two additional courses, as stipulated by the Doctoral Committee.

Doctoral Committee: Within one month after registration each student will be assigned to an advisory committee consisting of a research advisor and two other faculty members in Physics.
This committee will, from time to time, review the student's progress (see the section titled, The Degree of Doctor of Philosophy - Program Requirements).

For the defense of dissertation (final oral examination) the advisory committee will be supplemented by one professor from outside Physics and an external examiner who, as an expert in the field of physics in which the candidate's research is carried out, will appraise the dissertation and ordinarily will also be present at the final oral examination.

***Dissertation**:* In order to qualify for the degree each candidate must present a dissertation embodying the results of an original investigation in a branch of physics. Graduate courses form an important but subsidiary part of the program.

The candidate, when requested, shall submit to the chief advisor from time to time portions of the dissertation and a complete draft on a date specified by the advisor, and place four typewritten copies of the completed dissertation in the hands of the advisor at least six weeks before Convocation. Rules governing binding, quality of paper, etc., of the dissertation can be found in Procedures to Follow in Preparing a Thesis or Dissertation (see the section titled, The Degree of Doctor of Philosophy - The Dissertation).

Examinations: In addition to the examinations in the courses, all candidates must pass qualifying examinations covering

the general field of physics at the level of the honours program given at this university. The examinations must be passed after the completion of the M.Sc. degree, not later than one year after registration as a graduate student proceeding to the Ph.D. Other examinations (written or oral) may be set at the discretion of the program coordinator.

Each candidate will, on recommendation of the advisory committee, submit to a final oral examination in defense of the dissertation.

PHYSICS: COURSES

PHYSICS: PROGRAMS

PHYSICS: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

POLITICAL SCIENCE

THE MASTER OF ARTS DEGREE

Admission Requirements

The normal requirement for admission to the one-year M.A. program is an honours degree or combined honours degree in Political Science, or an honours degree in a related discipline, such as International Relations, with a B+ average. Honours graduates in fields other than these will be considered on the basis of their academic background and standing. Those with less than a four-year degree, or with minor deficiencies, will be required to take additional courses, or to enter a two-year program.

Program Requirements

Major requirements: Completion of the M.A. degree will follow one of three routes:

A. Major Paper
(1) Successful completion of 45-500 (Scope and Approaches to Political Science).
(2) Successful completion of five further graduate classes (one of which may be taken outside of the department subject to the approval of the graduate chair)
(3) Completion of a major paper. The major paper will be written under the direction of a committee normally composed of two Political Science faculty members. A successful oral defence of the major paper is required.

B. Thesis
(1)Successful completion of 45-500 (Scope and Approaches to Political Science).
(2) Successful completion of three further graduate classes (one of which may be taken outside of the department subject to the approval of the graduate chair)
(3) Completion of a thesis. The thesis will be written under the direction of a committee composed of two Political Science faculty members plus a member outside Political Science, but from within the University. A successful oral defense of the thesis is required.

C. Internship
(1)Successful completion of 45-500 (Scope and Approaches to Political Science).
(2)Successful completion of five further graduate classes (one of which may be taken outside of the department subject to the approval of the graduate chair)
(3) Successful completion an internship
(4) Successful completion of an internship seminar (45-795). Seminar will include research paper and presentation.

Other requirements: One 4-6 month internship, research paper and presentation (45-795). (These will be graded on a pass/fail basis as with the existing major paper stream.)

After successful completion of three graduate courses, the graduate committee will request applications from students interested in participating in the internship stream **(C)**.
The committee will select the successful students. The Political Science Graduate Committee will evaluate the performance of the remaining students and recommend completion
of the degree by route **(A)** or **(B).**

Additional Information that pertains to all program streams:
All students must successfully complete 45-500 in order to complete the degree.
Any student securing an F grade will normally be asked to withdraw from the program.

POLITICAL SCIENCE: COURSES

POLITICAL SCIENCE: PROGRAMS

POLITICAL SCIENCE: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

POLITICAL SCIENCE

UNIVERSITY OF MICHIGAN (DEARBORN) MASTER OF PUBLIC POLICY (MPP) (ARTICULATION AGREEMENT)

The articulation agreement will enable students in the Political Science Masters program to receive transfer credit for their graduate political science courses towards the University of Michigan (Dearborn campus) Master of Public Policy program.

Students will be admitted separately into the two programs, through a joint admissions committee, but will complete the degrees concurrently.

For additional information, contact the Faculty of Political Science.

POLITICAL SCIENCE: COURSES

POLITICAL SCIENCE: PROGRAMS

POLITICAL SCIENCE: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

PSYCHOLOGY

THE DOCTOR OF PHILOSOPHY DEGREE
[The first phase of the doctoral program involves the completion of the Master's degree in the first two years of the program.]

In addition to the general requirements, the following requirements must be met by all students proceeding to the Ph.D. degree.

Admission Requirements

Applicants with a four year undergraduate psychology degree or its equivalent will be considered for admission.

Applicants will be assessed with respect to their academic qualifications including grades, Graduate Record Examination (GRE) scores, letters of recommendation, and career-related achievements. GRE scores (Verbal, Quantitative, Analytical, and Advanced Test in Psychology) are required of all students seeking admission to the Department of Psychology. Possession of the minimum academic requirements does not ensure acceptance. Applications for admission must be completed by January 15.

Program Requirements

1) *Master's degree:* The first phase of the doctoral program involves the completion of the Master's degree in the first two years of the program, the requirements for which include a thesis. Further advancement in the doctoral program depends on the quality of performance in fulfilling the requirements for the Master's degree.

2) *Course Work:* Students must complete successfully a minimum of twelve graduate courses after the honours B.A. or its equivalent. Requirements vary, however, according to areas of specialization. Up to six courses may be accepted for credit from another university. The course work includes a core curriculum involving a general statistical methodology course, a methodology course in the student's area of specialization, and a course in ethical and professional issues in psychology. All students are required to take at least one course that places considerable emphasis on cultural, cross-cultural, or multicultural issues. All students in the Clinical Program, and students in the Applied Social Program who are planning to become registered psychologists with the College of Psychologists of Ontario, must demonstrate competence in the four core areas of biological bases of behaviour, cognitive bases of behaviour, (or in the case of students in the Applied Social program, cultural bases of behaviour) social bases of behaviour, and the historical and philosophical foundations of psychology. The minimum passing grade in graduate courses is "B-". A student who fails one course may repeat it once at the discretion of the Head of the Department and the Dean of Graduate Studies and Research. The student may not repeat more than one course. If a student has failed two courses, a recommendation will normally be made to the Dean of Graduate Studies and Research that the student be required to withdraw from the program. Together with the above requirements, students must complete an internship. The clinical internship is approximately 2000 hours and the applied social internship is approximately 1000 hours.

3) *Academic Advisor:* Each student is assigned an academic advisor at the beginning of his or her first year of graduate studies.

4) *Doctoral Committee:* Research undertaken as part of a doctoral program is directed by a doctoral committee. The membership of the doctoral committee must be appointed by the Head of the Department and approved by the Executive Committee of the Faculty Council of Graduate Studies and Research. When the student is deemed ready to undertake such research, he or she proposes the name of a research advisor and, in consultation with the proposed advisor, the names of other members of the committee consisting of at least two other members of the Psychology Department and one extra-departmental member of faculty. For the defense of the dissertation, an external examiner will be selected by the doctoral committee, subject to the approval of the Department Head and the Dean of Graduate Studies and Research. The external examiner is from outside of the University of Windsor and is nationally or internationally recognized as having expertise in the area of psychology in which the candidate's research is carried out. The external examiner shall not participate in the direction of the research project, but will appraise the dissertation and ordinarily will be present at the final oral examination (see below, 6).

5) *Dissertation:* The principal requirement for the Ph.D. degree in Psychology is the presentation of a dissertation which embodies the results of an original investigation. The results so presented should constitute a significant and original contribution to knowledge.

6) *Examinations:* In addition to examinations in courses, the student must meet the following requirements:

(a)*Comprehensive Examination:* After completion of all course requirements (with the exception of internship courses), the student must pass a comprehensive examination in his or her area of specialization. Successful completion of the examination admits the student to candidacy for the Ph.D. degree. If a student fails the comprehensive examination, he or she may retake the examination once only at the discretion of the Head of the Department and the Dean of Graduate Studies and Research.

(b)*Final Examination:* Each candidate will, on the recommendation of his or her doctoral committee, submit to a final oral examination in defense of the dissertation.

PSYCHOLOGY: COURSES

PSYCHOLOGY: PROGRAMS

PSYCHOLOGY: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

SOCIAL WORK

THE MASTER OF SOCIAL WORK DEGREE

Master of Social Work

Regular Track Full-time M.S.W.
This program is open to students with an Honours degree in a related discipline and takes five (5) consecutive semesters(approximately two years) to complete. It includes a required Foundation Practicum in the first year of study and the completion of an Advanced Practice Internship (API) in the second year of study. The Foundation Practicum and the API may involve travel and/or weekend hours, and students are responsible for transportation to and from their field placement or internship location.

Students are required to complete a total of twelve (12) courses, one of which is a practicum in the Foundation year (first year of study): 47-503, 47-504, 47-515, 47-523, 47-531, 47-532, 47-533, 47-534, 47-547, 47-550, 47-570, and, 47-571(Foundation Year Practicum – 6.0 credit hours). Students are required to complete a total of seven (7) courses, one of which is an internship in the second year of study: 47-610, 47-611, 47-621, 47-622, 47-640, 47-680, and 47-681 (Advanced Practice Internship – 6.0 credit hours).

Advanced Standing M.S.W. *
*This program is available to students with a BSW and starts in May of each year in order for students to graduate at June Convocation.

This program takes three (3) consecutive semesters (one year) to complete and includes the completion of an Advanced Practice Internship (API). The API may involve travel and/or weekend hours, and students are responsible for transportation to and from their internship location.

Students are required to complete a total of ten (10) courses, one of which is an Internship: 47-515, 47-523, 47-547, 47-610, 47-611, 47-621, 47-622, 47-640, 47-680, and 47-681 (Advanced Practice Internship – 6.0 credit hours).

Master of Social Work for Working Professionals

Regular Track Full-time MSW for Working Professionals
This program is available to students who are working in a social service delivery position and who hold an Honours degree in a related discipline. This program takes eight (8) consecutive semesters (32 months) to complete and includes a required Foundation Practicum and an Advanced Practice Internship (API). The Foundation Practicum and the API may involve travel and/or weekend hours, and students are responsible for transportation to and from their field placement or internship location.

Students are required to complete a total of ten (10) courses, one of which is a practicum in the Foundation level of study: 47-503, 47-504, 47-515, 47-531, 47-532, 47-533, 47-534, 47-550, 47-570, and 47-571 (Foundation Practicum – 6.0 credit hours). Students are required to complete a total of nine (9) courses, one of which is an internship in the Advanced level of study: 47-523, 47-547, 47-610, 47-611, 47-621, 47-622, 47-640, 47-680, and 47-681 (Advanced Practice Internship – 6.0 credit hours).

Advanced Standing Full-time MSW for Working Professionals
This program is available to students who are working in a social service delivery position and who have completed a BSW degree from a Canadian Association for Social Work Education or Council on Social Work Education accredited program. The program takes four consecutive semesters (16 months) to complete and includes the completion of an Advanced Practice Internship (API). The API may involve travel and/or weekend hours, and students are responsible for transportation to and from their internship location.

Students are required to complete a total of ten (10) courses, one of which is an Internship: 47-515, 47-523, 47-547, 47-610, 47-611, 47-621, 47-622, 47-640, 47-680, and 47-681 (Advanced Practice Internship – 6.0 credit hours).

SOCIAL WORK: COURSES

MSW/JD: COURSES

SOCIAL WORK: PROGRAM

SOCIAL WORK: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

SOCIAL WORK

THE DOCTOR OF PHILOSOPHY DEGREE

Admission Requirements

Admission criteria include the following:

1. Completion of an MSW with a minimum B+ average.
2. A statement of interest demonstrating a commitment to advanced scholarly study in research, teaching and leadership related to civic engagement in Social Work (this includes an identified area of interest and goals for addressing that interest in the Ph.D. program).
3. A curriculum vitae demonstrating experience in Social Work, experience in their field of study, and research experience or potential.
4. A sample of professional or academic writing.
5. Three letters of reference.
6. Applicants will be assessed on the basis of past academic achievement and demonstrated or potential capacity for doctoral level study. Applicants who do not meet the above criteria may be considered for admission with exceptional work experience, circumstances inhibiting performance, or applications deemed strong in most areas with one weak criterion.

Program Requirements
The proposed program is designed as a full-time doctoral program. All students complete a minimum of 10 - 3 credit courses during the two-year residency period. As stated above, the courses are designed to give a full breadth of advanced research and practice knowledge in addition to a focus on pedagogy and leadership. In addition, a comprehensive proposal is due by April 15 of the first year. Once the comprehensive proposal is approved, the student is required to complete the comprehensive paper which is due by August 30 of the first year, and is expected to be reviewed by committee members by September 30th of the second year. The thesis proposal is then due at the end of the second term in the second year.

Comprehensive Paper
The comprehensive paper will include:

1. an identification of a substantive area of interest;
2. an identification of the lens through which the student approaches the topic;
3. an analysis and critique of the literature addressing the scope, relevance, and severity of the issue;
4. a description and critical analysis of the theoretical frameworks through which this issue has been addressed in the literature; and
5. an analysis and critique of the interventions, and if possible the intervention research, that has been conducted in relation to the substantive area; and
6. an analysis and critique of research studies conducted in this area with a focus on the implications of the research and the effectiveness of the methods used to inform practice and/or policy

The comprehensive proposal must be approved by the student's supervisor. The comprehensive paper must be approved by the student's supervisor and one other faculty member in the School of Social Work who typically will become the second reader on the thesis committee.

Once the comprehensive paper is approved, the student will proceed to Ph.D. candidate status. A supervisory committee must be established within one month after the comprehensive paper is approved. The supervisory committee must include at least three, and no more than five, faculty members who are appointed to the University of Windsor Faculty of Graduate Studies. This includes the supervisor. The committee is required to have one member who is external to the School of Social Work.

Progress reports
After the two-year residency period, all students will be required to demonstrate advancement in the program by completing an annual report to be submitted to the student's supervisor. This report will describe the accomplishments made over the previous year and outline the goals for the upcoming year.

Thesis evaluation procedures
Consistent with the Graduate Studies regulations, the student must successfully defend the thesis at an oral examination presided over by an Examination Committee. The committee consists of at least six members: the supervisory committee; an external member from outside the School of Social Work and within the University of Windsor; an external member outside the University of Windsor; and a representative of the Dean as approved by the Graduate Program Coordinator and the Faculty of Graduate Studies.

Language requirements
Proof of language proficiency is not required if English is the applicant's first language or if the applicant has completed at least two years of advanced full-time study at an accredited university in a country where English is the language of instruction. Where the above criteria are not met, a minimum TOEFL score of 600 (paper based) or 250 (computer based) or

YELT score of Band 1 or equivalent will be required.

For more information, contact the School of Social Work.

SOCIAL WORK: COURSES
MSW/LLB: COURSES

SOCIAL WORK: PROGRAM

SOCIAL WORK: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

SOCIAL WORK AND JURIS DOCTOR (MSW/JD)

The MSW/JD program allows students who are interested in social justice issues at the intersection of law and social work to obtain both degrees a full year sooner than would be possible had they chosen to pursue the degrees independently. Applicants who hold a Bachelor of Social Work (BSW) degree may be able to complete the program in 3 years, while students without a BSW may be able to complete it in 4 years.

Admission Requirements
Applicants to the MSW/JD program must meet the independent admission criteria of the Faculty of Law and the School of Social Work. Once an applicant has met the minimum requirements of the Faculty of Law and the School of Social Work, a joint committee will convene to determine the applicant's suitability for the MSW/JD program.

Program Requirements
Students in the MSW/JD program must successfully complete the independent degree program requirements for the MSW and the JD. For more information, contact the School of Social Work (ext 6096) or the Faculty of Law (ext 2923, 2929).

For more information, contact the School of Social Work (ext 6096) or the Faculty of Law (ext 2923, 2929).

SOCIAL WORK: COURSES
MSW/JD: COURSES

SOCIAL WORK: PROGRAM

SOCIAL WORK: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

SOCIOLOGY, ANTHROPOLOGY AND CRIMINOLOGY/PSYCHOLOGY

THE MASTER OF ARTS DEGREE

MA in Social Data Analysis

Private and public sector organizations are in constant need of institutional, market and population research. They regularly encounter data that cannot be easily summarized and put into practice. They require skilled individuals who can analyze information, draw conclusions and suggest practical implications and policies. This one-year, three semester course-based Master's program responds to this growing demand for highly qualified data analysts who can work with complex data sets, draw conclusions and make recommendations for policy.

Program Requirements for MA in Social Data Analysis *(Fall 2011 Implementation)*

Admission Requirements:
1) Applicants to the program must hold an Honours Degree in one of social sciences or closely related discipline.
2) Minimum major and cumulative GPAs of B.
3) At least 2 semester length undergraduate statistics courses with a B+ minimum average in these courses.
4) A Statement of Interest
5) Three reference letters

Program Requirements:

*Total courses:*Eight (8) 500- or 600-level graduate courses

Major requirements: 46-511,46-512, 48-505, 48-605 or 46-514, 48-507/48-508 (cross listed as 46-507/46-508), 48-794/48-795 (cross listed as 46-794/46-795).

Recommended options (if any): Students may substitute 46-513 for 48-605.

Program Sequencing:
Students will complete their 6 courses in term 1 and 2 and complete their Final Project (48-794/48-795 cross-listed as 46-794/46-794) during the Spring/Summer semesters.

Fall: 46-511, 48-505, 48-507 (cross listed as 46-507)
Winter: 46-512, 48-605 (or 46-513), 48-508 (cross listed as 46-508)
IS: 48-794/48-795(cross listed as 46-794/46-795)

PSYCHOLOGY: COURSES

SOCIOLOGY, ANTHROPOLOGY AND CRIMINOLOGY: COURSES

Spring 2012 Graduate Calendar

SOCIOLOGY, ANTHROPOLOGY AND CRIMINOLOGY

THE MASTER OF ARTS DEGREE IN SOCIOLOGY

Admission Requirements

Applicants must apply by January 31.

1) Applicants with an honours degree in Sociology or a related field may be admitted into the candidate year of the M.A. program provided they have an adequate background in social theory and methodology. Students will be expected to comply with the general University requirements for the Master's degree. (see section titled, The Master's Degree - Program Requirements).

2) Applicants without an honours degree in Sociology may be required to take additional courses. Besides meeting all the requirements for the Master's program in their second year, students will be expected to comply with the general University requirements. (see section titled, The Master's Degree - Program Requirements).

3) Students transferring into Sociology from another discipline and those with insufficient preparatory background may be required to take additional courses before proceeding into the candidate year. At least an overall B average must be maintained.

4) Applicants with a three-year degree in Sociology or a related discipline may be admitted into a two-year Master's program. Besides meeting all the requirements of the minimum one-year Master's program in their second or further years, students will be expected to comply with the general University requirements (see section titled, The Master's Degree - Program Requirements).

The Department's current admission criteria are as follows:
(a)B+/A- minimum grade point average;

(b)strong recommendations based on faculty observation of student's performance, work experience, or community involvement demonstrating clear commitment to and understanding of sociological concerns;

(c)applicant's background preparation and graduate faculty resources available in the area of specialization indicated on the application.

Students with an honours degree in Anthropology must take 02-250, 48-302, 48-308, and one course from 48-403, 48-404, 48-405, 48-406, 48-408 or 48-415, or the equivalent. At least an overall B average must be maintained. Students with an honours degree in Criminology must take one course from 48-403, 48-404, 48-405, 48-406, 48-408 or 48-415, or the equivalent. At least an overall B average must be maintained. Students with an honours degree in Family and Social Relations must take one course from 48-403, 48-404, 48-405, 48-406, 48-408 or 48-415, or the equivalent. Students not having a sufficient background in statistics and/or social theory may be required to take 02-250 and 48-308 and/or 48-202 and 48-302. At least an overall B average must be maintained.

Program Requirements

MASTER OF ARTS - THESIS OPTION

The essential components of the Master of Arts degree in sociology are course work and a thesis. Students are expected to complete all 5 courses in two (2) consecutive semesters, 48-590 should be taken during the 2nd semester.

Graduate students in the M.A. program will be expected to specialize in one of the four areas: Family, Sex, and Gender; International Development; Migration, Racialization and Ethnicity; or Work. Course selections and course changes must be made in consultation with a faculty advisor (temporary or permanent).

Students accepted directly into the candidate year will proceed towards the degree by achieving at least a B average in all five courses. The two required courses are: either 48-500 (Sociological Theory) or 48-501 (Classical Theories and Beyond), and either 48-505 (Quantitative Methods and Statistics) or 48-506 (Qualitative Methodology I). The other two (2) courses must include at least one in the student's area of specialization. Faculty advisors may recommend particular courses to develop the skills necessary for thesis work. After completion of the courses, the focus shifts to the thesis which is an independent research project conducted in consultation with an advisor and thesis committee.

The minimum passing grade in a graduate course is "B-". A student who fails to achieve a grade of "B-"in a graduate course may repeat the course once (scheduling considerations may require the Graduate Committee to substitute an alternative course). If a student fails to achieve a grade of "B-" in their second attempt, or fails to achieve a grade of "B-" in two courses, a recommendation will normally be made to the Dean of Graduate Studies and Research that the student be required to withdraw from the program.

Students have the option of taking one graduate course outside the Sociology program. Permission may be required from the department or program offering the course. Advance permission from the departmental Graduate Committee is required in order to take courses outside the Sociology program.

MASTER OF ARTS - COURSE STREAM OPTION

The essential component of the Master of Arts degree in sociology involves course work only.

Graduate students in the M.A. program will be expected to specialize in one of the four areas: Family, Sex, and Gender; International Development; Migration, Racialization and Ethnicity; or Work. Course selections and course changes must be made in consultation with a temporary faculty advisor.

Students accepted directly into the candidate year will proceed towards the degree by achieving at least a B average in all seven courses. The two required courses are: either 48-500 (Sociological Theory) or 48-501 (Classical Theories and Beyond), and either 48-505 (Quantitative Methods and Statistics) or 48-506 (Qualitative Methodology I). Five (5) additional graduate courses are required including at least one (1) course in a declared area of specialization.

The minimum passing grade in a graduate course is “B-”. A student who fails to achieve a grade of “B-”in a graduate course may repeat the course once (scheduling considerations may require the Graduate Committee to substitute an alternative course). If a student fails to achieve a grade of “B-” in their second attempt, or fails to achieve a grade of “B-” in two courses, a recommendation will normally be made to the Dean of Graduate Studies and Research that the student be required to withdraw from the program.

Students have the option of taking one graduate course outside the Sociology program. Permission may be required from the department or program offering the course. Advance permission from the departmental Graduate Committee is required in order to take courses outside the Sociology program.

Notes:

1) Students not having a sufficient background in statistics and/or social theory may be required to take 02-250 and 48-308 and/or 48-202 and 48-302.

2) Seminar classes require active class participation. Instructors may therefore take into account class participation in grading students, in accordance with Senate regulations.

3) To change from one program to the other requires approval of the Graduate Committee.

SOCIOLOGY AND ANTHROPOLOGY: COURSES

SOCIOLOGY AND ANTHROPOLOGY: PROGRAMS

SOCIOLOGY AND ANTHROPOLOGY: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

SOCIOLOGY, ANTHROPOLOGY AND CRIMINOLOGY

THE DOCTOR OF PHILOSOPHY DEGREE IN SOCIOLOGY WITH SPECIALIZATION IN SOCIAL JUSTICE

In addition to the general requirements (see section titled, The Degree of Doctor of Philosophy listed in this calendar), the following requirements must be met by all students proceeding to the Ph.D. degree in Sociology.

Admission Requirements

For admission to the PhD program in Sociology applicants must hold a Master's degree in Sociology (or equivalent) from a recognized university. Possession of the minimum academic requirements does not ensure acceptance.

Applicants must apply by January 31.

Applicants must include the following:
(a) transcripts from all post-secondary institutions attended. (Transcripts must be sent directly from the institution);

(b) a statement (up to 500 words) addressing the two following questions: (i) How have you been involved in social justice issues through research, work, or community activity; And (ii) How do you envision your research contributing to social justice;

(c) a statement of a proposed area for dissertation research;

(d) a sample of written work (e.g., a term paper, thesis proposal, published work);

(e) three letters of reference in sealed envelopes with the referee's signature across the seal. At least two should be academic references. One letter should be from the MA supervisor; one can be from a non-academic referee who has been in a supervisory or mentor role. These may be sent by the applicant or under separate cover by the referees.

In addition to assessing the submissions made by the applicant to determine admissibility, the Graduate Committee takes into account (i) the availability of faculty to advise, supervise, and provide funding and research training in conjunction with their own research projects, and (ii) the diversity of subject areas represented in the applicant pool.

Program Overview

Doctoral Committee

Upon admission to the Ph.D. program, the Graduate Committee will assign an interim faculty advisor whose research and teaching coincide with the applicant's area of interest. Students may submit a request to the Graduate Committee for a particular advisor.

Research undertaken as part of the doctoral program is directed by a doctoral committee consisting of an advisor from the graduate faculty of the Department of Sociology and Anthropology, two other faculty members from inside the department, and one faculty member from outside the department. The student should select the doctoral committee by the end of the first academic year. The membership of the doctoral committee must be approved by the Faculty of Graduate Studies and Research.

Course work

Ph.D. students are required to complete five (5) graduate courses, including 48-600 and either 48-605 or 48-606. Proficiency in both quantitative and qualitative methods is required through completion of course work at the M.A. or Ph.D. level. Those without evidence of prior preparation may be required to take additional courses.

The minimum passing grade in a graduate course is “B-”. A student who fails to achieve a grade of “B-”in a graduate course may repeat the course once (scheduling considerations may require the Graduate Committee to substitute an alternative course). If a student fails to achieve a grade of “B-” in their second attempt, or fails to achieve a grade of “B-” in two courses, a recommendation will normally be made to the Dean of Graduate Studies that the student be required to withdraw from the program.

One course from the following list of social justice courses may be included to complete the course work requirement:

Humanities Research Group: 09-599
Communication Studies: 40-501, 40-512, 40-515
History: 43-505, 43-506, 43-507, 43-508, 43-509, 43-510
Psychology: 46-657, 46-660
Social Work: 47-520, 47-521, 47-522 and 47-540
Nursing: 63-588
Business: 71-647

Permission may be required from the department or program offering the course. Advance permission from the

departmental Graduate Committee is required in order to take ~~any~~ courses outside the Sociology program.

Comprehensive Examinations and Dissertation Proposal

After completion of all course requirements, students must demonstrate mastery of two established and distinct fields of sociological inquiry through satisfactory completion of two comprehensive examinations. Comprehensive examinations serve as preparatory work for the dissertation and enable students to develop recognized areas of expertise for teaching and career purposes.

Comprehensive Exams:
(a) Two comprehensive exams are required in the following areas: Social Theory, Methodology, Crime and Regulation, Culture and Power, Social Inequality, or Social Change, at least one of which must be in either Social Theory or Methodology.

(b) Students may nominate a Comprehensive Examination Committee of three faculty members for each area in which they will be examined from a list of graduate faculty in that area of competence. The Graduate Committee must approve the composition of each committee.

(c) Responsibility for setting each exam rests with the Comprehensive Examination Committee. It is the responsibility of the committee to ensure that the questions for a student's two comprehensive exams are distinct and without duplication. These exams and committees will be monitored by the Graduate Committee.

(d) The comprehensive examinations will have a take-home format. The exam will be given to the student seven (7) days before it is due. The students will be given three (3) questions and must answer two (2) of the questions.

(e) Once a written comprehensive examination is submitted to the Comprehensive Examination Committee, the Committee has up to four weeks to schedule an oral defense meeting. At the end of the oral defense, a grade of pass or fail will be assigned by the Committee based on both compoents. Individual Committee members may submit written feedback to the student. In the even that a student fails the comprehensive examination, the Committee is required to provide a written explanation within five (5) working days.

(f) If a student fails a comprehensive examination, he or she may retake the examination once only at the discretion of the Head of the Department and the Dean of Graduate Studies and Research.

(g) Students failing a comprehensive exam after a second attempt will be required to withdraw from the program.

(h) Students cannot move on to another comprehensive exam until one comprehensive exam has been successfully completed.

(i) The student has a right to appeal a failed comprehensive exam by sending a written letter to the Graduate Committee, detailing the reason(s) for the appeal.

Dissertation Proposal

The dissertation proposal should be a concise document of no more than 20 pages that discusses: the central research topic of the dissertation; the significance and advancement research literature; the theoretical framework guiding the research; proposed research methods; a plan and schedule for completion of the thesis; the feasibility of the research project; and ethical issues raised by the research. The grant proposal format mandated by such major funding agencies as the Social Sciences and Humanities Research Council or the Canadian Institutes for Health Research can be used as a standard format for the proposal.

The dissertation proposal must be approved at a meeting of the doctoral committee before the research can proceed. The purpose of the meeting is to reach an agreement that the research is well-designed, feasible, and appropriately grounded in the relevant research literature. All doctoral students are required to comply with the ethical principles, values, and standards of the Canadian Sociology and Anthropology Association's Code of Ethics. A proposal for doctoral research involving human subjects must be approved by the University of Windsor Ethics Review Board before dissertation research can begin.

Dissertation Research

The dissertation is normally a book-length manuscript that makes an original contribution to knowledge. The dissertation should display a sophisticated awareness of the theoretical, methodological, and practical choices made during the research process and the implications of the research.

Dissertation research and writing processes vary significantly, depending on the methods used and preferences in working style. The student and supervisor should meet often during the research process, reviewing written work at regular intervals. The full doctoral committee shall meet for an assessment of progress at least twice a year.

The dissertation research process culminates with an oral defence. The doctoral committee will recommend to the candidate when the thesis is ready to defend. An examiner from outside the university will be selected by the doctoral committee for the final defence of the dissertation, subject to the approval of the Department Head and the Dean of Graduate Studies and Research. The external examiner must be a nationally or internationally recognized expert in the area of the candidate's research. The external examiner does not participate in the direction of the research project, but appraises the dissertation and participates in the final oral examination.

SOCIOLOGY AND ANTHROPOLOGY: COURSES

SOCIOLOGY AND ANTHROPOLOGY: PROGRAMS

SOCIOLOGY AND ANTHROPOLOGY: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

VISUAL ARTS

THE MASTER OF FINE ARTS DEGREE

The program provides two years of advanced education and creative development in the student's chosen areas of research. The program functions to stress studio production and the exploration of ideas and technical skills within a critical framework. Areas of research within the M.F.A. program are Painting/Drawing, Sculpture, Printmaking, and Integrated Media (Video, Sound, Photography and Digital Arts).

Students with a B.F.A. degree from the University of Windsor are encouraged to seek their Master's degree elsewhere.

Admission Requirements

1) In addition to the requirements set forth in the section titled, Application Process and the section titled, The Master's Degree - Admission Requirements, for admission to the Faculty of Graduate Studies and Research, applicants for admission to the Master of Fine Arts program must satisfy the following particular requirements:

(a) have an honours B.A. with a major in Visual Arts or Bachelor of Fine Arts degree from an approved college or university; an applicant with a general B.A. with a major in Visual Arts may be admitted with the stipulation that deficiencies will be made up;

(b) present twenty slides of recent work for evaluation by the departmental graduate acceptance committee;

(c) have attained at least a B standing in undergraduate art courses;

(d) have six courses in art history;

(e) present transcripts of all university and/or college-level work;

(f) present three letters of recommendation.

2) An applicant who has graduated from a recognized professional institution may be required to apply for entry into a special program prerequisite to admission into the M.F.A. program.

3) Students who are deficient in any of these requirements may be asked to register in appropriate undergraduate courses in order to satisfy the requirements.

4) Applications for admission to the Master of Fine Arts program should be complete by February 10 for Fall admission; applications received after that date may not be considered.

Program Requirements

1) Ten courses are required:
(a) four courses in Studio Practice (27-561, 27-562, 27-563, 27-564);

(b) 28-660: Contemporary Issues;

(c) 28:600: Directed Individual Studies Stuides;

(d) Graduate Seminars (27-596, 27-597, 27-598, 27-599);

(e) Early in the second term of their first year, students must participate in a first year M.F.A. group exhibition. This exhibition will be evaluated by faculty members to determine the advisability of a student continuing in the program.

2) *Thesis (27-797):* The thesis will consist of an exhibition of a body of original creative works within the candidate's area of research. The thesis will be planned with, and executed under the direction of the candidate's principal faculty advisor. This final exhibition should be regarded as the equivalent of the scholarly thesis of an academic discipline.

3) *Committees:*

(a) *Guidance Committee:* Each student will choose a guidance committee, approved by the Visual Arts Graduate Program Committee, at the beginning of the second term of his or her Master's program. This committee will meet with the student periodically throughout the time required to complete the M.F.A. program and to assess his/her work and progress through the program.

(b) *Thesis Defence Committee:* This committee will assess the student's thesis exhibition, conduct the oral examination, decide if the M.F.A. degree should be awarded and determine the thesis grade. The thesis committee will be constituted as follows: a member of the graduate faculty appointed by the Dean of Graduate Studies and Research serving as a non-voting chair, the student's principal advisor and two additional faculty members, one of whom will not have been a member of the student's guidance committee. In addition a professional artist or artist-educator not from the University of Windsor or the

Windsor area will be chosen as an external member of the committee. The student will choose the last three members of this committee with the approval of the Visual Arts Graduate Program Committee and subject to the approval of the Executive Committee of the Faculty of Graduate Studies and Research.

4) *Examination and Thesis Requirements:*
(a) a solo exhibition of the completed creative thesis acceptable to the student's thesis committee;

(b) a written and photographic documentation of the thesis to be retained by Visual Arts;

(c) a formal oral defense of the thesis before the student's thesis committee;

(d) written support document given to each member of the Thesis Committee two weeks prior to the scheduled defense.

5) *Residence Requirements:* The M.F.A. program will require a minimum of two academic years (four terms). Transfer credits will be evaluated and may be accepted.

Work on an M.F.A. degree should ordinarily be completed within three consecutive years after a student's enrollment.

VISUAL ARTS: COURSES

VISUAL ARTS: PROGRAM

VISUAL ARTS: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

BIOLOGICAL SCIENCES

PROGRAMS

Biological Sciences (MSc)

Biological Sciences (PhD)

Students may pursue one of the following fields within the MSc and PhD in Biological Sciences: 1) Molecular/Cellular Biology; 2) Ecology, Evolution, Environment, and Behaviour; and 3) Neuroscience and Behaviour.

BIOLOGICAL SCIENCES: COURSES

BIOLOGICAL SCIENCES: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

ODETTE SCHOOL OF BUSINESS

PROGRAMS

Spring 2012 Graduate Calendar

CHEMISTRY AND BIOCHEMISTRY

PROGRAMS

Chemistry and Biochemistry (MSc)

Chemistry and Biochemistry (PhD)

Facilities are provided for students wishing to proceed to the degrees of Master of Science and Doctor of Philosophy in Chemistry and Biochemistry. Additional requirements may be found in the Chemistry and Biochemistry Graduate Handbook.

CHEMISTRY AND BIOCHEMISTRY: COURSES

CHEMISTRY AND BIOCHEMISTRY: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

CIVIL AND ENVIRONMENTAL ENGINEERING

PROGRAMS

Civil Engineering (MASc)

Civil Engineering (MEng)

Civil Engineering (PhD)

Environmental Engineering (MASc)

Environmental Engineering (MEng)

Environmental Engineering (PhD)

CIVIL ENGINEERING AREAS OF SPECIALIZATION

Within Civil Engineering, the available fields are Structural Engineering and Water Resources Engineering. In the Structures field, research encompasses ACM, structural dynamics, fatigue damage assessment, steel, concrete technology, soil mechanics, and foundations. In the Water Resources field, research is in hydraulics, hydrology, and hydrogeology.

ENVIRONMENTAL ENGINEERING AREAS OF SPECIALIZATION

In the Environmental Engineering program, research focuses on air and water quality and modeling, wastewater and industrial waste treatment, and ground water contamination.

CIVIL AND ENVIRONMENTAL ENGINEERING: COURSES

CIVIL AND ENVIRONMENTAL ENGINEERING: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

COMMUNICATION, MEDIA, AND FILM

PROGRAM

Communication and Social Justice (MA)

COMMUNICATION, MEDIA, AND FILM: COURSES

COMMUNICATION, MEDIA, AND FILM: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

COMPUTER SCIENCE

PROGRAMS

Computer Science (MSc) (with and without Co-op)

Computer Science (PhD)

COMPUTER SCIENCE: **COURSES**

COMPUTER SCIENCE: **INSTRUCTORS**

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

EARTH AND ENVIRONMENTAL SCIENCES

PROGRAMS

Earth Sciences (MSc)

Earth Sciences (PhD)

EARTH AND ENVIRONMENTAL SCIENCES: **COURSES**

EARTH AND ENVIRONMENTAL SCIENCES: **INSTRUCTORS**

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

ECONOMICS

PROGRAM

Economics (MA)

ECONOMICS: COURSES

ECONOMICS: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

FACULTY OF EDUCATION

PROGRAMS

Education (MEd)

Educational Studies (PhD)

EDUCATION: COURSES

EDUCATION: **INSTRUCTORS**

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

ELECTRICAL AND COMPUTER ENGINEERING

PROGRAMS

Electrical Engineering (MASc)

Electrical Engineering (MEng)

Electrical Engineering (PhD)

ELECTRICAL ENGINEERING AREAS OF SPECIALIZATION

Research is carried out in the broadly defined area of Signals and Systems. Within the area of Signals and Systems such research topics as digital signal processing, microsystems, communications and computers are investigated.

ELECTRICAL AND COMPUTER ENGINEERING: COURSES

ELECTRICAL AND COMPUTER ENGINEERING: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

ENGLISH LANGUAGE, LITERATURE AND CREATIVE WRITING

PROGRAMS

English (MA)

ENGLISH LANGUAGE, LITERATURE AND CREATIVE WRITING: COURSES

ENGLISH LANGUAGE, LITERATURE AND CREATIVE WRITING: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

GREAT LAKES INSITUTE FOR ENVIRONMENTAL RESEARCH (GLIER)

PROGRAMS

Environmental Science (MSc)

Environmental Science (PhD)

The Great Lakes Institute for Environmental Research (GLIER) offers graduate programs leading to an M.Sc. in Environmental Science and a Ph.D. in Environmental Science. The GLIER graduate programs supports advanced research and develop graduate expertise to assess the effects of multiple stressors on aquatic environments, with an emphasis on large lakes and their watersheds.

ENVIRONMENTAL SCIENCE: COURSES

GREAT LAKES INSITUTE FOR ENVIRONMENTAL RESEARCH: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

HISTORY

PROGRAM

History (MA)

HISTORY: COURSES

HISTORY: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

FACULTY OF HUMAN KINETICS (KINESIOLOGY)

PROGRAM

Human Kinetics (MHK)

KINESIOLOGY: COURSES

KINESIOLOGY: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING

PROGRAMS

INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING: COURSES

INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

MECHANICAL, AUTOMOTIVE AND MATERIALS ENGINEERING

PROGRAMS

Engineering Materials (MASc)

Engineering Materials (MEng)

Engineering Materials (PhD)

Mechanical Engineering (MASc)

Mechanical Engineering (MEng)

Mechanical Engineering (PhD)

MECHANICAL, AUTOMOTIVE AND MATERIALS ENGINEERING AREAS OF SPECIALIZATION

ENGINEERING MATERIALS
Ph.D., M.A.Sc. and M.Eng. graduate programs in Engineering Materials are administered by Mechanical, Automotive and Materials Engineering upon the advice of its Graduate Studies Committee for Engineering Materials. Research is concentrated on the physical, mechanical, tribological, chemical and processing aspects of materials. The program hosts one NSERC/ Industrial Research Chair: i) Chair in Tribology of Light-weight Materials. Particular research topics include:

Material Design, Development: Aluminum alloys (wrought, cast, particulate, reinforced), structure refinement, nanocrystalline alloys, solidification and precipitation processing, metal hydrides for energy applications, ceramics and cementitious materials, metallic forms, materials for batteries and fuel cells, smart materials, computational materials science.

Material Processing: Surface coatings, surface modification technologies (PVD, CVD, thermal spraying) welding, machining, galvanizing and galvannealing of steels, steel fabrication, nanofabrication.

Mechanical Properties of Materials: Creep and fatigue behaviour, deformation mechanisms, computer simulation of deformation, corrosion, erosion, impact testing, crashworthiness evaluation.

Light Metals Casting Technology: Advanced foundry processes for lightweight castings for automotive engines; aluminum and magnesium alloys; new generation foundry materials, solidification modelling, die casting process control.

Tribology (Wear) Research: Friction and wear of metal matrix composites, coatings for tribological applications, development of wear resistant materials for automotive applications, micromechanical modeling of tribological processes.

MECHANICAL ENGINEERING
Ph.D., M.A.Sc. and M.Eng. graduate programs in Mechanical Engineering are administered by Mechanical, Automotive and Materials Engineering upon the advice of its Graduate Studies Committee for Mechanical Engineering. Ph.D., M.A.Sc. and M.Eng. programs are offered in the areas of Machine Dynamics and Design, and Thermo-Fluids. In addition, at the masters level, a third Automotive field is available.In addition, the Department offers a separate **M.Eng. in Mechanical Engineering (Automotive Field)** specifically designed for a cohort of international students, particularly foreign-trained engineers. For other additional information on this program contact the Centre for Executive Education at www.uwindsor.ca/execed.

MECHANICAL, AUTOMOTIVE AND MATERIALS ENGINEERING: COURSES

MECHANICAL, AUTOMOTIVE AND MATERIALS ENGINEERING: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

NURSING

PROGRAMS

Nursing (MSc)

Nursing (MN) - Advanced Clinical and Nursing Leadership Field

Graduate Diploma in Advanced Practice Oncology/Palliative Nursing *
*(*Pending Quality Council approval)*

Post Baccalaureate Degree - Primary Health Care Nurse Practitioner Certificate

Additional Information
Mission Statement

NURSING: COURSES

NURSING: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

PHILOSOPHY

PROGRAM

Philosophy (MA)

PHILOSOPHY: COURSES

PHILOSOPHY: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

PHYSICS

PROGRAMS

Physics (MSc)

Physics (PhD)

PHYSICS: COURSES

PHYSICS: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

POLITICAL SCIENCE

PROGRAMS

Political Science (MA)

Master of Arts in Political Science and Master of Public Policy Articulation

POLITICAL SCIENCE: COURSES

POLITICAL SCIENCE: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

PSYCHOLOGY

PROGRAMS

Psychology (PhD and MA)

Social Data Analysis (MA)

PSYCHOLOGY: COURSES

PSYCHOLOGY: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

GENERAL INFORMATION

The graduate programs of study are Adult Clinical Psychology, Child Clinical Psychology, Clinical Neuropsychology, and Applied Social Psychology.

All graduate students in Psychology are required to comply with the most recent ethical principles, values, and standards of the Canadian Psychological Association and the American Psychological Association, and with the current standards for research with human subjects adopted by the University of Windsor.

Failure of a student to adhere to the principles, values, and standards defined above will constitute sufficient cause to warrant dismissal from the graduate program in Psychology.

Spring 2012 Graduate Calendar

SOCIAL WORK

PROGRAM

Social Work (PhD)

Social Work (MSW)

Juris Doctor/Master of Social Work (JD/MSW) Joint Program

SOCIAL WORK: COURSES
MSW/JD: COURSES

SOCIAL WORK: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

SOCIOLOGY, ANTHROPOLOGY AND CRIMINOLOGY

PROGRAMS

SOCIOLOGY, ANTHROPOLOGY AND CRIMINOLOGY: COURSES

SOCIOLOGY, ANTHROPOLOGY AND CRIMINOLOGY: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

VISUAL ARTS

PROGRAM

Visual Arts (MFA)

VISUAL ARTS: COURSES

VISUAL ARTS: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

FACULTY OF LAW

JOINT PROGRAMS

Juris Doctor/Master of Social Work (JD/MSW) Joint Program

JD: COURSES

Note: The Law Calendar can be found on the Faculty of Law website: http://www.uwindsor.ca/law/law-calendar-1

Spring 2012 Graduate Calendar

BIOLOGICAL SCIENCES: COURSES

All courses listed will not necessarily be offered each year.

Biological Sciences provides three types of courses, each with a different primary purpose and format.

1) *Fundamentals Courses:* Fundamentals courses cover subject matter that is considered central to a comprehensive knowledge of principles and theories in the department's areas of research emphasis. The scope of these courses extends beyond that provided at the undergraduate level. These courses may entail formal lectures, laboratory instruction and/or directed readings and discussion, but the onus is on the course instructor to ensure that students are exposed to balanced and comprehensive coverage of the range of topics considered to represent the field. Because of their central importance to the Biological Sciences, these courses are offered on a regular, recurring basis.

2) *Special Topics Courses:* Special topics courses provide detailed expertise in theory and/or techniques in areas of researchers' expertise that are especially relevant to students' thesis research. Although no less rigorous than fundamentals courses, these courses may provide greater depth of information over a narrower subject range. The scope of these courses extends beyond that provided at the undergraduate level. These courses may involve a combination of lectures, laboratories, discussion, readings and/or student presentations under the guidance of the instructor. A Special Topics course will have an explicit subtitle indicating the theme of a particular offering. Some Special Topics courses will be offered each year. The themes will vary among years to reflect the expertise of the instructors available and the current needs of the graduate students.

3) *Selected Readings Courses:* The primary goal of the Selected Readings courses is to develop students' skill in objective, critical analysis of scholarly work among individuals with broadly similar research interests and backgrounds. An equally important aspect of these courses is to promote interaction among students and faculty and to help participants become aware of new research across a range of subdisciplines. The role of students in selecting and presenting relevant material is central to these courses.

55-516. Techniques in Molecular Biology
A course designed to introduce the student to a variety of biochemical, cellular, and molecular techniques. This course is composed of a series of topics from which students are required to participate in a minimum of four. The topics include: chromatography, electrophoresis, immunocytochemistry, electron microscopy, cell culture, cloning and nucleic acid analysis, computer-based protein and nucleic acid analysis, and radioisotope methods. Students should consult with their research advisors and supervisory committees in choosing the topics for study. (Prerequisite: consent of instructor.) (2 lecture hours, 4 laboratory hours a week for selected experiments during the year, both terms.) (One term course credit.) (Offered in alternative years.)

55-518. Experimental Design and Analysis in Biological Research
Discussion of philosophical and quantitative approaches used to investigate biological systems, with emphasis on design and implementation of efficient and unbiased experiments. Students will use expertise acquired in lectures and readings to constructively evaluate their own and others' research proposals through round table discussions and individual presentation. (Prerequisite/corequisite: 55-320, or consent of instructor.) (2 discussion hours a week.)

55-520. Selected Readings in the Biological Sciences
Current publications on common themes of potential significance in students' area of study will be chosen for round table oral presentation and discussion. Multiple sections, each with enrollment of 8-12 students will be offered in the fall term of each year as required. This course is intended for graduate students in Biological Sciences only. (2 discussion hours a week.)

55-521. Selected Readings in the Biological Sciences
Current publications on common themes of potential significance in students' area of study will be chosen for round table oral presentation and discussion. Multiple sections, each with enrollment of 8-12 students will be offered in the winter term of each year as required. This course is intended for graduate students in Biological Sciences only. (2 discussion hours a week.)

55-528. Molecular Biology of Growth and Development I
An analysis at the molecular level of the growth and development of prokaryotes, lower eukaryotes, and their plasmids. (Required: consent of instructor.) (2 discussion hours a week.) (Offered in alternate years.)

55-529. Molecular Biology of Growth and Development II
An analysis at the molecular level of the growth and development of plants and animals. (Required: consent of instructor.) (2 discussion hours a week.) (Offered in alternate years.)

55-570. Fundamental Topics in Population and Evolutionary Biology
Major topics may include the evolution of mating systems, population structure and demography, population genetics and life history variation, theory of optimal resource use. (Prerequisite/corequisite: 55-324, or consent of instructor.) (3 lecture/discussion hours a week.) (Offered in alternate years.)

55-581. Fundamental Topics in Community Biology
Major topics include niche and diversity theory, trophic complexity and community stability, assembly of guilds, ecosystem

structure and function, biogeography. (Prerequisite/corequisite: 55-325, or consent of instructor.) (3 lecture/discussion hours a week.) (Offered in alternate years.)

55-601. Special Topics in Molecular and Developmental Biology
This is a regularly offered course covering subjects that reflect current graduate program needs and departmental expertise in specific areas. The course addresses one or more theme subjects in any particular term. Students receive a course credit for each term in which they register for this course provided that a particular theme is not repeated. Where a theme parallels an undergraduate course listing, students may be required to attend some portion of the undergraduate course as a prerequisite or corequisite. Subjects that may be offered as special topics include but are not limited to the following: biology of cell transformation; electron microscopy; genetic engineering and its applications; advanced topics in immunochemistry; advanced topics in microbial physiology and ecology; advanced topics in physiology; plant hormones and development; virology. (Prerequisite: consent of instructor.) (2-3 discussion hours and/or up to 5 laboratory hours a week.)

55-602. Special Topics in Population and Environmental Biology
This is a regularly offered course covering subjects that reflect current graduate program needs and departmental expertise in specific areas. The course addresses one or more theme subjects in any particular term. Students receive a course credit for each term in which they register for this course provided that a particular theme is not repeated. Where a theme parallels an undergraduate course listing, students may be required to attend some portion of the undergraduate course as a prerequisite or corequisite. Subjects that may be offered as special topics include but are not limited to the following: animal behaviour; advanced topics in aquatic ecology; biogeography, conservation biology, ecotoxicology, quantitative ecology. (Prerequisite: consent of instructor.) (2-3 discussion hours and/or up to 5 laboratory hours a week.)

55-603. Special Topics in Biological Sciences I
Special Topics in the Biological Sciences courses may be used to introduce a new graduate offering, typically on a "trial" basis. Approved courses taken at Wayne State University or elsewhere, or courses offered by visiting professors may also fall into the category of Special Topics in the Biological Sciences. A limited number of these courses may be included in the program of graduate student.

55-604. Special Topics in Biological Sciences II
Special Topics in the Biological Sciences courses may be used to introduce a new graduate offering, typically on a "trial" basis. Approved courses taken at Wayne State University or elsewhere, or courses offered by visiting professors may also fall into the category of Special Topics in the Biological Sciences. A limited number of these courses may be included in the program of a graduate student.

55-797. Thesis Research
An original research project embodied into a concisely written thesis which conforms to the style and format of a recognized journal in the field of specialization. The student should register for this course during each term (including Summer) of residency at the University; however, this course may not be used for credit toward fulfilling the course requirements in the Master's program.

55-798. Dissertation Research
An original research investigation the results of which will be embodied in a concisely written dissertation conforming in style and format to a recognized journal in the field of specialization. The final paper should be of the highest quality possible and suitable for publication. The doctoral student should register for this course commencing the summer term of the first year of residency and subsequently for each term during which dissertation research will be carried out. In no case, however, may this course be used for credit toward fulfilling the course requirements in the Ph.D. program.

NEUROSCIENCE AND BEHAVIOUR FIELD

55-501. BCN Training Course
This short, intensive course examines specialized topics in Behaviour, Cognition and Neuroscience through collaborative presentations with leaders in the field. Students are required to understand the background of the specialized topic, and to participate in colloquia and laboratory experiments with visiting BCN scientists.

55-505. Sensory Ecology
This seminar/lecture course will examine interconnections between sensory biology and ecology as they relate to the evolution of signal reception. Special emphasis is placed on a comparative approach to understanding sensory neurobiology and the current state of the field of sensory ecology. (*Note: It is recommended that students taking this course have completed Principle Neuroscience (55-258) or equivalent.)*

55-510. Behavior and Physiology of Fishes
The goal of this course is to increase one’s understanding of current research in the behaviour and physiology in fishes by synthesizing and evaluating current literature, leading class discussions, assessing presentations of others and by preparing a review paper based on research ideas presented in the course. (Prerequisite: Any two of the following undergraduate courses or their equivalents from other universities: 55-204, 55-210, 55-425 or 55-440.)

55-557. Comparative Cognition
Evidence of general and specialized cognitive processes in human and non-human organisms will be investigated. Topics to be covered include perception, attention, and memory, concept formation, ecological and evolutionary bases of cognitive processes. Current research on these and other topics will be reviewed and discussed in a seminar format. (Prerequisite: Any two of the following undergraduate courses or their equivalents from other universities: 46-353, 46-358 or 46-335.) (Also offered as 46-557; cross-listed with 46-457)

55-605. Advanced Behvioural Neurobiology

In depth case analyses will be conducted to show how animals have developed neural mechanisms to solve behavioral problems encountered in their specific environmental niches. Topics will cover sensory processes, motor strategies, and plastic changes of behavior. General principles in behavioral neurobiology will be discussed after examination of individual cases. Important research methods in behavioral neurobiology will also be introduced.(Co-requisite: 55-483.) (*Note: It is recommended that students taking this course have completed Principle Neuroscience (55-258) or equivalent.)*

55-610. Advanced Topics in Neurophysiology
This course emphasizes synaptic organization of the brain. It examines how physical stimuli are converted by neurons into sensations and how movement is controlled through integrative neuronal action. The mechanisms of learning and memory will be discussed at the neuronal and molecular levels. Important experimental approaches in contemporary neurophysiology will also be introduced.(*Note: It is recommended that students taking this course have completed Principle Neuroscience (55-258) or equivalent.)*

Spring 2012 Graduate Calendar

ODETTE SCHOOL OF BUSINESS: COURSES

Courses below are listed according to the internal administrative units of the Odette School of Business.

All courses listed will not 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.

FIRST-YEAR M.B.A. COURSES

76-501. Interpersonal Dynamics
Provides students with the behavioural skills to be effective in organizations. Active listening, conflict resolution, running effective meetings, *etc.*, will be taught with a great deal of emphasis on the practice of these skills. The framework for this module will be the team environment, which many successful companies are moving toward. This module will help students prepare for the teamwork which will be required by all the concurrent modules.

76-502. Core Concepts of Accounting I
An introduction to the role and importance of accounting information in the decision-making process and how to use and interpret various types of accounting information found in financial statements and annual reports. Core concepts of financial accounting will be examined, including the determination of income and the recognition, measurement and reporting of assets, liabilities, and owners' equity. The impact of ethical, regulatory and environmental aspects on the interpretation and application of accounting information will be considered.

76-503. Introduction to Financial Management
Concerned with the concepts and principles of financial management of the business enterprise within the global financial environment. After an introduction to domestic and international financial markets and instruments, the module covers the concepts of value, risk, and efficient markets followed by an introduction to capital budgeting, financial analysis and planning, and short-term financial management.

76-504. Quantitative Techniques in Management
Provides students with a basic but solid background in the quantitative techniques used by successful business organizations. This module will focus on the important aspects of probability and statistics as they relate to the effective presentation of data and to decision-making under uncertainty; and on the use of mathematical modelling as it relates to problem-solving within an organization.

76-505. Marketing Management
Introduces appropriate marketing management concepts and techniques that can be applied to private sector business as well as to not-for-profit organizations' marketing and communication activities. Emphasis will be on the marketing mix elements of product, price, place, and promotion.

76-506. Managing Employees
Familiarizes students with the knowledge, roles, responsibilities and skills required of today's managers. Three approaches will be examined: systems, process, and behavioural. The contingency view of management as the process of organizing resources to set and accomplish organizational goals will be emphasized.

76-510. Core Concepts of Accounting II
Further examines the use and interpretation of accounting information within the context of business and business decision-making. It will explore some of the ways in which accounting information may be utilized for business planning and to solve common business management problems. Core concepts of financial and managerial accounting such as financial statement analysis, tax considerations, cost-volume-profit analysis, budgeting, cost allocation, job order and process costing will be covered. As with 76-502, the impact of ethical, regulatory, and environmental aspects on the interpretation and application of accounting information will be considered. (Prerequisite: 76-502.)

76-511. Research Methodology
Provides students with a broad understanding of methodological issues in research with a specific focus on marketing. Students will develop an understanding of research issues and processes from a marketing perspective through classroom lectures as well as a hands-on, practical marketing research project. Both quantitative and qualitative methods of research will be discussed. (Prerequisites: 76-504 and 76-505.)

76-512. Financial Management
Focus is on the firm's long-term financial decisions. The sources and the mechanics of obtaining long-term financing are covered, together with the discussion of strategic decisions involving capital structure and dividends. The module includes a broader study of financial markets and instruments, including options, with applications in financial management. (Prerequisite: 76-503.)

76-513. Human Resources Management
Concerned with the role of human resources activities in facilitating the achievement of organizational effectiveness. Students will gain an understanding of the principles of human resources management and develop some skills they can apply in solving actual people problems at work. Particular attention is given to the roles of labour relations and trade

unionism as they pertain to human resources activities. Students will be provided with exposure to both a management and labour perspectives to H.R. issues.

76-514. Management Information Systems
Learn how to envision, design and evaluate computer-based solutions to typical business problems. Emphasis will be on the contemporary and emerging hardware /software tools, the managing of information, and information technology.

CANDIDATE YEAR COURSES

The prerequisite for all candidate year (600-level) courses is candidate-level standing in the M.B.A. program or equivalent preparation.

ACCOUNTING

70-650. Managerial Accounting and Analysis
Examines approaches to generating, analyzing and using accounting information in performing managerial functions such as planning, controlling, performance evaluation and decision making.

70-651. Reporting, Analyzing, and Using Accounting Information
Examines alternative approaches to generating, analyzing and using accounting information. It will emphasize the understanding and the application phases of accounting information by users. Topics include: Accounting entity-concepts of control and significant influence; accounting policy choice; internal control; elements in the consolidated financial statements, such as owners' equity, minority (non-controlling) interest and goodwill; profitability, liquidity and solvency analyses; working capital management; and business valuation.

70-659. Topics in Accounting
A reading and research seminar which deals with major concepts and important current problems in Accounting. The precise topic to be covered in a particular term will vary according to current interest and faculty availability, and will be announced in the previous term.

MANAGEMENT AND LABOUR STUDIES

71-613. Leadership and Organizational Change
Provides an analytical framework to understand organizational transformation through (a) leadership and vision building, (b) strategic human resources planning (c) restructuring and redesigning and (d) organization environment interactions. Students will focus on the practical aspects of diagnosing the need for change and supporting, facilitating, or leading the change process.

71-643. International Management
Focuses on the problems and issues that confront managers in the area of international business. Background materials, cases, and exercises will involve the students in the challenges facing the international manager. A major objective is to develop a sensitivity that will enhance the student's ability to operate in the complex environment of multicultural businesses.

71-646. Business Negotiation and Problem Solving
Highlights the role of effective negotiation for resolving conflict and sharing resources and power in complex organizations. Students will be exposed to various styles of negotiating, problem solving and bargaining strategies as well as communication approaches aimed at enhancing organizational performance.

71-647. Managing Diversity in Workplace
Addresses the dynamics of increasing diversity of the work force and the major challenges faced by organizations and their managers such as maintaining fairness and justice, making effective decisions for performance improvement, allowing flexibility and managing diversity in the global environment. The course also analyzes the legal frameworks in place which value and protect employee and employer rights related to gender, race, age, religion, sexual orientation, ability, and other dimensions of diversity.

71-648. Topics in Management and Labour Studies
A reading and research seminar which deals with major concepts and important current problems in the areas covered by Management and Labour Studies. The precise topic to be covered in a particular term will vary according to current interest and faculty availability, and will be announced in the previous term.

FINANCE

72-670. Investment Analysis and Management
Economic background to security analysis; types of corporate securities for investment; theory and mechanics of investment; general analysis and valuation procedures; valuation of fixed income securities and common stocks; procedures in analysis of government, industrial, financial and public utility securities; and portfolio management.

72-671. Portfolio Management
Objectives of individual and institutional portfolios. Security selection, diversification, marketability, risk and return in portfolio construction. Timing and formula plans, bond portfolio problems, performance measurement, trading problems, tax planning, supervision, quantitative techniques for portfolio management, and regulations.

72-672. Cases in Financial Management
An advanced case course in financial management. Financial concepts and principles of managing a business enterprise

are illustrated. Planning for the acquisition and use of funds so as to maximize the value of the business is examined through the use of case analysis.

72-673. Topics in Finance
An in-depth study of topical issues in finance. A reading and research seminar dealing with major concepts and problems in the area of financial management. Precise topics to be covered during a term will vary according to current trends in the literature.

72-674. International Financial Management
A study of the problems facing the international financial manager. Topics include: international markets, spot and forward currency fluctuations, positioning corporate funds, investment decisions, hedging and exposure management.

MANAGEMENT SCIENCE

73-602. Topics in Management Science
A reading and research seminar which deals with major concepts and important current problems in the areas of management science, operations management, or management information systems. The precise topic to be covered in a particular term will vary according to current interest and faculty availability, and will be announced in the previous term.

73-603. Management Science Models
Study of spreadsheet-based practical quantitative decision-making models relevant to major functional areas of business. Topics include linear and non-linear programming models, network models, and simulation models for problems involving uncertainty.

73-604. Operations Management
Study of relevant topics recognized as important factors for successful management of business operations. Topics include: processes and their measurement in manufacturing and services, forecasting, aggregate planning, inventory management, quality control, and supply chain management.

73-606. Strategic Implementation for Technologies Management
Strategic management of technology and innovation in established firms. The overall course objectives are to help students gain competence in (1) understanding the basic framework for the relationships among a business strategy, an information systems strategy and an organizational strategy; (2) developing an awareness of the range, scope and complexity of the issues and problems related to the strategic management of technology and innovation; (3) developing a conceptual framework for assessing and auditing the innovative capabilities of a business organization and (4) developing insight concerning the skills necessary to be effective in managing the innovation process. The course will use SAP, an enterprise resource planning software, as a simulation tool to explore the strategic use of information systems in a large organization.

MARKETING

74-631. Consumer Behaviour
A study of analytical concepts and research techniques derived from the behavioural sciences or developed from consumer behaviour research. A significant objective of the course is the application of such concepts and techniques to the solution of marketing problems.

74-632. Marketing Research
An advanced course assuming familiarity with the conceptual research process, characteristics of basic data collection modes and measurement, hypothesis testing, regression analysis, and analysis of variance. Utilizing a discussion format, the course offers a review of current marketing research literature concerning: 1) examination of properties of familiar data collection and analysis techniques; 2) examples of their application; and 3) introduction to more advanced data collection and analysis methods.

74635. International Marketing Strategy
A study of the problems faced by Canadian businesses when exploring and distributing to foreign markets. A significant objective of the course is to explore, through research findings, strategies that would improve Canada's international marketing efforts.

74-638. Topics in Marketing
This course is of varying content dealing with topical issues in marketing. The course might focus on a specific functional area in marketing or a particular environment for the application of marketing concepts. Administration of the course varies as appropriate with its content and might take on a literature survey, research project, experiential, or other format.

74639. Marketing Strategy and Planning
An analysis of the formation of marketing strategies and plans. Topics covered will include business definitions, developing marketing objectives, selecting market targets, developing all aspects of the marketing mix, and evaluating marketing performance. Marketing decision models, portfolio techniques, generic strategies, PIMS, and related topics will also be covered.

BUSINESS STRATEGY AND ENTREPRENEURSHIP

75-680. Managing the International Enterprise
This survey course gives students a basic understanding of the international business environment and of the decisions that managers make in international firms. The course begins by considering the historical development of international business and the current global focus of international firms. It then examines the international global environment, including theories

of trade and foreign direct investment, balance of payments and international institutions and models for evaluating the environment in order to select the best international strategy or mode of entry for a particular location. Finally, the course briefly examines the functional decisions made in international firms-financial, marketing, operational, human resources-and issues associated with international structure and control.

75-682. Manufacturing Strategy
Examines the use of manufacturing and operations as weapons in the firm's competitive arsenal. It addresses strategic questions related to the choice of proper process technology, the determination of plant size and location, the extent of vertical integration and the continuous pursuit of quality and productivity.

75-690. Entrepreneurship: New Venture Formation and Management
Aiming at opening up the entrepreneurial option for students, this course examines entrepreneurship as an economic and a business phenomenon with special emphasis on the process of new venture creation. Through a mix of seminars, case studies, and field research, students explore the topics of finding new venture ideas, developing business ideas and business concepts, conducting feasibility studies, developing business plans, preparing deal structures and financing strategies, launching new ventures, and initial entrepreneurial management beyond the start-up phase. Students are expected to undertake a new venture creation project culminating with a detailed business plan.

75-692. Topics in Strategic Management
This is an investigation and discussion of contemporary issues in strategic management and entrepreneurship. The topics to be covered will vary from term to term according to current developments in the business world.

75-696. Enterprise Development Consulting
Students will perform business consulting and market research for local organizations, giving them opportunities to network while applying skills and knowledge learned in the classroom to real life business situations. Semester-long projects covering different business areas are performed in small supervised teams. Weekly class time is a round-table discussion format used for collaboration of ideas and strategy with the rest of the class. Students will be evaluated on participation along with formal reports and presentations regarding the projects. Highly motivated students from a variety of business-related disciplines will make-up the consulting team. (Prerequisites: Approval of instructor.) (Open to Semester 7 and above students only).

75-698. Strategic Management
This is the capstone course of the M.B.A. program. It integrates the knowledge gained in prior courses and focuses it on the functions of top management of an organization. Discussion of concepts and current practice are combined with case studies of strategic leadership and strategy formulation and implementation in a domestic and international environment. (Prerequisites: candidate-year standing and all other required courses.)

GENERAL M.B.A COURSES

76-660. Management Skills Development
This course is designed to provide students with the management skills required for providing feedback, dealing with problem employees, coaching, and problem-solving. It is a practical course with ample opportunity for students to practice the skills in different settings and receive feedback on their performance. (Required for, and open only to, Fast Track students)

76-661. Directed Study
Under faculty supervision, students undertake an in-depth, individualized program of study to pursue a topic of relevance to business and to develop, apply, and integrate the knowledge acquired in the program.

76-701. M.B.A. Co-op Work Term I

76-702. M.B.A. Co-op Work Term II

76-711. Fast-Track M.B.A Co-op Work Term

76-796. Major Paper (weight: 2 courses)

76-797. Thesis (weight: 4 courses)

COURSES IN THE M.B.A FOR MANAGERS AND PROFESSIONALS

77-521. Core Concepts of Accounting I
An introduction to the role and importance of accounting information in the decision-making process and how to use and interpret various types of accounting information found in financial statements and annual reports. Core concepts of financial accounting will be examined, including the determination of income and the recognition, measurement and reporting of assets, liabilities, and owners' equity. The impact of ethical, regulatory and environmental aspects on the interpretation and application of accounting information will be considered.

77-522. Introduction to Financial Management
Concerned with the concepts and principles of financial management of the business enterprise within the global financial environment. After an introduction to domestic and international financial markets and instruments, the module covers the concepts of value, risk, and efficient markets followed by an introduction to capital budgeting, financial analysis and planning, and short-term financial management.

77-523. Quantitative Techniques in Management
Provides students with a basic but solid background in the quantitative techniques used by successful business organizations. This module will focus on the important aspects of probability and statistics as they relate to the effective presentation of data and to decision making under uncertainty; and on the use of mathematical modelling as it relates to problem solving within an organization.

76-524. Managing People in Organizations
Familiarizes students with the knowledge, roles, responsibilities and skills required of today's managers. Three approaches will be examined: systems, process, and behavioural. The contingency view of management as the process of organizing resources to set and accomplish organizational goals will be emphasized.

77-525. Business Research Methods
Provides students with a broad understanding of methodological issues in research. Students will develop an understanding of research issues and processes through classroom lectures as well as a hands-on practical research project. Statistical analysis and both quantitative and qualitative methods of research will be discussed.

77-531. Core Concepts of Accounting II
Further examines the use and interpretation of accounting information within the context of business and business decision-making. It will explore some of the ways in which accounting information may be utilized for business planning and to solve common business management problems. Core concepts of financial and managerial accounting such as financial statement analysis, tax considerations, cost-volume-profit analysis, budgeting, cost allocation, job order and process costing will be covered. The impact of ethical, regulatory, and environmental aspects on the interpretation and application of accounting information will be considered.

77-532. Financial Management
Focus is on the firm's long-term financial decisions. The sources and the mechanics of obtaining long-term financing are covered, together with the discussion of strategic decisions involving capital structure and dividends. The module includes a broader study of financial markets and instruments, including options, with applications in financial management.

77-533. Management Information Systems
Learn how to envision, design and evaluate computer-based solutions to typical business problems. Emphasis will be on the contemporary and emerging hardware/software tools, the managing of information, and information technology.

77-534. Managing Human Resources
Concerned with the role of human resources activities in facilitating the achievement of organizational effectiveness. Students will gain an understanding of the principles of human resources management and develop some skills they can apply in solving actual people problems at work. Particular attention is given to the roles of labour relations and trade unionism as they pertain to human resources activities. Students will be provided with exposure to both management and labour perspectives to H.R. issues.

77-536. Marketing Management
Introduces appropriate marketing management concepts and techniques that can be applied to private sector business as well as to not-for-profit organizations' marketing and communication activities. Emphasis will be on the marketing mix elements of product, price, place, and promotion.

77-620. Reporting, Analyzing, and Using Accounting Information
Examines alternative approaches to generating, analyzing and using accounting information. It will emphasize the understanding and the application phases of accounting information by users. Topics include: Accounting entity oncepts of control and significant influence; accounting policy choice; internal control; elements in the consolidated financial statements, such as owners' equity, minority (non-controlling) interest and goodwill; profitability, liquidity and solvency analyses; working capital management; and business valuation.

77-621. Leadership and Organizational Change
Provides an analytical framework to understand organizational transformation through (a) leadership and vision building, (b) strategic human resources planning (c) restructuring and redesigning and (d) organization environment interactions. Students will focus on the practical aspects of diagnosing the need for change and supporting, facilitating, or leading the change process.

77-622. Maximizing the Value of the Organization
An advanced case course in financial management. Financial concepts and principles of managing a business enterprise are illustrated. Planning for the acquisition and use of funds so as to maximize the value of the firm is examined through the use of case analysis.

77-623. Marketing Strategy and Planning
An analysis of the formation of marketing strategies and plans. Topics covered will include business definitions, developing marketing objectives, selecting market targets, developing all aspects of the marketing mix, and evaluating marketing performance. Marketing decision models, portfolio techniques, generic strategies, PIMS, and related topics will also be covered.

77-624. Managing in the International Arena
Focuses on the problems and issues that confront managers in the area of international business. The course examines the international global environment, including theories of trade and foreign direct investment, balance of payments and international institutions and models for evaluating the environment in order to select the best international strategy or mode

of entry for a particular location. A major objective is to develop a sensitivity that will enhance the student's ability to operate in the complex environment of international business.

77-625. Strategic Management
This is the capstone course of the M.B.A. program. It integrates the knowledge gained in prior courses and focuses it on the functions of top management of an organization. Discussion of concepts and current practice are combined with case studies of strategic leadership and strategy formulation and implementation in a domestic and international environment.

77-626. Strategic Implementation for Technologies Management
Strategic management of technology and innovation in established firms. The overall course objectives are to help students gain competence in (1) understanding the basic framework for the relationships among a business strategy, an information systems strategy and an organizational strategy; (2) developing an awareness of the range, scope and complexity of the issues and problems related to the strategic management of technology and innovation; (3) developing a conceptual framework for assessing and auditing the innovative capabilities of a business organization and (4) developing insight concerning the skills necessary to be effective in managing the innovation process.

77-627. Business Negotiation and Problem Solving
Highlights the role of effective negotiation for resolving conflict and sharing resources and power in complex organizations. Students will be exposed to various styles of negotiating, problem solving and bargaining strategies as well as communication approaches aimed at enhancing organizational performance

77-628. Entrepreneurship and Intrapreneurship
Aiming at developing entrepreneurial thinking in students, this course examines entre- and intrapreneurship as an economic and a business phenomenon with special emphasis on the process of new venture creation. Students explore the topics of finding new venture ideas, developing business ideas and business concepts, conducting feasibility studies, developing business plans, preparing deal structures and financing strategies, launching new ventures, initial entrepreneurial management beyond the start-up phase and the successful development of such initiatives within a corporate environment.

77-629. Current issues in Business
This is an investigation and discussion of contemporary issues and current challenges to businesses. The topics to be covered will vary for each offering according to current developments in the business world and will be announced in the previous term.

COURSES IN THE MASTER OF MANAGEMENT

78-611. Accounting Concepts and Techniques
An examination of the core concepts of financial accounting, which includes the determination of income and the recognition, measurement and reporting of assets, liabilities, and owners' equity. Different methods of the utilization of accounting information for business planning and management problem solving will be explored. Core concepts of financial and managerial accounting such as financial statement analysis, tax considerations, cost-volume-profit analysis, budgeting, cost allocation, job order and process costing will be covered. The impact of ethical, regulatory, and environmental aspects on the interpretation and application of accounting information will be considered.

78-612. Finance in a Global Perspective
A study of concepts and principles of financial management of the business enterprise within the global financial environment. Emphasis will be placed on the contemporary and emerging hardware/software tools, information management, and information technology. Following an introduction of domestic and international financial markets and instruments, the concepts of value, risk, and efficient markets will be covered. Capital budgeting, financial analysis and planning, and short-term financial management will also be introduced. With these concepts in hand, the student will learn how to envision, design, and evaluate computer-based solutions for typical business problems.

78-613. Managing Employees
An analysis of the knowledge, roles, responsibilities, and skills required of today's managers. Three approaches will be examined: systems, process, and behavioural. An emphasis will be placed on the contingency view of management with respect to the process of organizing human resources to set and accomplish organizational goals.

78-614. Marketing
An introduction of marketing management concepts and techniques that can be applied to private sector business as well as to not-for-profit organizations' marketing and communication activities. Emphasis will be placed on the marketing mix elements of product, price, place, and promotion.

78-631. International Business
A survey course providing a discussion of the international business environment and the decisions made by managers in international firms. Historical development of international business and the current global focus of international firms will be considered. The international global environment, including theories of trade and foreign direct investment, balance of payments and international institutions, and models for evaluating the environment in order to select the best international strategy or mode of entry for a particular location will be examined. Finally, the functional decisions made in international firms – financial, marketing, operational, human resources – and issues associated with international structure and control will be briefly examined.

78-632. Quantitative Studies
A focus on the important aspects of probability and statistics as they relate to the effective presentation of data and to decision making under uncertainty, and on the use of mathematical modelling as it relates to problem solving within an organization. A solid background in the quantitative techniques used by successful business organizations will be provided.

78-633. Introduction to Business Logistics Management
A discussion of major issues relating to distribution activities at a micro and macro level. The development of channel systems and the behavioural and legal aspects of channel relationships will be reviewed. Distribution systems will also be discussed and will include such topics as management transportation, inventory management, warehousing, materials handling, and customer order processing.

78-634. Leadership and Organizational Change
An exploration of an analytical framework to understand organizational transformation through leadership and vision building, strategic human resources planning, restructuring and redesigning, and organization environment interactions. Students will focus on the practical aspects of diagnosing the need for change and supporting, facilitating, or leading the change process.

78-635. Purchasing and Procurement
A discussion of effective purchasing techniques and strategies to lower total costs and increase quality within the organization. The course will focus on developing, implementing, and using purchasing systems and policies that support the acquisition of materials. Quality assurance, sourcing of supplies, and inventory management will be included.

78-636. International Financial Reporting
An exploration of the international environment of financial reporting. Particular emphasis is placed on International Accounting and Financial Reporting Standards. The preparation and presentation of financial statements, including such matters as accounting for tax, foreign currency transactions, and interim financial reporting will be reviewed.

78-637. International Financial Management
A study of the problems encountered by an international financial manager. Topics to be discussed include: international markets, spot and forward currency fluctuations, positioning corporate funds, investment decisions, hedging, and exposure management.

78-638. Human Resources Management
A study of the role of human resources activities in facilitating the achievement of organizational effectiveness. Exposure to both management and labour perspectives with regards to human resources issues will be provided by this course. Particular attention will be placed on the roles of labour relations and trade unionism as they pertain to human resources activities. Students will gain an understanding of the principles of human resources management and develop the skills required to solve people problems in the workplace.

78-651. Business Strategy
This is the capstone course of the Master of Management program. It integrates the knowledge gained in prior courses and focuses this knowledge on the functions of top management in an organization. Discussion of concepts and current practice are combined with case studies of strategic leadership and strategy formulation and implementation in a domestic and international environment.

78-652. Marketing Strategy and Planning
An analysis of the formation of marketing strategies and marketing plans. Topics to be covered will include business definitions, developing marketing objectives, selecting market targets, developing all aspects of the marketing mix, and evaluating marketing performance. Marketing decision models, portfolio techniques, generic strategies, PIMS, and related topics will also be covered.

78-653. Manufacturing Strategy
An analysis of the use of manufacturing and operations as weapons in the firm's competitive arsenal. Strategic questions related to the choice of proper process technology, the determination of plant size and location, the extent of vertical integration, and the continuous pursuit of quality and productivity will be addressed.

78-654. Manufacturing Globalization *(Manufacturing Management stream capstone)*
The impact of international trade and of global technology, production, marketing, and social changes on the past development and future prospects of the manufacturing sector will be examined in this special seminar course.

78-655. Domestic Transportation and International Shipping
A study of the regulatory, economic, and management aspects of transportation. The needs and interests of the carriers, governments, and the shipping industry will also be studied. An evaluation of carrier alternatives for both passengers and the cargo in terms of their relative advantages and disadvantages will be discussed.

78-656. Quantitative Analysis for Logistics and Supply Chain Management
An introduction to the use of quantitative approaches in decision-making. Linear programming (model formulation and applications, computer solution, sensitivity analysis, and interpretation), transportation models, project management, PERT/CPM, and inventory control will be among the topics discussed.

78-657. Supply Chain Management *(Logistics and Supply Chain Management stream capstone)*
A special seminar course designed as a capstone for the Logistics and Supply Chain Management stream. An integrative perspective of supply chain strategy, supply chain finance, supply chain information systems, product design, relationship building and ERP will be provided.

78-661. Consolidated Financial Statements
An in-depth review of such matters as definitions of subsidiaries, associates, and joint ventures; equity accounting; exclusions from consolidations; and the preparation, presentation, and analysis of consolidated balance sheets and income

statements.

78-662. Accounting Systems Control and Auditing
An exploration, from an international perspective, of accounting systems control and auditing. The framework and regulation of controls and audits, planning and risk, internal controls, audit evidence, group audits and reporting will be covered.

78-663. Corporate Governance *(International Accounting and Finance stream capstone)*
An analysis of matters of corporate governance and managerial responsibility to the organization's stakeholders with special reference to the regulatory framework, business ethics, and the consequences of failures in governance.

78-665. International Management
Focus is placed on the problems and issues that confront managers in the area of international business. A major objective will be to develop a sensitivity that will enhance the student's ability to operate in the complex environment of multi-cultural business. Background materials, cases, and exercises will involve the students in the challenges facing the international manager.

78-666. Managing for High Performance
An examination of the preparation needed to manage the unexpected in a time of organizational turbulence and change. Primary focus will be placed on the organization's approaches required to develop their staff and their structures so they can meet challenges with flexibility rather than rigidity.

78-667. Current HR Trends *(Human Resources Management stream capstone)*
A reading and research seminar that examines major concepts and important current problems in international Human Resources Management. Issues such as executive and management compensation, implementation of international labour standards in developing societies, development of an effective workforce, and dealing with outsourcing of corporate activities will be covered.

Spring 2012 Graduate Calendar

COMMUNICATION, MEDIA, AND FILM: COURSES

40-500. Pro-Seminar
An introduction to themes of social justice and the common good; media and democratic communication. The course will also facilitate the development of intellectual skills and include an exploration of procedures and requirements relevant to graduate study and intellectual life. Students will produce proposals and literature reviews for their major research paper or thesis projects.

40-501. Critical Theories of Communication
A review of critical theories of communication in the context of social justice themes. Key topic areas include theories of commodification, ideology, cultural production and representation, art and politics, communication and democracy, information, and globalization.

40-502. Graduate Research Methods
This course provides an overview and applications of a range of contemporary research methods in communication studies. Both qualitative and quantitative approaches will be examined in this course, but the course may focus primarily on one or the other type of approach to communication research.

40-512. Communication and Social Movements
Examines the use of traditional and non-traditional forms of communication that have been used within, and by, a variety of social movements and social formations. The course draws upon a combination of new social movement theory and critical media and cultural studies. Areas of focus will include the following: an assessment of (i) the contribution of new communication technologies to social activism and social movements; (ii) the representations of social movements in the context of political/economic/social change; (iii) the diversity and importance of alternative media as a central component of movements for social justice.

40-513. History of Communication Thought and Technology
Examines the evolution of media technology from perspectives of dependency theory, political economy, and critical cultural studies. Communication thought from the Greeks to the present, with emphasis on Canadian and U.S. Communication thought and international communication from the perspective of social justice and the common good will be analyzed.

40-514. Political Economy of Communication
The course examines the historical roots of critical political economy in relation to media and communication studies and explores contemporary applications of, and current issues in, the political economy of communication. Students will read a series of books and documentary materials which help to bring to light the role played by mass media in power relations and the social construction of reality. The texts will be examined from the perspective of critical political economists (such as Noam Chomsky).

40-515. Media Representation and Reception
Any range of media modes and texts, such as documentary, experimental film, music-video, feature films, television, and the emerging digital formats, may be examined in terms of their aesthetics, poetics, history, and cultural politics. Theoretical approaches to representational analysis and/or audience reception will be presented for critical reflection.

40-518. City as Media
The seminar will explore theoretical approaches to the ways in which urban spaces, everyday life, and city stories are articulated and imagined through media, arts and technologies. Seminar participants will develop research papers and experience-based creative projects about Windsor and/or Detroit. Students will examine films, stories, sounds and other media objects that reflect the urban, but will also be encouraged to develop research methodologies that use old and new media to question and document the cities' urban and suburban life. In classroom seminars, a range of theoretical writings and media objects all oriented to the urban will be discussed. In research practice, students will work with techniques such as auto-ethnographies to develop creative documents around everyday urban life. (3 hour lecture.)

40-520. Directed Study
Normally reserved for students not writing a thesis. With approval of the graduate program director, a student may undertake to write an original paper on a specialized topic which will enhance his or her program of study. The course will involve directed supervision of readings and informal discussion with the student's course supervisor.

40-543. Advanced Film Theory and Criticism
Films are explored under the broad rubric of cultural studies; specific theoretical approaches employed to analyze cinema are examined. Case studies of genres as the emergent effective mode of understanding films are taken up. Films selected may belong to the silent or classical period to the contemporary. The readings provide tools to analyze formal aspects and critical interpretative frameworks applied to examine films. Writing assignments forge links between the written and the visual and between theory and film texts. (3 hrs/week: once a month, class will be extended due to in-class film screening.)

40-590. Selected Topics
Selected advanced topics in Communication Studies based on special faculty interests and opportunities afforded by the availability of visiting professors. Special topics courses are subject to Graduate Committee approval. (May be repeated for credit provided that the topics differ.) (3 lecture hours a week.)

40-796. Major Paper

(Credit Weight: 9.0)

40-797. Thesis

Spring 2012 Graduate Calendar

CHEMISTRY AND BIOCHEMISTRY: COURSES

All of the courses listed will not necessarily be offered in any one year. Topics courses may be taken several times provided the course content is different. Where prerequisites are not stated, consent of the instructor is required.

59-521. Special Topics in Analytical Chemistry
(Prerequisite: 59-321.) (2 lecture hours a week.)

59-531. Special Topics In Organic Chemistry
Topics may include polymer chemistry, natural product chemistry, physical organic chemistry, or design and execution of organic syntheses. (Prerequisite: 59-331 or consent of instructor.) (2 lecture hours a week.)

59-535. Advanced Organic Chemistry
Physical organic chemistry. Includes molecular orbital theory, stereochemistry, thermodynamics, and reaction mechanisms. (Prerequisite: consent of instructor.) (2 lecture hours a week.)

59-541. Statistical Thermodynamics
A detailed picture of the current status of advanced experimental and theoretical research in modern reaction dynamics. Subjects to be discussed include transition state spectroscopy, coincidence imaging techniques, ion imaging applied to the study of chemical dynamics, nonlinear reaction dynamics in both stirred and reaction-diffusion media, theoretical dynamics treatment of chemical reactions. (2 lecture hours a week.)

59-542. Nuclear Magnetic Resonance Spectroscopy
Theory and applications of NMR in chemical problems, including the origin of the NMR phenomenon, Fourier transforms and spectral processing, spectrometer hardware, pulse sequences, NMR interactions, relaxation and chemical exchange, double-resonance experiments and two-dimensional NMR. (2 lecture hours a week).

59-545. Special Topics in Physical Chemistry
(2 lecture hours a week.)

59-546. Advanced Topics in Spectroscopy
Electronic and vibrational spectroscopy of gases, liquids, and solids. Theory and practice of infrared and Raman spectroscopy. Theory and applications of electron spin resonance spectroscopy. (2 lecture hours a week.)

59-550. Special Topics in Inorganic Chemistry
A variety of subjects in inorganic chemistry are covered at the discretion of the instructor. The subjects covered may include: main group chemistry, transition metal chemistry, organometallic chemistry, inorganic materials, and group theory. (3 lecture hours a week.)

59-552. Topics in Inorganic Chemistry and Organometallic Chemistry
Topics to be arranged by the instructor, based primarily upon new developments in the field as illustrated by the current research interests of the faculty, as well as by a study of the current literature. (2 lecture hours a week.)

59-553. X-ray Crystallography
Theoretical and experimental aspects of single crystal X-ray diffraction methods for the determination of molecular structures. (2 lecture hours a week.)

59-564. Advanced DNA Science
An advanced lecture and seminar course dealing with DNA science. The lectures cover the biochemistry of DNA and RNA at the molecular levels, the current research topics and their implications for the future research. The course also contains a seminar component in which a number of selected topics will be discussed and presented by and among participants. (Prerequisites: 59-468 or equivalent, or consent of instructor.) (2 lecture hours a week.)

59-565. Membrane Biochemistry
The structure and function of artificial and natural membranes. Special consideration will be given to the identification and function of membrane proteins. (Prerequisites: 59-360 and 59-361 or 59-362 and 59-363, or equivalent.) (2 lecture hours a week.)

59-570. Advanced Quantum Chemistry
Perturbation and variation theories. Theories of many electron atoms and general theories of chemical bonds in diatomic and polyatomic molecules. (Prerequisite: 59-341 or equivalent.) (3 lecture hours a week.)

59-581. Analytical Toxicology
Analysis of drugs and other toxic substances in biological fluids. The metabolism of drugs as well as the symptomology of poisoning of common therapeutic drugs and the more common industrial chemicals will be discussed. (Prerequisites: 59-360 and 59-361 or 59-362 and 59-363, or consent of instructor.) (2 lecture hours a week.)

59-600. Directed Special Studies
A special course of studies with content and direction approved by the student's research advisor and supervisory committee. Although there may be no formal lecture requirements, the course will be equivalent to three one-hour lectures a

week for one term. The student will be required (a) to produce a critical review which will be assessed by his or her supervisory committee; the presentation and standard of the review must be appropriate for publication in a scientific journal; (b) to spend one term working in an agreed industrial setting; the quality of work will be assessed by the supervisory committee. This work may be related to but not part of the research undertaken in 59-797 or 59-798. (Prerequisite: approval of the Program Committee.)

The course cannot be repeated for credit under (a) above. Under normal circumstances, M.Sc. students may take this course only once; Ph.D. students may register under (b) above for two terms of this industrial experience.

59-620. Analytical Spectroscopy of Surfaces
Surface spectroscopic techniques and their application to the analysis of chemisorbed and physisorbed species and monomolecular layers. (Prerequisite: 59-321 or equivalent.) (2 lecture hours a week.)

59-630. Synthetic Methods in Organic Chemistry
A study of some important organic reactions with emphasis on their practical application in synthesis. (Prerequisites: 59-330 and 59-331, or consent of instructor.) (2 lecture hours a week.)

59-631. Advanced Topics in Organic Syntheses
The design, execution, and methodology of total syntheses of complex molecules will be discussed. Emphasis will be placed on both retrosynthetic pathways and execution. (Prerequisites: 59-330 and 59-331, or consent of instructor.) (2 lecture hours a week.)

59-633. Current Topics in Organic Chemistry
Topics to be arranged by the instructor, based primarily upon new developments in the field as illustrated by the current research interests of the faculty, as well as by a study of the current literature. (Prerequisites: 59-331 or consent of instructor.) (2 lecture hours a week.)

59-634. Advanced Topics in Organic Chemistry
Special topics in organic chemistry will be described. Some of these may include natural product chemistry, organometallic chemistry or heterocyclic chemistry. (Prerequisite: consent of instructor.) (2 lecture hours a week.)

59-636. Advanced Topics in Organic Materials Chemistry
Synthetic approaches as well as physical properties of organic materials such as conducting structures, liquid crystals, dyes, and light emitters are covered. An in-depth understanding of structure-property relationships is the main goal.

59-651. Organometallic Chemistry
A detailed study of selected advanced topics in organometallic chemistry. Typical subjects include (at the discretion of the instructors) main group organometallic chemistry; thermochemical methods in organometallic chemistry; catalysis by organometallics; detailed structural studies. (2 or 3 lecture hours a week.)

59-653. Advanced Topics in Organometallic Chemistry
Topics to be arranged by the instructor, based primarily upon new developments in the field as illustrated by the current research interests of the faculty, as well as by a study of the current literature. (2 lecture hours a week.)

59-655. Selected Topics in Inorganic Chemistry
The chemistry and properties of inorganic materials. Typical topics include: methods of synthesis, methods of characterization, and applications of inorganic materials. (2 lecture hours a week.)

59-660. Protein Chemistry I
Protein chemistry; chemical modification, protein folding, post-translational modification, lipoproteins, and glycoproteins. (Prerequisite: 59-365 or equivalent.) (2 lecture hours a week.)

59-661. Protein Chemistry II
Biophysical chemistry; advanced kinetic techniques, pre-steady state, perturbation based methods, review of instrumentation, and examples of how these techniques are currently used to solve biochemical problems. (Prerequisite: 59-660.) (2 lecture hours a week.)

59-663. Special Topics in Biochemistry
(Prerequisites: 59-360 and 59-361, or 59-362 and 59-363, or equivalent.) (2 lecture hours a week.)

59-671. Special Topics in Theoretical Chemistry
Topics to be selected by registrants but will generally be molecular orbital calculations for organic and inorganic chemists. (2 lecture hours a week.)

59-684. Cell Death and Diseases
A detailed biochemical study of physiological (apoptosis) and pathological (necrotic) cell death in mammalian systems. Role of physiological cell death (apoptosis) during development and tissue homeostasis, immune system and cancer. Various inducers of cell death and mechanism of apoptotic cell death. Role of cell death in disease development: viral infections, stroke, and neurodegenerative disorders, oxidative stress, cell death and aging, Therapeutic opportunities: identification of new targets for drug development based on the biochemistry of cell death. Developing new therapeutic approaches e.g. combinatorial treatment for systemic diseases, new vaccine approaches and gene therapy. (2 lecture hours per week.)

59-686. Advanced Bioanalytical Topics
(Prerequisite: 59-360 or 59-362, or equivalent.) (2 lecture hours a week.)

59-710. The Research Proposal
This course focuses on the development and presentation of a research proposal, as well as the cultivation of a wide base of knowledge of the chemical and biochemical literature. Techniques of research proposal composition, with particular reference to subject area, budgetary considerations, and written and oral presentation techniques will be discussed. The student will be required to develop and defend his or her own research proposal in chemistry and/or biochemistry. The subject of this proposal must not be from the research work undertaken for the Ph.D. thesis. A written proposal will be submitted to the student's advisory committee and will be followed by an oral presentation and defense of the proposal. The advisory committee will evaluate the originality, the significance, the clarity of the written and oral presentation, and the student's knowledge of the area in the defense. (Prerequisite: registration in the Ph.D. program. The oral presentation and proposal defense will take place during the term of registration.)

59-795. Seminar

59-797. Master's Thesis

59-798. Doctoral Dissertation

Spring 2012 Graduate Calendar

COMPUTER SCIENCE: COURSES

Not all of the courses listed below will necessarily be offered in any one year. A component of certain courses will be offered in conjunction with an advanced undergraduate course; in such cases the undergraduate course work will comprise one half of the graduate course.

All courses are restricted to students enrolled in the Master's II Computer Science program who have all undergraduate qualifying courses and who have approval from the instructor and Computer Science program graduate committee.

Note: Certain courses listed below require more than one term to complete. Unless such courses are officially graded as "In Progress" (IP), regulations for incomplete grades will apply. See Faculty Regulations - Grading and Dropping Courses.

To remove any suggestion that the word "engineering" in the context of courses in Computer Science may be taken to cover the meaning of "engineering" as used in the context of courses 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 functional, performance and quality requirements in an economic and competitive manner.

60-510. Literature Review and Survey
The purpose of this course is to prepare students for conducting the specific research on which their thesis will be based. Students are required to complete a thorough literature search on the general area in which they intend to conduct research and to undertake extensive supervised reading. Students must submit a comprehensive survey of relevant research, together with an annotated bibliography and references of important papers, theses, books, and conference proceedings. The bibliography should include names and current addresses of scientists working in the student's chosen area.

60-511. Advanced Software Engineering
Development and maintenance of software systems that satisfy their specifications. Topics include integrating informal and formal software design methodologies, software reuse, and software reliability.

60-512. Software Engineering for Distributed Systems
This course introduces to the students both formal and informal techniques used in software specification, verification and testing. The concentration is put on advanced methods and techniques in dealing with large-scale distributed concurrent systems. The aim of the course is to provide graduate students the opportunity of obtaining strong background and skills in developing complex software systems for their future work in industry.

60-513. Topics in Software Engineering
Some advanced selected topics in software engineering will be discussed in this course. Topics include software quality engineering, formal methods in software verification, and reverse engineering of software.

60-515. Middleware and Web Engineering
This course introduces software engineering concepts, principles and techniques in middleware and web-based systems. Selected topics include, but are not limited to: architecture design; web modelling in UML; testing techniques in web applications; software monitoring with CORBA interceptors; distributed object systems using CORBA; formal methods in message-oriented middleware.

60-535. Distributed Query Processing
This course will cover topics such as algorithms and techniques for query optimization in distributed databases; methods for evaluating algorithms and experimental procedures. Each student will be required to survey a topic in the area and present a report. Students will also be required to implement algorithms and comparatively evaluate techniques.

60-536. Multimedia Databases
This course focuses on the study of basic and advanced database techniques used to manage multimedia objects in multimedia database systems. Topics covered include: motivation for multimedia databases; fundamental database implementation techniques; characteristics of multimedia applications; multidimensional access structures; image databases; movie databases; further media types such as text and audio; multimedia databases; models and languages; storage techniques; and multimedia presentations.

60-537. Database Management Systems
Current developments in selected aspects of database management. Topics covered may include data models, database languages, database logics, database machines, and transaction management.

60-538. Information Retrieval Systems
Fundamental principles and advanced topics in the design of information retrieval systems. Theoretical as well as practical aspects will be discussed.

60-539. Emerging Non-traditional Database Systems
Course focuses on the study of one or more advanced, new and non-traditional database system(s) like data warehousing and mining, video database systems, mobile database systems, and distributed object-oriented database systems. Topics discussed include system architecture, components, features, implementation, applications and research issues. Both theoretical and practical contributions to further improve the system under study remain part of the course objective.

60-540. Foundations of Programming Languages
Current developments in the theory and practice of programming language design and implementation. Various languages will be considered and may include imperative, applicative, logic, constraint, object-oriented, and equational languages.

60-549. Virtual Reality
This course introduces the fundamental concepts, advanced techniques, and most recent practices of virtual reality research and applications. Topics include: web-based virtual interfaces design, object and behaviour modelling, animation and physical simulation, 3D human-computer interaction, real-time rendering of multi-sensory feedback, and virtual reality tools and applications. (Prerequisite: B.Sc. (Hons., Computer Science) or permission of instructor.)

60-550. Scientific and Data Visualization
Current developments in scientific and data visualization research techniques. Introduction to visualization methods, algorithms, design and current system models. Integrated roles of modeling, simulation and visualization.

60-551. Visual Processing
This course introduces fundamental aspects of visual processing. Topics include: image formatting, image processing, image acquisition, camera geometry, camera calibration, feature detection, 3D reconstruction, camera motion computation, feature matching, feature tracking, object recognition and vision for robotics.

60-552. Computer Graphics
Current developments in computer graphics. Topics covered will include hardware, software, interfaces, graphics standards, data structures, rendering algorithms, and visualization.

60-554. Advanced Algorithms
Methodology for developing efficient algorithms. Advanced data structures. Intractable computational problems and approximation algorithms.

60-555. Parallel Computation
Introduction to fundamental issues in parallel computation. Basic parallel computing platforms. Models of parallel computation such as shared data and message passing. Data parallel and other abstractions. Cost models and debugging. Programming for performance. Scalability. Workload balancing. Meta-computing in grid environments. Libraries and compilers. Parallel algorithms for numeric and non-numeric problems.

60-556. Parallel Runtime Systems
Introduction to fundamental issues in parallel runtime systems. Thread systems and communication libraries. VSM, I/O and checkpointing. Scheduling and load distribution, synchronization, dynamic memory management, representation. Interface to user and computer architecture. Multiple-strategy systems and configuration. (Prerequisite: B.Sc. (Hons., Computer Science) or permission of instructor.)

60-557. Computational Geometry and Its Applications
This focus of this course is on the algorithmic issues in geometry and its various applications. Topics include: basic geometric algorithms pertaining to construction of convex hull, Voronoi diagram, triangulations, and other constructions of a point set; construction of the arrangement of a set of lines and its connection with the Voronoi diagram; applications of fundamental algorithms in areas such as computer graphics, robotics and geographical information processing.

60-558. Topics in Bioinformatics
The purpose of this course is to present a representative sample of computational problems in molecular biology, bioinformatics, genomics and proteomics and efficient algorithms to solve them. Topics may include: molecular biology, sequence alignment, genomics database, protein structure protein interaction, phylogenetic analysis, RNA structure, gene regulation, functional genomics, microarrays . Student will be required to investigate selected problems/methods in computational biology and bioinformatics. (Prerequisite: B.Sc. (Hons., Computer Science) or permission of instructor.)

60-559. Machine Learning and Optimization
Focusing on several central learning problems, this course presents important machine learning techniques, such as supervised, semi-supervised, and unsupervised learning, and probabilistic model building; topics include decision trees, neural networks, Bayesian learning, instance based learning, and reinforcement learning. Optimization topics include: simulated annealing, tabu search or evolutionary algorithms, gradient methods, constraint optimization, ant-colony optimization, and other heuristic search methods. Efficiencies and limitations of each of these will be discussed and the correlation between the different approaches will be highlighted. (Prerequisites – B.Sc. [Hons, Computer Science] or with the permission of the instructor.)

60-560. Advanced Computer Architecture
Current developments in computer architecture covering advanced concepts in sequential and parallel architectures. Topics include memory hierarchy, homogeneous and heterogeneous architectures, shared-memory (SMP and DSM) and distributed-memory machines (Beowulf cluster to high-end parallel machines), dataflow and multi-threaded architectures, ILP and VLIW, pipelining, and vector machines. Systolic arrays and application/language specific architectures. Networks. Programming models for parallel machines. Programming for performance on different architectures.

60-561. Artificial Neural Networks
This course introduces the fundamentals of Artificial Neural Networks. Standard neural network architectures are discussed along with their associated set of learning algorithms. Application classes of neural networks are also presented. Topics include: supervised and unsupervised learning, associative learning, competitive learning, probably approximately correct learning, adaptive learning, pattern recognition, linear separability, gradient-descent and optimization. Students will be

required to investigate selected architectural and/or learning models of some neural networks. (Prerequisite: B.Sc. (Hons., Computer Science) or permission of instructor.)

60-562. Computational Grid Systems
Introduction to computational grid system goals; issues in requirements acquisition and design, specification and development; computing, networking and institutional infrastructure development; relationship to cluster and super-computing approaches; mechanisms and approaches to account management; grid adaptation of programming model; information service provision and delivery; measurement and analysis of end-to-end performance of parallel and distributed applications; analysis and monitoring tools; issues related to remote access and transparency; resource scheduling and management; and, security issues in authentication, authorization and data integrity. (Prerequisite: B.Sc. (Hons., Computer Science) or permission of instructor.)

60-564 Security and Privacy on the Internet
This course introduces the issues of security in public distributed networks. Topics include: security planning, policies and procedures, threats and strategies, security services and mechanisms, digital rights; topics in Internet related to security and privacy; secure protocols, DES, AES; public key algorithms; VPN; Internet sniffing and scanning tools; intrusion detection, intrusion analysis and tools; viruses and enterprise anti-virus tools; other applications such as digital cash, code signing and anonymous e-mail.

60-567. Advanced Computer Networks
This course will cover developments in modern communication networks. Topics may include: link-level design issues; network routing; network optimization and resource allocation; wireless networks and mobile IP; ATM technology; switching hardware; optical communications; and fault-tolerant networks.

60-568. Advanced Internet Systems
This course covers the internet design philosophy and its protocols, such as IPv4, IPv6, TCP and RTP/RTCP. Topics include emerging Internet multimedia services, Quality of Service (QoS), scheduling and policing mechanisms, routing, resource reservation, reliable multicast, flow and congestion control, integrated services, differentiated services, and adaptive applications. (Prerequisite: B.Sc. (Hons., Computer Science) or permission of instructor.)

60-569 Semantic Web
The Semantic Web is an extension of the current world wide web in which information is given well-defined, machine-understandable meaning, thus enabling computers and people to work in cooperation. This course introduces both theoretical and practical aspects in semantic web. Topics will include: languages and representation issues in semantic web; cooperative software agents; web service technology; and information integration theory and practice.

60-570. Introduction to Artificial Intelligence
This course covers fundamental concepts in Artificial Intelligence including problem solving, knowledge representation and reasoning, planning, learning and natural language understanding. (Prerequisite: B.Sc. (Hons., Computer Science) or permission of instructor.)

60-572. Topics in Artificial Intelligence
Students will study in depth selected fundamental topics in artificial Intelligence. The focus will be on theories, techniques and algorithms. (Prerequisite: 60-570 or permission of the instructor.)

60-573. Natural Language Processing and Understanding
This course covers the basic linguistic, logical and AI approaches to the development of natural language understanding systems. Topics covered include: syntactic/parsing strategies, formal semantics, pragmatics and the resolution of various types of ambiguities. Inference strategies involved in the resolution of ambiguities at the pragmatic level include a detailed discussion of the representation of and reasoning with commonsense knowledge. The course also includes the implementation of natural language interfaces and the application of linguistic approaches to the development of intelligent text retrieval systems. (Prerequisite: 60-570 or permission of the instructor.)

60-574. Pattern Recognition
This course is a general introduction to Pattern Recognition. Topics may include: Bayesian learning and classification, estimation, distance-based classifiers, linear and nonlinear methods, support vector machines, kernels, dimensionality reduction, feature extraction and selection, clustering, classifier evaluation. (Prerequisite: B.Sc. (Hons., Computer Science) or permission of instructor.)

60-575. Knowledge Representation and Reasoning
This course covers advanced topics in knowledge representation and reasoning including Non-monotonic logic, Temporal and spatial representation and reasoning, Probabilistic approaches, Belief and decision networks, and an overview of the applications of these formalisms to diagnosis, navigation and decision making. (Prerequisite: B.Sc. (Hons., Computer Science) or permission of instructor.)

60-576. Advanced Search Methods
This course covers advanced search methods including, for example, gradient-descent family of search methods, hill climbing, simulated annealing, evolutionary search, tabu search, hybrid techniques, adaptive techniques, constraint satisfaction search, forward checking, consistency enforcement and adversarial search (two player games). (Prerequisite: B.Sc. (Hons., Computer Science) or permission of instructor.)

60-579. Topics in Applied Artificial Intelligence
Topics in artificial intelligence focussing on intelligent systems and applications. Topics will be selected from areas such as intelligent agents, intelligent tutoring systems, knowledge acquisition, intelligent scheduling, embedded intelligence,

constraints satisfaction techniques, and knowledge discovery. (Prerequisite: 60-570 or permission of the instructor.)

60-588. Advanced Programming Languages
Current developments in the design, application, and implementation of pure lazy functional programming languages.

60-590. Directed Special Studies
With approval of the graduate program coordinator, a student may undertake to write an original paper on a specialized topic which would enhance his or her program of study. The course will involve directed supervised reading and informal discussion with the graduate supervisor. The work undertaken in fulfilling the requirements for this course will not be counted directly for credit in the evaluation of 60-797 (M.Sc. Thesis).

60-592. Selected Topics
Selected advanced topics in computer science.

60-701. Work Term
The Work Term is offered on a Pass/Non-Pass basis. It provides the opportunity for students to enhance academic learning with valuable industrial experience, and to develop transferable skills in an applied setting. Students need departmental permission to enrol in the work term, and must have successfully completed a minimum of one-semester full-time study in the graduate program. (Pre-requisite: Departmental permission).

60-797. M.Sc. Thesis

60-798. Doctoral Dissertation Research
An original research investigation, the results of which will be embodied in a concisely written dissertation conforming in style and format to a recognized journal in the field of specification. The dissertation should be of the highest quality possible and suitable for publication. In no case may this course be used for credit toward fulfilling the course requirements in the Ph.D. program.

Spring 2012 Graduate Calendar

EARTH AND ENVIRONMENTAL SCIENCES: COURSES

All courses listed will not necessarily be offered in any one year.

61-530. Crustal Fluids
Physical and chemical architecture of crustal fluid flow systems. Sources of fluids, fluid geochemistry, fluid-mineral equilibria and interactions, fluid inclusions, controls and mechanisms of fluid flow. The role of fluids in selected geological processes will be investigated. (3 lecture/seminar hours a week.)

61-531. Fluid Flow in Porous Media
Evolution and dynamics of fluids in porous media: theory for groundwater flow; multiphase flow; fluid-mineral equilibria and interactions; chemical transport and reactive flows. The role of fluids in selected low temperature environments will be investigated. (3 lecture/seminar hours a week.)

61-532. Numerical Simulation of Subsurface Fluid Migration
Numerical modelling theory, methods and implementation into computer software for subsurface fluid flow and mass transport; finite difference method; finite element method; integral equation method; conceptual model design and sensitivity analysis; applications to exploration, environmental and engineering issues. (3 lecture/seminar hours a week.)

61-544. Sedimentology of Detrital Deposits
Hydrodynamic significance of primary sedimentary structures, post-depositional modification of sediments; biostratification and trace fossils; sedimentary environments; sedimentological methods in economic geology. (3 lecture hours a week.)

61-545. Advanced Topics in Igneous Petrology and Global Techtonics
Petrochemistry of igneous rocks in important geotectonic settings and implications for mantle and crustal processes. Precambrian greenstone belt magmatism and crustal evolution. Major and trace element geochemistry and stable and radiogenic isotopic systematics of igneous rocks. (Prerequisite: 61-565 or consent of instructor.) (3 lecture and/or seminar hours a week.)

61-548. Advanced Topics in Enviromental Geochemistry
An investigation into the effects of near-surface geochemical processes and activities on the migration of chemicals in the environment. Topics to be covered include current research in: geomicrobiology, analytical techniques, colloid chemistry, contaminant transport, and bioavailability. (3 lecture and/or seminar hours a week.) (Prerequisite: 61-565 or consent of instructor.)

61-549. Advanced Topics in Sedimentology and Sedimentary Geochemistry
Principles of facies models as derived from modern environments and ancient successions; geochemistry and mineralogy of sedimentary rocks and natural waters; chemistry and mineralogy of weathering; geochemical facies analysis; fractionation of elements and isotopes during sedimentation; chemical diagenesis; organic matter and mineral diagenesis; geochemical evolution of sedimentary rocks through geologic history. (Prerequisite: 61-565 or consent of instructor.) (3 lecture hours a week.)

61-555. Advanced Topics in Geophysics
Recent advances in selected geophysical topics. Subjects may include paleomagnetism and environmental magnetism, tectonophysics, modern analytical methods or exploration geophysics. Lectures and seminars on fundamentals and selected case histories. (Prerequisite: consent of the instructor.) (3 lecture and/or seminar hours per week.)

61-556. Applied Geophysical Techniques
The theory, methodology and application of selected geophysical techniques are studied through the design and implementation of a class project. Surveyed techniques may include: magnetic, gravitational, ground penetrating radar, induced polarization and others. (Prerequisite: consent of instructor.) (3 lecture and/or project hours a week.)

61-559. Underground Storage
Exploitation of subsurface space for storage of industrial products and wastes. Possible environmental impact of poorly planned underground storage. Economics of subsurface vs. surface storage. Emphasis on Canadian case histories. (3 lecture hours a week.)

61-560. Advanced Topics in Mineral Deposit Geology and Geochemistry
Discussion of current genetic models for selected types of mineral deposits. Ore-forming processes. Selected topics in hydrothermal geochemistry. (Prerequisite: 61-565 or consent of instructor.) (3 lecture and/or seminar hours a week.)

61-564. Research Methods in Geochemistry
Sampling of geological materials. Sampling statistics. Modern analytical methods in geochemistry theory and selected applications. Data analysis. (Prerequisite: consent of instructor.) (3 lecture and/or project hours a week.)

61-565. Advanced Topics in Geochemistry
A discussion of key concepts in geochemistry. Topics may include aqueous complexation and solubility, mineral stability, radiogenic and stable isotopes, fluid phase equilibria, trace elements, thermodynamics, and kinetics. (Prerequisite: consent of instructor.) (3 lecture and/or seminar hours a week.)

61-574. Advanced Topics in Geoinformatics
Selected analytical and processing techniques in geographical information systems (GIS), remote sensing (RS), environmental modelling, and spatial decision support systems (SDSS). Spatial data acquisition methods and database integration. Application examples and technical issues. (Prerequisite: consent of the instructor.) (3 seminar hours per week.)

61-575. Advanced Integration of Remote Sensing and GIS Techniques
Lectures, readings and practical projects will focus on image rectification, restoration, registration, and integration of digital photographic, multispectral scanner data, radar image data and ancillary data in a GIS environment. Multitemporal data merging, change detection procedures, and multi-source image classification decision rules will also be emphasized. (Prerequisite: 61-574 or consent of instructor.) (3 lecture, seminar, and/or project hours a week.)

61-576. Environmental Modelling and Spatial Simulation
The modelling process; integrating environmental models and GIS; spatial heterogeneity and representative areal units; measurement scales vs. process scales; sensitivity and uncertainty analysis; model complexity; effects of input data quality; simulation model experiments; technical and conceptual limits of environmental modelling. Students will complete a small research project. (Prerequisite: 61-574, or consent of instructor.) (3 seminar hours a week, plus project.)

61-580. Graduate Seminar
Discussion of current topics in the earth sciences in seminars given by students, faculty members, and visiting speakers. Students are expected to participate in discussions and present a seminar. (Students must register in this course in the Fall and Winter terms of full-time registration in the M.Sc. program and in the first two years of the Ph.D. program.) (1 hour a week.)

61-582. Master's Thesis Proposal
Preparation of a written report containing: a thorough review of the literature relevant to the proposed research topic; an outline of the proposed research including a discussion of the expected contributions to the subject area and how these relate to previous work; a description of the relevant methods; and the expected timetable to completion. The student shall be examined by his or her advisory committee on the content of the proposal and related background knowledge, and shall present the proposal in a public lecture.

61-590. Special Topics
(May be taken for credit more than once provided that the topics are different.)

61-700. Doctoral Research Proposal
Preparation of a written research proposal containing: a thorough review of the literature relevant to the proposed research topic(s); an outline of the proposed research including a discussion of the expected contributions to the subject area and how these relate to previous work; a description of the relevant methods; and the expected timetable for completion. The proposal shall be presented in a public lecture. The student shall be examined by his or her advisory committee on the content of the proposal. The student must demonstrate an understanding of the context of the research project in the light of published research on the topic(s) presented, an understanding of the objectives and the methods to be used, and be able to articulate the contribution that the research will make to the advancement of knowledge. (Prerequisite: registration in the Ph.D. program.)

61-797. Master's Thesis

61-798. Doctoral Dissertation

Spring 2012 Graduate Calendar

ECONOMICS: COURSES

All courses listed will not necessarily be offered in every term. Courses are normally three hours a week.

41-501. Microeconomics
An intensive review of the theory of the firm and consumer theory.

41-502. Macroeconomics
An intensive review of theories of the determination of aggregate output, employment and price level.

41-503. Microeconomic Theory II
Additional topics in microeconomic theory.

41-504. Macroeconomic Theory II
Additional topics in macroeconomic theory.

41-510. Theory of International Economics
An introduction to the problem of international trade of goods and services, and the related issues of exchange rate determination and balance of payment; Domestic policies under alternative exchange rate regimes; Money and exchange rates in models with sticky or flexible prices.

41-516. Labour Economics I
The demand and supply analysis; human capital; trade unions and collective bargaining; wage structures; labour mobility.

41-531. Industrial Organization
A theoretical and empirical analysis of firms and markets.

41-541. Econometric Theory I
The general linear model, selected single equation problems, and an introduction to simultaneous equations methods.

41-542. Econometric Theory II
Additional topics in econometric theory (Prerequisite: 41-541.)

41-543. Applied Econometrics
The specification, estimation and testing of economic models. Emphasis will be on the classical linear regression model, the implications or violations of its basic assumptions and diagnostic testing. (This course is not intended for students who take 41-541.)

41-550. Monetary Theory
A survey of recent developments in the theory of money and monetary control of an economy, in addition to selected topics.

41-580. Models of Strategic Behaviour
A review of game theory showing how strategic reasoning can be used as a tool in decision theory. Topics include solution concepts for Normal form and Extensive form games, plus applications.

41-581. Mathematical Economics
The formal properties of selected economic models. Includes an examination of the problems of existence, uniqueness and stability of solutions.

41-582. Selected Topics in Advanced Theory
An examination of the most recent literature on one or two selected topics in theory.

41-590. Regional Economics
Theoretical and policy issues relating to large regions, including, for example, distribution of wealth, distribution of productive resources, and migration.

41-591. Urban Economics
Theoretical and policy issues relating to urban areas, including, for example, urban growth and land use.

41-594. Special Studies in Economics
Research and reading course in a selected field approved by the Department.

41-796. Major Paper

Spring 2012 Graduate Calendar

EDUCATION: COURSES

Not all courses will necessarily be offered each year. All 600-level courses are restricted to students in the joint Ph.D. program.

80-503. The Psychology of Learning and Teaching
This course will provide students with an in depth view of psychological theory and research towards the understanding of learning and teaching. While both behavioural and cognitive perspectives will be discussed, the emphasis will be upon cognitive theory and application. Topics will include behaviourism, behaviour modification, information processing, metacognition, cognitive behaviour modification, cognitive strategy training, motivation and individual differences. (3 hours a week.) (Credit cannot obtain for both 80-503 and 81-503)

80-502. Learning-Centred Teaching in Higher Education: Principles and Practice
This course offers the opportunity to explore, apply, and evaluate principles and theories of learning-centred practice in contexts typical of higher education. Analysis and reflection on teaching practice constitutes a central theme of learning in the course. The course is of particular interest to teaching assistants and members of the professoriate from across the disciplines and professional fields, but prior teaching experience in higher education is not a prerequisite.

80-510. Statistics in Education
This course will deal with the following: descriptive and inferential statistical procedures; commonly used one- and two-sample tests; an introduction to analysis variance and corresponding research designs. (3 lecture hours a week.)

80-515. Comparative and International Education
The course is designed to introduce students, who are registered in both the Educational Administration and Curriculum stream of the M.Ed program, to important educational issues from a comparative and international perspective. Within this framework, the similarities and differences between Canadian education and educational practices in other countries of the world are examined. Key questions that guide the direction of the course include, although are not limited to the following: what can we learn from the educational, teaching and learning practices of other countries? What are the processes involved in educational policy formulation from an international perspective? What are the emerging global trends in education and how does globalization impact on education and teaching/learning practices in Canada? In addition, various international frameworks for promoting peaceful educational/school environments such as peace education, global, and intercultural education are explored. The local, national and global impact of the educational policies of international agencies such as the UN, UNESCO, the World Bank, and CIDA are also analyzed. (Credit cannot be obtained for both 80-515 and 80-591(17)

80-524. Fundamentals of Curriculum Theory and Development
A survey of the major theories of curriculum that have influenced education Canada. An outline of the techniques employed in curriculum development, including sources of influence and control, specification of outcomes, selection and coordination of activities, strategies, resources and evaluation. (3 hours a week.)

80-527. Research in Education
An overview of educational research methods: *e.g.*, the interpretation of research literature, the identification and use of data bases, the design of research proposals and the application of specific methods to research projects. (3 hours a week.)

80-529. Theories of Educational Administration
This course will examine current knowledge in educational administration. Theory, research, and the practice of leadership within the educational system will be the main foci. Emphasis will be placed on administrative problems, such as staff development, team building, and motivation. (3 hours a week.) (Credit cannot be obtained for both 80-529 and 82-529)

80-530. Qualitative Methods in Educational Research
This course will examine the concepts and methods involved in carrying out educational research through naturalistic observation, participant observation, case studies, and other qualitative approaches. (3 hours a week.)

80-531. Supervision of the Instructional Process
A practice-oriented course designed to develop administrative competency in the supervision of instruction. The focus will be threefold: (1) awareness and recognition of specific technical skills, (2) the development of competence in interpersonal and group skills, and (3) a general examination of supervisory approaches. (3 hours a week.)

80-532. Organization and Administration of the School
This course will consider and analyze the many variables impacting upon school administrators as they organize their schools. The effects of administrative theory, past and present, will be considered. A case study approach will be taken to the problems of day-to-day operation. (3 hours a week.) (Credit cannot obtain for both 80-532 and 82-532)

80-533. Survey Design and Research
This course will provide students with an overview of survey research and questionnaire design. Students will critique existing survey research, develop a working knowledge of survey research design, critique samples of survey questionnaires, and design a questionnaire based on a chosen research topic. (Credit cannot be obtained for both 80-533 and 80-591 (14)).

80-534. Individual Reading

The Individual Reading course is intended to permit students with special interests in, and knowledge of, particular areas of education not covered in sufficient depth in available courses to pursue those interests through independent, supervised study. (Permission of an advisor and of a subcommittee of the Graduate Studies Committee is required.)

80-535. Organizational Behaviour in Educational Institutions
A study of theory and research in the socio-behavioral sciences which concerns the behaviour of individuals and groups in educational settings. Attention will be given to the implications of such theory and research for administration in educational institutions. (3 hours a week.) (Credit cannot be obtained for both 80-535 and 82-535)

80-536. Introduction to Educational Policy Analysis
This course focuses on a critical and disciplined examination of education policy issues drawing on a variety of theoretical orientations such as positivist, pluralist, post-positivist, poststructuralist and others. These perspectives provide different lenses to view current and past education reform and restructuring policies in Ontario and other jurisdictions in Canada, Australia, New Zealand, Finland, U.S.A, and the U.K. It reviews current theoretical approaches to the nature, develop¬ment, and implementa¬tion of educational policy at all levels. The course critiques policy-makers' approaches to reform, and restructuring, and the potential short and long term impacts of these changes on the philosophy, content and practices in the public education arena. By thinking about what sort of people and voices inhabit the texts of policy, the course enables participants to think about how we engage with the social and collective identities of our research subjects in an attempt to capture the complex interplay of identities and interests, and coalitions, conflicts and uneasy 'settlements' within the processes and enactments of policy.(Credit cannot be obtained for both 80-536 and 80-591 (19))

80-537. Language Arts in the Elementary School
This course will examine issues in language arts instruction in the light of current language theories. The focus is on current research and its practical application, with special emphasis on methods of instruction, teacher strategies, student activities and evaluation practices. (3 hours a week.) (Credit cannot be obtained for both 80-537 and 81-537)

80-538. The Arts and Education
This course explores how the arts influence the construction of meaning in society, both within and beyond the classroom. Representation, through images, music, and text, traditionally serve to preserve cultural memory, but can also reflect changing social mores, challenge established ideas, and trigger new ways of thinking. Readings will include current research in the arts and education, and class activities will include the production and interpretation of images and artefacts.(Credit cannot be obtained for both 80-538 and 80-591(16)).

80-539. Second Language Teaching: Theories and Applications
This course reviews current thinking on the nature of language, communication and second-language learning and examines implications for teaching methods and curriculum design. (3 hours a week.) (Credit cannot obtain for both 80-539 and 81-539).

80-541. The Social Science Curriculum
An examination of trends and development of social science curricula. Curriculum theory will be applied to one or more of the social sciences within the context of provincial guidelines and the academic and professional qualifications of the students. (3 hours a week.) (Credit cannot be obtained for both 81-541 and 80-541)

80-545. Teaching for Sustainability: An Introduction to Environmental Education
This course will engage students in an analysis and investigation of the philosophical and pedagogical underpinnings of EE, and the pragmatic relevance of learning for sustainability. To this end students will get an opportunity to critically discuss, analyze, and evaluate a variety of perspectives around the environmental debate and assist them in articulating, clarifying, and/or refining their own assumptions and position about the environment and implications for sustainability. Fundamental questions to be answered include, what is the rationale for teaching and learning for sustainability and what are the core principles and competencies that should drive this pursuit? Secondly, what pedagogical constructs are useful in effective teaching and learning for sustainability? Students will engage in investigations of real world environmental issues, and problem-solving, and experiential learning through field-trips. (Credit cannot be obtained for both 80-545 and 80-591(12)).

80-547. Learning in Science
This course will consider current research and theory in the promotion of science as a process and product. Included will be a critical survey of recent issues in science education. The focus will be on their implications for curriculum and practice at the classroom level. An examination of some of the major difficulties in the design, development, implementation, and evaluation of science curricula. (3 hours a week.) (Credit cannot obtain for both 80-547 and 81-547)

80-550. Issues in Education
This course will examine current issues affecting contemporary Canadian education. Specific course content and instructors will be published in advance. (3 hours a week.) (Credit cannot obtain for both 80-550 and 81-551)

80-551. Information and Communication Technologies (ICT) for Teaching and Learning
This course explores how Information and Communication Technologies (ICT) can support teaching and learning within an educational context. It analyzes principles, strategies and related issues regarding the design of innovative educational technologies and creative learning environments. This course will include discussions based on assigned readings as well as hands-on learning activities. Students will gain an understanding of how various Information and Communication Technologies (ICT) enhance a student-centered approach to learning. This is an optional course for 2 areas of specialization (concentration), Curriculum Studies (CS) and Educational Administration (EA). (Credit cannot be obtained for both 80-551 and 81-551).

80-552. Curriculum Developments in Mathematics Education

This course will examine recent developments in curriculum, instruction, and evaluation in elementary and secondary mathematics education. Trends will be discussed in light of recent research findings, technological advances, and social goals. International comparisons will be made. (3 hours a week.) (Credit cannot obtain for both 80-552 and 81-552).

80-553. The Teaching and Learning of Mathematics
This course will examine research into students' learning and the teaching of mathematics. First, the motivational aspects of teaching and learning will be considered, including those related to the topic "Women in Mathematics." Second, specific mathematical topics will be dealt with, selected according to the interests of students. (3 hours a week.) (Credit cannot be obtained for both 80-553 and 81-553)

80-554. Fundamentals of Instructional Design
This course will consider current principles, research, theory and practice in the design, development, implementation and evaluation of instruction within various learning and teaching settings. (3 hours a week.)

80-555. Strategies for the Implementation of Change in Education
Procedures for dissemination, adoption, implementation, and integration of changes for teachers, administrators, and leaders of professional organizations. Attention will be given to theoretical models and their applications, change agency, and modification of organizational climate and structure. (3 hours a week.)

80-556. Approaches to Literacy Development
This course will consider current research and theory in the development of reading and writing abilities, and will examine some aspects of assessing literacy development. (3 hours a week.) (Credit cannot be obtained for both 80-556 and 81-556)

80-557. The English Language Arts
This course will examine current theories and issues in the English Language Arts with particular focus on their implications for curriculum and practice in the intermediate and senior divisions. Current issues at the local or provincial level, determined by the group, may be examined in detail. (3 hours a week.) (Credit cannot obtain for both 80-557 and 81-557)

80-558. Psychology of Learning Problems
This course will review current theories of learning disabilities and learning problems. Various approaches to diagnosis and remediation will be presented. Students will be expected to discuss case study examples during the course, and to develop a particular interest area to great depth. (Prerequisite: 80-503 or permission of instructor.) (3 hours a week.) (Credit cannot obtain for both 80-558 and 81-558)

80-559. The Recent History of Education in Ontario
This course examines major developments in Ontario education from the 1950s to the present day. Beginning with the postwar Hope Commission Report, and extending to the current attempts at reform, the Ontario school system for primary and secondary education has undergone a series of dramatic changes over the past half century. These changes will be investigated in the context of their historical evolution, and contemporary relevance. (Credit cannot obtain for both 80-559 and 80-591 (10).

80-560. Politics of Education
This course will examine the administration of education from a political perspective. Both the legal and extra-legal factors that influence educational outcomes will be examined. Their roles will be viewed in terms of comparative forms of educational administration. Finally, several administrative decisions will be analyzed using the perspectives gained throughout the course. (3 hours a week.) (Credit cannot obtain for both 80-560 and 82-560)

80-561. Legal Aspects of Education
This course will focus on legislation and court decisions dealing specifically with the educational process. Both the historical and philosophical basis of these and the practical application of the same in a contemporary setting will form the primary emphasis for the course. (3 hours a week.) (Credit cannot obtain for both 80-561 and 82-561)

80-562. Educational Finance
This course will be concerned with educational finance in Canada, with particular emphasis on Ontario. It will examine such topics as equity, accountability, efficiency, and adequacy of educational revenues and expenditures. Provincial grant systems will be analyzed within the contexts of political governance and the economics of education. (3 hours a week.) (Credit cannot obtain for both 80-562 and 82-562)

80-565. Sociological Aspects of Education
This course will examine the school and its occupants and their relationship to the contemporary social order. Analysis of topics such as student culture, learning and social class, roles within the school setting will occur. The focus will be on theoretical positions, representative research findings and representative research methods. (3 hours a week.) (Credit cannot obtain for both 80-565 and 82-565)

80-566. Interpersonal Relationships in Education
This course will analyze the importance and dynamics of interpersonal behaviour. Students will be given the opportunity to examine and develop their own skills in this area. Emphasis will also be placed upon a practical orientation toward utilizing these skills in the educational environment. (3 hours a week.) (Credit cannot obtain for both 80-566 and 82-566)

80-572. Theory and Practice in Early Childhood Education
An examination of theory and current practice in Early Childhood Education. The emphasis will be on the translation of theory into sound educational practice. Organization and management of Early Childhood programs will be of concern as well as teaching procedures. (3 hours a week.) (Credit cannot obtain for both 80-572 and 81-572)

80-591. Special Topics in Education
Selected advanced topics in Education based on new developments in particular areas, special faculty interests, and opportunities afforded by the availability of visiting professors. Special topics are subject to Graduate Committee approval and may be taken more than once provided the topics are different. Current topics include: 1. The Recent History of Education in Ontario; 2. Pervasive Developmental Disorders; 3. Environmental Education, 4. Tertiary Teaching and Learning. (3 hours a week.)

80-602. Doctoral Seminar I
In Core Seminar 1, the history and philosophical foundations of education are examined through the three fields of study. As well, students are introduced to qualitative methods of research in education, encompassing interview, phenomenological, ethnographic, constructivist, and case study approaches to data collection, analysis, and interpretation.

80-604. Doctoral Seminar 2
In Core Seminar 2 students examine research, theories, and issues in the fields of study via a specific theme which is identified annually. For example, the theme might be bullying, or caring education, or gender issues. As well, students are introduced to quantitative methods of research in education, encompassing true experiments, quasi experiments, and correlational studies.

80-621. Educational Leadership and Policy Studies
This course introduces students to the origins and intellectual traditions of theories that influence how we organize education. Students develop an understanding of sociological paradigms that have influenced educational systems over time, and develop perspectives that enable them to think critically and creatively about contemporary and future issues in educational leadership, policy, and organizations.

80-631. Socio/Cultural/Political Contexts of Education
This course centres around a critical examination of cultural, historical, and theoretical perspectives in education. Bodies of knowledge related to understanding the complexities of sociocultural influences in education are the main focus. Power relations at play and how they are negotiated in everyday practice are considered. Using the sociocultural framework developed in the course, students also investigate their specific areas of interest (for example, curriculum theory and practice).

80-641. Cognition and Learning
This course provides an analysis of epistemological theories through a critical examination of foundational and current research and a reflection on historical and philosophical orientations as they relate to contemporary issues in cognition and learning.

80-651. The Specialized Elective
The content for this course must relate to the students dissertation topic and field of study. The course may be selected from the graduate studies calendar of courses from one of the participating universities, or it may be taken as a directed study. A directed study takes place under the supervision of a faculty member with appropriate expertise. Usually, the student completes a sustained program of study relating to a topic of current theoretical and/or empirical interest leading to the production of a substantial research paper. Directed studies are intended for students with special interests which cannot be satisfied by calendar courses.

80-669. Research Proposal Colloquium
In this course students examine theory and research in relation to their intended dissertation topic. Students develop a topic idea in the form of a dissertation proposal, defining a research question and a theoretical base for intended study. Students examine research questions in relation to varied methodologies, so that a diverse examination of research frameworks takes place through WebCT based discourse.

80-680. Comprehensive Portfolio
(3 course equivalencies.)

80-795. Final Project Seminar
Candidates pursing the course-based option, under the guidance of the instructor and in consultation with other faculty where appropriate, will engage in a collaborative process leading to the production of a final project on an issue or topic of inquiry of relevance to professional practice. The final project will be grounded in relevant research and show evidence of knowledge, skills of inquiry, reflection and problem-solving acquired through the other courses. It will normally be taken following completion of the other course-work. (3 hours a week.)

80-796. Major Paper
Conducted under the guidance of at least two members of the Faculty, a major paper may analyze and evaluate a substantial body of scholarly literature or describe or interpret a research project undertaken by the student. The major paper is subject to an oral examination (see section titled, The Master's Degree - Thesis or Major Paper, and the section titled Education - The Master of Education Degree - Program Requirements.)

80-797. Thesis
(See section titled, The Master's Degree - Thesis or Major Paper, and the section titled Education - Joint Doctor of Philosophy in Educational Studies.)

80-798. Doctoral Dissertation
(See section titled, The Degree of Doctor of Philosophy - The Dissertation, and the section titled Education - Joint Doctor of Philosophy in Educational Studies.) (10 course equivalencies.)

Spring 2012 Graduate Calendar

CIVIL AND ENVIRONMENTAL ENGINEERING: COURSES

CIVIL ENGINEERING

Courses offered by Civil Engineering at the graduate level are listed below. Students may take courses other than Civil Engineering with permission of the Head of the Department and the advisor.

All courses listed will not necessarily be offered in any given year.

87-500. Theory of Elasticity and Plasticity
Analysis of stress and strain; elastic and plastic stress-strain relations; general equations of elasticity; yield criteria; applications to elastoplastic problems, including rotating disks, thick-walled tubes, reinforced disks, torsion of various shaped bars; stress concentration. (3 lecture hours a week.)

87-501. Finite Element Methods for Solids and Structures
Structural idealization; stress analysis of 2-D and 3-D solids; error estimation and mesh adaptivity; elastic formulations and uses of beam, plate and shell elements; nonlinear formulations; structural stability; introduction to finite element methods in structural design optimization. (3 lecture hours a week.)

87-502. Analysis and Design of Shell Structures
General theory of thin shells. Membrane stresses in shells of revolution and shells of double curvature. Bending stresses in shells of revolution, cylindrical shells and folded plates. Design of cylindrical shell roofs. (Prerequisite: 87-500 or equivalent.) (3 lecture hours a week.)

87-504. Theory of Plates
Small deflection of laterally loaded rectangular and circular, isotropic and orthotropic plates with various edge conditions, Navier and Levy solutions, energy methods, finite difference approximation, plates under combined action of lateral loading and forces in its plane, local buckling of column elements, buckling of plates under pure shear and under bending stresses, post-buckling strength in plates. (3 lecture hours a week.)

87-505. Theory of Stability
This course is designed to give an insight into the basic phenomenon of structural stability. Elastic and plastic flexural-buckling of columns with axial and eccentric loads is studied. Energy and numerical methods are used. Stability functions are introduced and used to study trusses and rectangular frames, with and without sidesway. Some discussion of torsional and torsional-flexural buckling, lateral buckling of beams. (3 lecture hours a week.)

87-506. Advanced Structural Steel Design
This course is designed to develop and expand the design concepts in steel structures; multiple-storey frames, sway and non-sway frame systems; beam-columns; laterally unbraced beams; local buckling of flanges and webs; plate girders; plastic analysis and design; characteristics of light gauge steel components; design of cold-formed steel structures. (3 lecture hours a week.)

87-510. Reinforced Concrete Structures
Critical examination of design code requirements for: flexure, shear, bond, eccentrically loaded columns; yield line theory, strip method, and design of slabs. Design of hyperbolic paraboloid shells, domes, cylindrical tanks and rigid-frame structures. (3 lecture hours a week.)

87-511. Prestressed Concrete
Materials, principles of prestressing systems; prestressing losses; analytical treatment of the effect of shrinkage, creep of concrete, and cable friction on stresses; analysis and design of statically determinate and indeterminate structures; design codes; research background; introduction to prefabricated concrete structures. (3 lecture hours a week.)

87-512. Design, Deterioration, and Repair of Concrete
Cementing materials-basic constituents and manufacture; hydration of cement; physical properties of fresh and hardened paste; concrete mix design; properties of fresh and hardened concrete; deterioration processes affecting field concrete; inspection, assessment and remedial techniques of concrete and reinforced concrete structures. (3 lecture hours a week.)

87-513. Structural Dynamics
Formulation of equations of motion; single degree-of-freedom systems: free vibration response and response to harmonic, periodic, impulse, and general dynamic loading; analysis of non-linear structural response; multi degree-of-freedom systems: equations of motion, structural property matrices, undamped free vibration, Raleigh's method, forced vibration response, practical vibration analysis; continuous systems: partial differential equations of motion, analysis of undamped free vibration, analysis of dynamic response, wave propagation analysis. (3 lecture hours a week.)

87-514. Advanced Concrete Technology
Advanced composite materials - constituents and products; structural applications, reinforced concrete members, prestressed concrete members, applications with chopped fibres, repair and rehabilitation; innovative applications. (3 lecture hours a week.)

87-515. Earthquake-resistant Design of Buildings

Formulation of the equations of motion, free vibration response, and forced vibration response of SDOF, MDOF and continuous systems; approximate and numerical methods of analysis; wave propagation analysis. (3 lecture hours a week.)

87-516. Loads and Load Effects on Structures
Nature of loads; stress analysis of structures for volumetric deformations; modal analysis of structures; vibration-induced forces in structures; time-domain and frequency-domain analysis of structures; fatigue damage calculation of solids. (3 lecture hours a week.)

87-519. Advances in Soil Mechanics and Geotechnical Engineering
Consolidation and improvement methods; compressibility of soils and application of new modification techniques; frost action in soils; design of gravity, cantilever and mechanically stabilized retaining walls; recent advances in the bearing capacity of foundations on reinforced soils; pile foundations and pile groups; machine foundations on piles. (3 lecture hours a week.)

87-520. Multiphase, Multicomponent Flows
A thorough treatment of the basic techniques for analyzing one-dimensional multi-phase, multicomponent flows in order to predict flow regimes, pressure drop, etc. Practical applications in fluidization, sedimentation and boiling heat transfer. (3 lecture hours a week.)

87-521. Hydrology
Analysis and synthesis of the hydrograph. Streamflow routing. The hydrograph as a function of drainage characteristics; estimation of runoff from meteorological data. Snowmelt. Flow in rivers with an ice cover. Infiltration theory. Sea water intrusion in coastal aquifers. Application of hydrologic techniques including statistical methods. (3 lecture hours a week.)

87-522. River Mechanics
Theory and analysis of uniform, gradually varied, rapidly varied and steady and unsteady flow in open channels; fluvial processes; design of channels; design of hydraulic control structures. (3 lecture hours a week.)

87-523. Ground Water Contamination
Introduction of Darcy's equation and governing equation; construction of flownets, flow quantification, and ground water resource evaluation; contaminant hydrogeology, mass transport equations, reaction, and adsorption; introduction to biodegradation and natural attenuation; simulation of ground water flow and transport. (3 lecture hours a week.)

87-524. Advanced Hydromechanics
Properties of scalar and vector fields; gradiant, divergence and curl. Flow visualization. Flow kinematics: continuity equation, potential flow, stream function. Flow dynamics: transport theorems, integral and differential equations of motion. Boundary-layer theory. Turbulent flow and turbulence models. (3 lecture hours a week.)

87-525. Hydraulic Analyses
This course deals with advanced methods of analyzing hydraulics and water resource systems. Exact and approximate methods are reviewed. The formulation and solution of problems by finite difference and finite element methods is a major part of the course. Typical examples from open channel and ground water flows are included. The method of characteristics is applied to transient flow in open channels and closed conduits. (3 lecture hours a week.)

87-526. Sediment Transport
Regime approach; turbulence theories; suspended sediment; tractive force method; bedforms and bedload transport; the Einstein method; modified Einstein method; reservoir siltation; recent developments; design of mobile bed channels; design of sedimentation basins; channel degradation. (3 lecture hours a week.)

87-527. Coastal Engineering
Introduction to linear and nonlinear wave theory. Wave transformation: shoaling, refraction, defraction, reflection and breaking. Wave interaction with piles, walls and rubble mounds. Computation of forces and moments. Stability analysis. Wave generation and prediction. Computation of design water levels. Statistical nature of wind-generated waves in deep and shallow waters. Littoral zone processes. Computation of longshore transport. Effect of shore structures on littoral processes. Design of shore protections. Design of small harbours. This course involves the use of microcomputers and physical models. (3 lecture hours a week.)

87-590. Special Topics In Civil Engineering
Selected advanced topics in the field of civil engineering. (3 lecture hours a week.)

87-796. Major Paper

87-797. Thesis

87-798. Dissertation

ENVIRONMENTAL ENGINEERING

Courses offered by Environmental Enginneering at the graduate level are listed below. Students may take courses other than Environmental Engineering with permission of the Head of the Department and the advisor.

All courses listed will not necessarily be offered in any given year.

93-530. Water Pollution Control
Water quality criteria; methods of wastewater disposal and their effects on ecology; theory and design of different unit operations and processes for water purification; theory and design of different design operations and processes of wastewater treatment; reuse and recycling of wastewater. (3 lecture hours a week.)

93-531. Advanced Water Pollution Control
Discussion on recent advances in the design of water and wastewater treatment plants and new developments in water pollution control practices. (Prerequisite: 93-530 or equivalent.) (3 lecture hours a week.)

93-533. Solid Waste Management
A study of municipal and industrial solid wastes, quantities, composition, methods of disposal or reclamation; economic viability of the various methods related to the quantities involved. (3 lecture hours a week.)

93-534. Environmental Separation Processes
Application of the principles of surface chemistry to separation processes involving phase equilibria, ion exchange, membrane separation, adsorption, absorption, flocculation, spherical agglomeration, sedimentation, filtration, and centrifugation. (3 lecture hours a week.)

93-535. Water Quality Management
Water quality criteria; methods of wastewater disposal and their effects on ecology; stoichiometry, reaction kinetics and material balance; movement of contaminants in water bodies; modelling of water quality in natural systems. (3 lecture hours a week.)

93-536. Environmental Engineering Thermodynamics
An advanced study of the application of classical thermodynamic principles to environmental engineering practice; flow systems; composition relationships between equilibrium phases; systems involving surface effects, electric or magnetic fields. (3 lecture hours a week.)

93-537. Kinetics
Basic concepts of chemical reaction kinetics; characterization of chemical and biochemical systems; reactor flow models and consideration of non-ideality. (3 lecture hours a week.)

93-538. Biological Treatment of Wastewater
Wastewater characteristics; biological kinetics; flow and loading variation; wastewater treatment processes; mass balances; aeration; sedimentation; lagoons; fixed-film processes; sludge characteristics. (3 lecture hours a week.)

93-539. Industrial Wastewater Treatment
Sources and characteristics of industrial wastewater; pretreatment and primary treatment; physical and chemical treatment; biological treatment; waste minimization; treatment of wastes from various industries. (3 lecture hours a week.)

93-540. Numerical Modeling of Heat and Mass Transfer and Flow in Porous Media
Introduction to finite difference and finite element approaches for simulation of the diffusion and the advection-dispersion equations; development of finite difference formulation of 1-D and 2-D transient heat transfer, nonlinear conductance and source/sinks; 1-D and 2-D mass transport with reaction; 1-D and 2-D heat transfer with finite element approach. (3 lecture hours a week.)

93-541. Air Pollution from Mobile Sources
Air pollutants; emissions from vehicles; testing vehicles for emissions; combustion thermodynamics; thermodynamics and kinetics of pollutant formation; measures to reduce emissions; modeling. (3 lecture hours a week.)

93-542. Air Pollution Modelling
Air quality standards; emission inventory, source estimation; development of transport models; models with chemical reactions. (3 lecture hours a week.)

93-550. Sustainability: Principles and Practices
This course examines the evaluation, design, and management of products, processes, or projects to achieve sustainability. The main topics include: assessing and scoping environmental effects from engineering and other technical activities; eco-balance approaches; life cycle assessment; design-for-environment principles; and decision making for environmental and sustainability objectives. The course will discuss typical examples (e.g., automobiles, infrastructure, electronics), and also draw upon the industrial and research experience and knowledge of the class attendees. Class-based projects will focus on understanding, interpreting, and implementing the knowledge acquired. (Not open to students who attended 93-532, Engineering and the Environment, since 2002.) (3 lecture hours per week.)

93-590. Special Topics In Environmental Engineering
Selected advanced topics in the field of environmental engineering. (3 hours a week.)

Current topics include:
Air Pollution Control;
Transport Phenomena;
Environmental Law and Policy
Atmospheric Chemistry and Physics of Air Pollution.

93-796. Major Paper

93-797. Thesis

93-798. Dissertation

Spring 2012 Graduate Calendar

ELECTRICAL AND COMPUTER ENGINEERING: COURSES

The graduate course offerings in Electrical Engineering are designed to complement the areas of specialization. Course requirements for the Ph.D., M.A.Sc., and M.Eng. degrees in Electrical Engineering will be selected from the courses listed below and related courses in other programs.

Graduate students will be associated with one of the areas of research. Their program of studies will be formulated in consultation with the graduate advisors and approved by the Chair of the Program Graduate Committee coordinator.

Only a selected number of the courses listed below will be available each year. The current list will be provided by the Coordinator of Graduate Studies in Electrical Engineering.

Graduate standing is required for all graduate courses in the Department of Electrical and Computer Engineering.

88-514. Advanced Power Systems
Synchronous machine models are developed from the voltage and flux linkage differential equations. Applying the developed models, numerical simulations are performed to determine the dynamic performances of synchronous machines. (3 lecture hours per week.)

88-521. Digital Signal Processing
Discrete Signals, discrete system models, z-transforms, Time Domain and Frequency Domain Analysis of Digital Filters, sampling theorem, Design and Realization of FIR and IIR filters, DFT and FFT, Stability and Stabilization of IIR Filters, Design of FIR and IIR Digital Filters Using Non-Linear Optimization Technique, Discrete Hilbert Transform, Sectioned and Fast Convolution, zero padding, digital signal processing applications. (3 lecture hours a week.)

88-522. Applied Time Signals Analysis and Processing
Continuous and discrete signals; sampling theory and practice; filtering, interpolation, coding, statistical concepts, transform methods; power density estimation, correlation functions, convolution. (3 lecture hours a week.)

88-523. System Theory
Continuous and discrete time systems, state formulation techniques, controlability and observability concepts, and system simulation. (3 lecture hours a week.)

88-524. Stochastic Processes
Development and applications of probability models in the analysis of stochastic systems; review of probability, random variables and stochastic processes; correlation functions applications to filtering, prediction, estimation and system identification. (3 lecture hours a week.)

88-525. 2-Dimensional Digital Signal Processing
Fundamentals of 2-D Signals and Transforms; Z, Fourier, discrete Fourier, etc., 2-D FFT, Design Techniques for 2-D FIR and IIR Digital Filters using Transformation and Optimization Techniques. Stability and Stabilization of 2-D Filters, Homomorphic Filtering, Reconstruction of Signals from their Projections. (3 lecture hours a week.)

88-527. Speech Processing
Production, perception, and acoustic-phonetic characteristics of speech signal; auditory models; linear prediction of speech; cepstral analysis; speech recognition; speech synthesis; spoken language processing; human-computer communications. (3 lecture hours a week.)

88-528. Image Processing
This course presents digital and hybrid representation of images, fundamentals of colour, 2-D systems, 2-D filter design and 2-D filtering of digital images, image enhancement techniques: homomorphic filtering, histogram equalization and modification techniques, median and statistical filtering, 2-D FFT algorithms, properties of digital images. Projects are given as a means of learning practical applications of the field. (3 lecture hours per week.)

88-529. Discrete Transforms and Number Theoretical Methods
Introduction to orthogonal transforms, DFT, DCT, DHT; implementation methods; fast algorithms, FFT, WFT; polynomial transforms; finite rings and fields; number theoretic techniques; residue number systems; conversion and computation; finite polynomial rings; VLSI implementation consideration. (3 lecture hours a week.)

88-531. VLSI Design
Overview of VLSI designs, CAD tools, application, technology; review of properties of silicon, solid state physics and devices; SPICE models; analog simulation; IC technology; target CMOS process; static CMOS logic; principles of standard cell CMOS design; dynamic characteristics of static CMOS logic; dynamic logic; system level considerations; hardware description languages; silicone compilers. (3 lecture hours a week.)

88-533. Computational Intelligence
Models of the human brain and sensory systems. Neural networks and learning algorithms. Fuzzy sets, fuzzy logic, and fuzzy systems. Evolutionary computation. Advanced topics in computational intelligence. (3 lecture hours a week.)

88-535. Nonlinear Systems

Introduction to the analysis and design of nonlinear control systems, mathematical preliminaries, second-order systems (including Lyapunov stability, center manifold theorem, input-output-stability) perturbation theory; control design for non-linear systems. (Prerequisite: For Electrical Students 88-324; For Mechanical Students 92-412.) (3 lecture hours a week.)

88-536. Automotive Control Systems
Introduction to automotive control systems; engine operation and dynamics; engine management and control; robust engine control; hybrid powertrain modelling and control; estimation of vehicle parameters and models; vehicle control system; automotive electronics. (Prerequisite: For Electrical Students 88-324; For Mechanical Students 92-412.) (Crosslisted with 92-545.)(3 lecture hours a week.)

88-541. Low Power CMOS Design
This course is designed to prepare students for advanced VLSI design where low power dissipation is of critical concern. Topics will include: Introduction to low power techniques for CMOS circuit design; design levels of abstraction; sources of power dissipation, capacitance analysis, and power estimation; simulation-based and probability-based power estimation; low-level and high-level power optimization; advanced techniques for modern IC fabrication, and low power design tools from an industrial perspective; recent advances in low power CMOS design (Prerequisties: 88-217 and 88-316.) (3 lecture hours per week plus project.)

88-550. Adaptive Signal Processing
This course presents topics on optimum linear filtering (Wiener filter, linear prediction, and Kalman filtering), constrained linear estimation, Newton's method, steepest-descent method, stochastic-gradient algorithms: least-mean-squares (LMS) algorithms, affine projection algorithms (APA), recursive least-squares (RLS) algorithms. Comparative performance analysis of adaptive filters: steady state error, tracking error, convergence rate; finite precision effects. The students are introduced to applications on adaptive noise cancellation, interference canceling, and system identification. (3 lecture hours a week.) (Prerequisite: 88-524 or equivalent.)

88-551. Advanced Digital Signal Processing
Review of discrete-time systems and digital filters. Multirate systems including decimatots, interpolators, polyphase decomposition, Nyquist filters, two-channel, and M-channel filter banks. Adaptive equalization including equalization techniques for digital receivers, linear and non-linear equalizers, adaptive algorithms, and blind equalization. Analysis of finite wordlength effects including coefficient quantization, arithmetic round-off errors, dynamic range scaling, and low-sensitivity digital filter structures. (3 lecture hours a week.) (Prerequisites: 88-524 or equivalent, 88-521 or equivalent, or permission of the instructor.)

88-552. Advanced Topics in Microelectromechanical Systems (MEMS)
Review of advanced topics related to the theory and modeling of MEMS design and fabrication techniques. Topics to be covered include: advanced micromachining techniques, smart microelectromechanical sensing and actuation techniques, microfluidics, photonic MEMS, advanced materials, device modeling, MEMS design case studies, system integration, micropackaging, MEMS design methodology, and reliability issues related to MEMS devices. Emphasis is on theory, lumped element modeling, 3-D multi-domain finite element analysis, static and dynamic device behavior study using industry standard MEMS modeling tools, simulation of fabrication processes using actual fabrication process parameters, and design verification. (3 lecture hours a week.)

88-553. Analysis of Electrical Machines
This course is concerned with understanding and modeling of induction, reluctance and permanent magnet synchronous generators used in wind power application. In addition, numerical analysis and a review of the basic characteristics used in wind power application. In addition, numerical analysis and a review of the basic characteristics of the above-mentioned electrical machines will be performed. (3 lecture hours a week.) (Prerequisite: 88-313 or permission of the instructor.)

88-554. Automotive Sensor Systems
This course describes topics on sensors, optics & lighting, image representation, feature extraction, image analysis, image classification, 3D imaging techniques, GPS, radar, lidar 3D range imaging, intelligent and night vision, sensor integration and fusion. The students will apply their theoretical knowledge to solve a practical problem by completing a course mini-project. (3 lecture hours a week.)

88-555. Computer Arithmetic
his course presents a detailed description of general class of fixed-radix number systems, floating-point representation, algorithms and architectures for sequential and fast computation of multiplication, division and square root extraction, elementary functions, logarithmic and residue number systems, finite field arithmetic operations, error control in arithmetic processors. Course assignments and mini-projects on practical aspects of the course are required. (3 lecture hours a week.)

88-556. Computer Networks
This course will cover concepts and protocols which enable heterogeneous computer networks to work with each other, including transport (TCP, UDP), network (IP, IPng), routing (RIP, OSPF), network management (SNMP, SNMPv2, RMON), and other important protocols like ARP, ICMP, DNS, BOOTP, DHCP and HTTP. Advanced topics like Mobile IP, real-time and reservation protocols (RTP, RSVP), IP multicast (IGMP, MBONE) and network security will also be examined. Emphasis will be on broad coverage, as well as hands-on programming experiences. Local area networks, performance of queueing, multiple access schemes, IEEE802 standards, wireless LANs and wireless personal area networks will also be covered. (3 lecture hours a week.)

88-557. Multiuser Detection
This course presents an introduction to multiple-access communication systems: time-division multiple access (TDMA), frequency-division multiple access (FDMA), and code-division multiple access (CDMA); linear receivers for synchronous and

asynchronous CDMA systems, blind multiuser detection (direct methods and subspace methods), linear decorrelating and minimum mean-square-error (MMSE) detectors, group-blind multiuser detection in multipath channels, adaptive multiuser detection, space-time multiuser detection, and turbo multiuser detection. Practical applications are demonstrated through course assignments. (3 lecture hours a week.) (Prerequisites: 88-524 or equivalent.)

88-558. Network Security
The course presents a concise discussion on the discipline of cryptography- covering algorithms and protocols underlying network security applications, encryption, hash functions, digital signatures, and key exchange. Internet security vulnerabilities, firewalls and their limitations, cryptographic technology and services, PPP and data layer security, IPSec and key management for network layer security, TLS, SSH and transport layer security, secure e-mail, secure infrastructure protocols, Kerberos authentication, secure RPC, remote authentication, authorization and tunneling protocols, virtual private networks, secure remote access, multicast security are covered. Practical applications are covered through assignments. (3 lecture hours a week.)

88-559. Physical Design Automation for VLSI and FPGAs
Introduction to backend CAD flow for VLSI and FPGAs; algorithms and CAD tools for technology mapping, floor planning, partitioning, placement and routing; exposure to timing analysis and timing-driven layout; assignments will involve use of academic and/or industrial CAD tools as well as development of simple CAD tools for specific layout tasks. (3 lecture hours a week.) (Prerequisites: consent of the instructor.)

88-560. Reconfigurable Computing
History and evolution of reconfigurable computing (RC) systems; FPGA-based and multi-FPGA systems, CAD mapping tools, run-time reconfiguration, study of recent RC systems from academia and industry targeting a wide range of applications. Literature review and paper presentation on specific topics is also required. The course may require a mix of project and assignments. (3 lecture hours a week.) (Prerequisite: consent of the instructor.)

88-561. Statistical Communication Theory
This course describes the fundamentals of Statistical Communications in detail. The topics covered include: hypothesis testing, Bayes and the Neyman-Pearson criteria, minimum variance unbiased estimation, Cramer-Rao bound, sufficient statistics, maximum likelihood estimation, minimum MSE and maximum a posteriori estimation, linear MMSE estimation, detection of signals in white/colored noise, detection of signals with unknown parameters, composite hypothesis testing, generalized likelihood ratio test, sequential detection, and Wald's test. Applications of digital communications, radar/sonar signal processing, seismology, and biomedical engineering are discussed. (3 lecture hours a week.) (Prerequisites: 88-419 or equivalent, and 88-524 or equivalent.)

88-562. VLSI Implementation of Digital Signal Processing Systems
The course provides a concise discussion on the various aspects of implementations for DSP algorithms. The course begins with an overview of DSP algorithms. Topics discussed are: implementation platforms, pipelining and parallel processing, systolic architecture, finite wordlength effects in digital filters, pipelined and parallel filters and adaptive filters, and bit-level arithmetic architectures. (3 lecture hours a week.) (Prerequisite: 88-521 or equivalent.)

88-563. Wireless Communication Systems
Overview of mobile communications, the characterization and modeling of time-variant fading and/or dispersive channels, digital communication system performance over fading dispersive channels, diversity reception, optimum receiver, trellis-coded modulation, (fundamentals, performance evaluation and applications to mobile communications), spread spectrum systems, and code division multiple access (CDMA), TDMA, FDMA, multiple access schemes, CSMA, Aloha. Concepts on wireless ad hoc networks will also be introduced, MAC, routing, QoS protocols for these networks will be covered. (3 lecture hours a week.) (Prerequisite: 88-419 or equivalent.)

88-564. RF Integrated Circuit Design
Design of RF integrated circuits for communications systems, matching networks, low noise amplifiers (LNAs), mixers, tuned amplifiers, oscillator design, phase locked loops (PLLs), frequency synthesizers, RF power amplifiers, coupling networks.(3 lecture hours a week.) (Credit cannot be obtained for both 88-564 and if taken as a Special Topics course.)

88-565. Introduction to Nanoelectronic Design
The purpose of this graduate course is to study the emerging nanotechnologies with focus on single-electron tunneling (SET) device and circuit design. It covers various aspects of SET-based nanoelectronic design, including quantum phenomena with nanodevices, I-V characteristics of SET transistors, SET inverters, SIMON simulator, SET-based threshold logic design, hybrid SET-MOS architectures, reliability issues of SET circuits, and SET-based multiple valued logic and memory design. Assigned readings of recent advances in this area (including the instructor's recent research progress) will be actively discussed. The course projects/presentations are usually required. The students are expected to use SIMON tool and/or Cadence tools for circuit simulation. The students should have some background in digital logic design and CMOS integrated circuit design.(3 lecture hours a week.) (Credit cannot be obtained for both 88-565 and if taken as a Special Topics course.)

88-566. Data Security and Cryptography
This is an introductory course on the techniques, algorithms, architectures and tools of data security and cryptography. Firstly, the theoretical aspects of data security and cryptographic algorithms and protocols are reviewed. Then we show how these techniques can be integrated to provide solutions to particular data and communication security problems. This course contents are of use to computer and communication engineers who are interested in embedding security services into an information system, and thus, providing integrity, confidentiality and authenticity of the data and the communicating parties.Main contents: classical cryptography techniques; mathematical foundations; secret key cryptography; public key cryptography; authentication and digital signature; network cryptographic protocols.(3 lecture hours a week.) (Credit cannot

be obtained for both 88-565 and and if taken as a Special Topics course.)

88-567. Advanced Analog Integrated Circuit Design
MOS Models for Analog Design, Electronic Noise, Bandgap References, Operational Transconductance Amplifier (OTA) Design, Output Stages, Comparator Design, Sample and Hold Circuits, Analog-to-Digital (A/D) and Digital-to-Analog (D/A) Convertors. (3 lecture hours a week.) (Credit cannot be obtained for both 88-565 and and if taken as a Special Topics course.)

88-590. Special Topics
Selected advanced topics in a field of research in the Electrical Engineering. (May be repeated more than once for credit if the topics are different.) (3 lecture hours a week.)

88-797. Thesis

88-798. Dissertation

Spring 2012 Graduate Calendar

INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING: COURSES

Courses offered by Industrial and Manufacturing Systems Engineering at the graduate level are listed below. Students may take courses from outside Industrial and Manufacturing Systems Engineering with permission of the Chair of the Graduate Program and the advisor.

All courses listed will not necessarily be offered in any given year.

91-500. Optimization
Classical theory of optimization. Kuhn-Tucker conditions. Unconstrained optimization; gradient methods, conjugate gradient methods, variable metric methods, search techniques. Constrained optimization. Approximation methods, projection methods, reduced gradient methods; penalty function methods; computational algorithms. Recent advances in optimization. Use of computer software packages. (Prerequisite: 91-312 or equivalent.) (3 lecture hours a week.)

91-501. Industrial Experimentation and Applied Statistics
Distributions of functions of variables, estimations and tests of hypotheses, power of tests, non-parametric tests, sampling techniques, analysis of variance, randomized blocks. Latin squares and factorial experiments. (Prerequisite: 91-227 or equivalent.) (3 lecture hours a week.)

91-502. Manufacturing Systems Simulation
Discrete-event system simulation. Random number generation. Stochastic variate generation. Input parameters; identification and estimation. Output analysis. Static and dynamic output analysis; initial and final conditions; measures of performance and their variance estimation; confidence interval. Design of experiments. Various sampling techniques. Single and multifactor designs. Fractional designs. Response surfaces. Regeneration method for simulation analysis; Monte Carlo optimization. (3 lecture hours a week.)

91-503. Production and Inventory Control Systems
Analysis of production-inventory systems. Inventory systems; deterministic, single-item and multi-item models; quantity discounts; stochastic, single-period models; periodic review and continuous review models. Production planning. Static demand models; product mix and process selection problems; multi-stage planning problems. Dynamic demand models; multi product and multistage models. Operations scheduling; job shop scheduling; line balancing. New directions in production systems research. (Prerequisite: 91-413 or equivalent.) (3 lecture hours a week.)

91-504. Advanced Operations Research I
Theory and computational techniques for solving linear and integer programming problems. Theoretical foundations of the simplex algorithm. Duality and sensitivity analysis. Network flow methods. Integer programming problems. Branch and bound methods, implicit enumeration methods, cutting plane methods. Interior point methods and other recent developments. (Prerequisite: 91-312 or equivalent.) (3 lecture hours a week.)

91-505. Advanced Operations Research II
Probabilistic O.R. models. Markovian decision process. Queueing theory. Single channel and multichannel queueing systems. Queues with general arrival and service patterns. Bulk queues and priority queues. Applications of queuing models. Probabilistic dynamic programming. (Prerequisite: 91-412 or equivalent.) (3 lecture hours a week.)

91-506. Computer-Aided Modeling of Complex Surfaces
This course provides an understanding of complex surfaces and their applications, design, mathematical modeling and manipulation techniques. It provides a mathematical foundation of sculptured surfaces, with emphasis on NURBS. Topics include: Geometric modeling, Curves and surfaces representation, B-Spline basis functions, Rational B-Splines curves, and surfaces, Construction of NURBS surfaces, Development of prototype complex surfaces using CAD software and MATLAB, and Introduction of reverse engineering of complex surfaces, modeling, manipulation and prototyping. (Prerequisite: 06-91-311 and 91-315, or equivalent.) (3.0 Lecture hours per week)

91-507. Advances in Industrial Ergonomics
Ergonomics and work design; human workload measurement in industry; visual display terminals at the workplace; signal detection and visual inspection; user-computer interaction; human factors aspects of flexible manufacturing systems; effects of individual and combined environmental stressors on human performance. (Prerequisite: 91-415 or equivalent.) (3 lecture hours a week.)

91-508. Reliability Engineering
Basic reliability distributions. Constant failure rate models-exponential reliability function, Poisson process. Time dependent failure models-the Weibull, normal, log-normal distributions. State-dependent systems-Markov analysis. System reliability-system structure function. Reliability growth testing-noon-parametric methods, censored testing and accelerated life-testing. Design for reliability-specification, reliability allocation, failure analysis, system safety. Maintainability and availability. (Prerequisite: 91-327 or equivalent.) (3 lecture hours a week.)

91-509. Computer-Integrated Manufacturing
Development of CIM; the CIM pyramid-key functions. System integration; standards for communications-MAP. Data base as the hub of CIM-types of data base. Role of simulation and support systems-decision support systems and expert systems. Sensor technology, robot vision, and group technology. Impact of CIM. Factory of the future. (Prerequisite: 91-411 or equivalent.) (3 lecture hours a week.)

91-510. Advanced Engineering Economy
Principles and methods for engineering analysis of industrial projects and operations. Criteria for economic decisions, project investment analysis, gain and loss estimating and techniques for economic optimization under constraint are included. Emphasis is placed on the construction and use of analytical models in the solution of engineering economy problems. Elements of risk and uncertainty are included through use of probabilistic techniques. (Prerequisite: 85-313 or equivalent.) (3 lecture hours a week.)

91-511. Stochastic Processes
Stochastic processes. The Poisson process-relationship to exponential, Erlang and uniform probability distributions. Markov chains-basic limit theorem. Continuous time Markov chains - birth-and-death processes, time-dependent probabilities, limiting probabilities, relationship to the exponential distribution, uniformization. Renewal theory-limit theorems, renewal reward processes, regenerative processes, computing the renewal function. Brownian motion and stationary processes. (Prerequisite: Statistics 91-412 or equivalent.) (3 lecture hours a week.)

91-512. Manufacturing Systems Paradigms
Manufacturing systems paradigms (including DML, Batch, Cells, FMS & RMS), components, characteristics, automation, operation, planning and control. Changeability and mass customization. Integrated products/systems design, process planning, GT & CIM. Special topics: Assembly, Robotics, Inspection, Quality and Cost." (Prerequisite: 91-413, or equivalent / permission of instructor). (3 lecture hours a week)

91-514. Engineering Design, Methodology & Applications
Engineering Design is a creative, iterative and often open-ended process subject to constraints. Topics include: design creativity & problem solving, engineering conceptual design & embodiment design, practices for product realization design theories and methodologies, parametric design, probabilistic design, industrial design, design and manufacturing integration, concurrent Enginneering, materials selection in design, design for x (e.g. manufacturing, assembly), engineering design communication. Significant time is devoted to the applications of design theories and methodologies and to a product/process design realization. (3 lecture hours a week.)

91-515. Artificial Intelligence Applications in Manufacturing
The objective of this course is to teach graduate students how artificial intelligence techniques can be applied to manufacturing operations. Detailed topics to be discussed in this course include: basic knowledge representation methods and problem solving techniques; different search algorithms; introduction to AI high level languages; introduction to the CLIPS shell; AI application in Design; AI application in Operation Management; AI application in Diagnosis; and, AI application in Control. (Prerequisite: 91-503 or 91-504 or equivalent.) (3 lecture hours a week.)

91-516. Computer-Aided Design (CAD)
This course will focus on computer-aided methods and applications. The lectures present basic and generic principles and tools, supplemented with significant hands-on practice and engineering applications. Various topics are studied and practiced using CAD/CAE software, such as Engineering design and the role of CAD, geometric modelling systems, representation of curves and surfaces, surface modelling, solid modelling and applications, parametric representations, assembly modelling, computer-aided engineering (CAE) and applications, distributed collaborative design, and digital mock-up. (Prerequisite: 91-411 or equivalent.) (2 lecture hours a week and 2 laboratory hours a week.)

91-517. Automotive Assembly Work Measurement
A Graduate study of manufacturing driven product designs, assembled in a human orientated workplace. Learn the science of work measurement to continuously evaluate existing designs against internal and external better practices and utilize insights gained from hands-on product teardowns in the development of innovative patentable ideas & product redesign proposals that support the lean enterprises balance scorecard. (9 Hours Per Week + 4.5 Laboratory Hours Per Week, For 4 weeks)

91-518. Manufacturing Systems: Modelling, Analysis and Performance Measures
This course is specifically oriented toward performance issues that arise in Automated Manufacturing Systems (AMS). The main goal of this course is to introduce efficient analytical modeling tools. Examples related to serial manufacturing systems. Flexible Manufacturing Systems will be presented to illustrate the theory and applications of these modeling tools. The reliability and maintainability techniques are also presented and integrated in the design, the analysis and the modeling of AMS. (Pre-requisites: 06-91-312 or equivalent and Probability and Statistics)(3 Lecture Hours Per Week)

91-519. Work Organization: Analysis and Design
Introduction to the applications of organization theory for the analysis and design of work organizations (industrial enterprises). Assessment and improvement of organizations through integration of social and technical systems in order to achieve organizational purpose. Fundamentals of organization structure. Classical organization theories. Group decision processes (group and individual). Organizational culture and ethics. Organizations and manufacturing technology. Management of knowledge workers. Information and communication technologies in program in organizations. Innovation and creativity, change management. Organizational accidents and errors, risk management. Impact of globalization and international environment on organizational strategies. (Pre-requisite: Graduate Standing in Engineering or Business) (3 Lecture Hours Per Week)

91-520. Engineering Applications in Health Care
Introduction to the broad range of current technological and organizational issues in health care. Overview of health care industry. Instrumentation for medical diagnostics (biomedical sensors, medical imaging). Medical diagnostics and decision making. Information technology in health care (information systems, electronic medical records). Principles of evidence-based medicine. Medical studies and statistics. Prosthetics and orthotics. Lab automation and surgical robotics. Manufacturing in health care. Health care facilities planning and design. Quality management in health care. (Prerequisites:

graduate standing in engineering, business, nursing or human kinetics; 3 lecture hours a week).

91-521. Sustainable Manufacturing
The objective of this course is to introduce students to how the environment has been affected by the activities of the manufacturing industry and how this type of impact could be measured and reduced. Students will learn to identify design and manufacturing issues related to the environment. Topics discussed in this course include sustainable development, sustainability, environmentally conscious design and manufacturing concepts and practices, recycling and reuse, material selection and compatibility, de-manufacturing and re-manufacturing, life-cycle assessment, and ISO 14000.(3 Lecture Hours Per Week)

91-522. Supply Chain Management and Logistics
This course covers the major issues associated with the management of Supply Chain and Logistics, covering both technical and managerial issues with emphasis on the analytical decision support methods and tools. Topics include supply chain network design, inventory models and theories, transportation and logistics planning, outsourcing and pricing, and case study. (Pre-requisite: 91-312 or 91-390, or equivalent) (3 Lecture Hours Per Week)

91-523. Product Innovation and Design Management
This course covers the critical factors affecting product development and innovation and identifies the common characteristics of successful new products drawing upon best industrial practice. The aim is to provide students with an understanding of the managerial and technical processes commonly involved in product development and innovation. Three main themes will be covered throughout this course: Product Design and Innovation; Idea Generation Techniques; Design and Innovation Project Management. (3 Lecture Hours Per Week)

91-524. Advanced Topics in Discrete Optimization
This course is concerned with topics in discrete optimization, particularly in integer programming theory and techniques. Topics include: Analysis of algorithms, modeling and applications of discrete optimization, dynamic programming, branch and cut, Lagrangian duality, modern meta-heuristic methods, introductions to nonlinear integer programming and stochastic (integer) programming, software for solving discrete program, advances in discrete optimization. (Pre-requisite: 06-91-312 or equivalent.) (3 Lecture Hours Per Week)

91-590. Special Topics
Selected advanced topics in the field of Industrial Engineering. (3 lecture hours a week.)

91-595. Graduate Seminar
Presentations by graduate students, staff, and visiting scientists on current research topics. Graduate students are required to register and give a presentation in the semester prior to thesis defence. All graduate students are expected to attend each and every seminar and no less than 75% of all seminars. This course will be graded on a Pass/Fail basis. (1 lecture hour a week.)

91-796. Major Paper

91-797. Thesis

91-798. Dissertation

Spring 2012 Graduate Calendar

MECHANICAL, AUTOMOTIVE AND MATERIALS ENGINEERING: COURSES

ENGINEERING MATERIALS

Course requirements for the Ph.D. and M.A.Sc. programs in Engineering Materials will be selected from the courses listed below and related courses in other programs. A student's course program will be formulated in consultation with the Graduate Studies Committee for Engineering Materials and requires approval of the research advisor and Chair of the Program Graduate Committee. Students will take no more than 2 of the 4 required courses from their supervisor(s).

All courses listed will not necessarily be offered in any given year.

89-501. Advanced Crystallography
Application of X-ray diffraction principles to the study of materials, application of Fourier series, single crystal techniques, studies of preferred orientation, imperfections. (3 lecture hours a week.)

89-502. Phase Transformations
Phenomenological treatment of transformation processes; diffusion controlled and diffusionless (martensitic) transformations; application of thermodynamic and phenomenological rate laws to transformations: nucleation, recrystallization, precipitation, spinoidal decomposition, ordering, eutectoid decomposition, etc. (3 lecture hours a week.)

89-505. Strengthening Mechanisms in Materials
Dislocation-particle interactions, strengthening by dislocation substructures, particle and fiber reinforcement, strong microstructures from the melt, strong microstructures from the solid. (3 lecture hours a week.)

89-506. Microscopy of Materials
The theoretical and technical aspects of the study of microstructure and composition of materials, optical microscopy, electron microscopy (scanning and transmission) including electron diffraction and image analysis principles, electron microanalysis, x-ray topography, field-ion microscopy, relationship of observed microstructures to the macroscopic properties of materials. (2 lecture, 2 laboratory hours a week.)

89-507. Fracture Mechanics
The fracture mechanics approach to design; physical significance of fracture toughness; measurement of fracture mechanics parameters; non-destructive inspection techniques; principles of fracture-safe design; the relation between the microscopic and macroscopic aspects of plane-strain fracture; fracture of specific metallic and nonmetallic materials. (3 lecture hours a week.)

89-510. Solidification Fundamentals
Fundamental principles of solidification theory including thermodynamics, kinetics, solid-liquid interface morphology and growth mechanics. Solidification mechanisms of pure metals. Heat flow phenomena in casting and crystal growth. Effect on solidification heat transfer of process variables, casting and mold properties, metal and mold temperatures. Students will apply the fundamentals of thermodynamics and kinetics to materials processes such as casting and welding. (3 lecture hours a week.)

89-511. Casting: Modeling and Simulation
Review of casting fundamentals. Techniques for mathematical model formulation. Development of general numerical method based on control volume finite difference scheme to predict mold filling, heat transfer, and solidification phenomena. Treatment of gates, runners, risers, and overflow. Mesh generation for full casting. Applications using commerical casting-simulation software. Students will apply their knowledge of engineering mathematics and transport phenomena to the processes of manufacturing light weight automotive components. (3 lecture hours a week.)

89-512. Metal Casting Technology
Introduction and historical overview of casting. Casting processes, mould design and materials, metallurgical simulation. Metallurgical considerations, liquid metal treatment, heat treatment, casting defects and their prevention. Discussion of challenges faced by today's foundries. (3 lecture hours a week.)

89-513. Tribology: Materials and Manufacturing Aspects
This course will prepare students to perform experimental and analytical work on the materials and manufacturing aspects of tribology. Fundamental equations of wear, wear testing methods; micromechanisms of wear, modeling of surface contacts, frictional heating during sliding contact; tribology of internal combustion engines, friction and wear during machining operations; wear control via surface coatings, coatings for cutting tools. (3 lecture hours a week.)

89-590. Special Topics in Materials
Selected advanced topics in the fields of engineered materials and materials Enginneering. (3 lecture hours a week.)

Current topics include:

Creep of Metals and Alloys
Microscopy of Materials II
Wear of Materials
Composite Materials

Fatigue of Metals and Alloys
Polymers
Ceramics
Welding
Materials Degradation
Polymer Injection Molding
Thin Films and Coatings
Computational Contact Mechanics in Tribology

89-797. Thesis

89-798. Dissertation

MECHANICAL ENGINEERING

Course requirements for the Ph.D., M.A.Sc. and M.Eng. programs in Mechanical Enginneering will be selected from the courses listed below and related courses in other programs. A student's course program will be formulated in consultation with the advisor and requires approval of the Graduate Studies Committee for Mechanical Engineering and the Chair of the Program Graduate Committee.

With the permission of the advisor and Department Head (and under consultation with the Graduate Coordinator), Mechanical Engineering courses with numbers greater than 449 only and related to the graduate field of study may be taken for graduate credit for students enrolled in the M.A.Sc. and M.Eng. programs. Not more than one undergraduate course (numbered greater than 449 only) shall count as credit towards the course requirements for the M.A.Sc. or M.Eng. degree. These courses are not available for course credit towards the Ph.D. degree.

In the case of M.Eng. students, the Chair of the Graduate Committee assumes the role of the advisor.

92-503. Turbulent Flow
General turbulence theories, wall turbulence and free turbulence. (3 lecture hours a week.)

92-506. Thermal Systems Design
Advanced systems design requiring the application of economics, heat transfer, simulation and optimization. (3 lecture hours a week.)

92-507. Experimental Techniques in Flow Measurements
A course covering the theory of flow and velocity measurement. Emphasis will be placed on hot wire instruments and turbulence measurements. (3 lecture hours a week.)

92-509. Multiphase, Multicomponent Flows
A thorough treatment of the basic techniques for analyzing one-dimensional multi-phase, multicomponent flows in order to predict flow regimes, pressure drop, etc. Practical applications in fluidization, sedimentation and boiling heat transfer. (3 lecture hours a week.)

92-516. Industrial and Motor Vehicle Noise
Hearing damage risk criteria and in-plant noise regulations; determination of permissible exposure levels due to continuous and intermittent noise. Measurement of machine noise and standard procedures. Fundamentals of noise control. Characteristics and levels of motor vehicle and traffic noise; motor vehicle noise control legislation and standard procedures for measurement. (3 lecture hours a week.)

92-517. Automotive Applications for Noise, Vibration and Harshness Evaluation
This course introduces the automotive applications and tools for the evaluation of noise, vibration and harshness. It includes reviews of measurement techniques presently used in the automotive industry to measure various aspects of noise, including the concept of sound quality, vibration and the quantification of the term harshness. The course consists of a review of papers which are to be presented to the class. Participants perform critical reviews on the presentations. Three lecture hours per week. Course evaluation is based on weekly reports, presentations of reviews of papers and critical reviews by participants. (3 lecture hours a week.)

92-530. Combustion Engineering
An introductory graduate course on combustion engineering, covering a broad range of topics of importance to the field including chemical thermodynamics and kinetics, flames and combustion rates, and detonation of gaseous mixtures. The emphasis is on the understanding of the combustion processes involved in practical systems. (Antirequisite: 92-590-01.) (3 lecture hours a week.)

92-531. Numerical Heat Transfer and Fluid Flow
This course is concerned with the ability of using numerical methods to predict heat transfer, fluid flow and related processes. The course consists of an introduction to Computational Fluid Dynamics, descriptions of the general governing differential equations, discretization methods for the differential equations, numerical simulation of conductive heat transfer, numerical treatment of convection and diffusion and calculations of flow fields. (Antirequisite: 92-590-02.) (3 lecture hours a week.)

92-532. Modeling of Thermo-fluid Systems
This course will cover the basic types of mathematical models that are used to describe Thermo-fluid systems. Lumped as well as distributed parameter models will be considered with analytical as well as numerical methods of solution. Modern

solution tools such as Simulink, Maple, Fluent and Wave will be utilized whenever appropriate. The topics to be considered may include but are not limited to: two-phase flow, transient flow, turbulence, non-newtonian flow, boiling, evaporation, condensation and fluid-structure interaction. (Antirequisite: 92-590-07.) (3 lecture hours a week.)

92-533. Turbulent Reacting Flows
This course will cover the following topics: experimental investigation of flames, thermodynamics of combustion processes, transport phenomena, chemical kinetics, reactions mechanism, laminar premixed and diffusion flames, the Navier-Stokes equations for the reacting flows, turbulent premixed and non-premixed flames, low temperature oxidation and engine knock, and pollutants formation. (Antirequisite: 92-590-08.) (3 lecture hours a week.)

92-534. Introduction to Computational Fluid Dynamics
This course is intended to provide basic knowledge required to initiate research or applications in computational fluid dynamics. Topics include: numerical methods for model hyperbolic, parabolic and elliptic equations; analysis of difference schemes; numerical stability; explicit and implicit methods; artificial viscosity; linearization techniques; approximate factorization; preconditioning, iterative solutions, successive over-relaxation (SOR), successive line over-relaxation (SLOR), alternating direction implicit (ADI); two-dimensional structured grid generation; introduction to finite volume method. (Antirequisite: 62-577.) (3 lecture hours a week.)

92-535. Advanced Topics in Computational Fluid Dynamics
This course is a continuation of 92-534. Advanced topics in computational fluid dynamics (CFD) will be discussed, including: structured and unstructured grid generation on surfaces and three-dimensional; Navier-Stokes and Euler solvers; applications of finite volume method; turbulence modeling; current issues in CFD. Students will carry out project work using one or more commercial CFD packages.(Prerequisite: 92-534.) (Antirequisite: 62-587.) (3 lecture hours a week.)

92-536. Fundamentals Of Clean Engine Technology
This course focusses on the understanding of fuel properties, combustion processes, exhaust emissions, and pollution prevention in diesel and other lean-burn IC engines. Introduction to Stirling and other external combustion engines.

92-540. Applied Finite Element Analysis
This course focuses on the modeling aspects of the finite element method using three well known commercial Finite Element Analysis (FEA) software packages known as DYNA, IDEAS and ANSYS. A variety of stress analysis problems in two and three dimensions are studied and the accuracy of the simulations are assessed through comparison with available theoretical and experimental results. Both static and dynamic situations are covered. The students are expected to prepare a final report summarizing their work and an oral presentation. (Antirequisite: 92-590-03.) (3 lecture hours a week.)

92-541. Introduction to Vibration Measurement and Modal Analysis
This course is concerned with basic concepts of modal theory, basic modal parameter analysis, single degree of freedom methods, introduction to frequency response functions, general modal analysis and multiple degree of freedom and global methods. The accuracy of Fast Fourier Transforms (FFT) and windowing, FFT analysis options, zoom, coherence and quality assessment, relationship to finite element modeling will also be considered. In addition, basic measurement techniques, calibration techniques, transient and steady state excitation techniques, general frequency response function interpretation, case study (laboratory experiment) and validation of measured and analyzed data are studied. (Antirequisite: 92-590-04) (3 lecture hours a week.)

92-542. Advanced Topics in Mechanical Design
The topics discussed in the course will be selected from the following: design and analysis of mechanical details such as welded and bonded joints, minimum constraint design, fluid power systems, mobile hydraulic systems, project planning, optimization, decision making methodology, ISO/QS9000 quality methods, concurrent engineering, design reports, design reviews, design for manufacture and assembly, design for quality, configuration design, design for minimum cost, parametric design, developing size ranges for families of products, geometric dimensioning and tolerancing, Taguchi methods, manufacturability and serviceability considerations and product warranties. (Antirequisite: 92-590-05.) (3 lecture hours a week.)

92-543. Product Design and Development
This course covers the process of new product creation including topics selected from: the product development team; the product development cycle; conceptual development; models including technology push products; platform products; process-intensive products and customized products; needs analysis - identifying the customer and their needs; establishing product specifications; concept generation; concept selection; product architecture; industrial design and ergonomics; prototyping; economics of the development process and project management. (Antirequisite: 92-590-06.) (3 lecture hours a week.)

92-544. Finite Element Methods for Crashworthiness and Impact Analysis
The topics include a brief history on the use of numerical tools in automotive/impact field, Explicit and Implicit time integration techniques, Shell and Solid finite element formulations for impact analyses - advantages and disadvantages, Zero Energy Modes (Hourglassing) and Hourglass control, Material modeling for large displacement problems, Finite element modeling for contact, Mesh Adaptivity, Arbitrary Lagrangian and Eulerian Meshes for large deformation problems, Use of implicit integration techniques for impact problems, Quasistatic simulations as well as the development of finite element models for impact analyses. (Antirequisite: 92-590-12.) (3 lecture hours a week.)

92-545. Automotive Control Systems
This course will address advanced control design techniques for automotive systems. The interdisciplinary goal of this course is to present the application of control system design to engine operation and vehicle mechanics as well as the approaches for parameter/model identification and estimation of automotive systems. For graduate students in electrical

engineering, this course will make it possible for them to access automotive models and to understand engine dynamics, both for the purposes of applying control design techniques. For graduate students in mechanical engineering, this course will provide a chance for them to learn how to apply advanced control design strategies to automotive systems. It is expected that, after taking this course, graduate students from both engineering fields will be able to address automotive control problems from interdisciplinary point of views and to complement expertise in their own areas. (Prerequisite: 92-412.) (Antirequisite: 92-590-22) (Cross-listed with 88-536.) (3 lecture hours a week.)

92-590. Directed Special Studies
A special course of studies with content and direction approved by the student's chief advisor. Although there may not be formal lectures, the course will carry the weight of three lecture hours.

92-593. Introduction to Finite Element Analysis
This course covers the fundamentals of the Finite Element Analysis (FEA) with emphasis on solid mechanics and stress analysis. The subject of finite elements is treated using variational principles such as the principle of virtual work and total potential energy. The course deals with a variety of structural components such as springs, axially loaded bars, beams under bending, two-dimensional/axially symmetric/three-dimensional continuum elements and their formulation is static and dynamic analysis. In addition to three hours of lecture, a two-hour computer lab is mandatory where the students use different commercial FEA software. (Antirequisite: 62-593) (3 lecture hours a week and 2 laboratory hours a week.)

92-595. Graduate Seminar
Presentations by graduate students, staff, and visiting scientists on current research topics. Graduate students are required to register and give a presentation in the semester prior to thesis defence. All graduate students are expected to attend each and every seminar and no less than 75% of all seminars. This course will be graded on a PASS/FAIL basis. (1 lecture hour a week.)

92-796. Major Paper

92-797. Thesis

92-798. Dissertation

MECHANICAL ENGINEERING (AUTOMOTIVE FIELD)

85-500. Special Topics in Automotive Engineering
Selected advanced topics in the field of automotive engineering.

85-511. Bluff Body Aerodynamics
Atmospheric boundary layers. Flow around bluff bodies, separation and wakes. Lift and drag, pressure and force coefficients. Streamlined bodies, bluff bodies. Flow over flat plates and walls, rectangular prismatic shapes, circular cylinders. Fluctuating forces and pressures on bluff bodies. Wind tunnel testing, similarity requirements, wind tunnel techniques. Vehicle aerodynamics, drag and lift of passenger cars, cross wind stability, wind tunnel and road testing. Architectural aerodynamics, design wind speed, flow in and around building, wind-induced response of low-rise buildings, tall buildings, and large roof and sports stadium. Aerodynamics of Wind Turbines. (Pre-requisite: Undergraduate level Engineering Mechanics, Fluid Mechanics.)

85-529. Automotive Paint and Industrial Coatings
This course covers: functionality and application methods of automotive coating layers, concepts in polymer chemistry and suspensions, automotive coatings formulation, application of coatings by dip and spray processes, curing of coatings after application, appearance measurement and durability testing. Concepts of adhesion, corrosion resistance and surface pretreatment will also be covered. Powder coating and coating plastics. Each student will complete a literature review of a topic in coatings. (Anti-requisite: 93-590 Pollution Prevention in Manufacturing.)

85-591. Engineering 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. (Anti-requisites: 75-491.)

Spring 2012 Graduate Calendar

ENGLISH: COURSES

All graduate courses are seminars. Enrolment is limited in these courses, because considerable contribution is expected from each member of the seminar. For such courses, the corresponding undergraduate survey course, or an acceptable equivalent, is ordinarily a prerequisite. This condition may be waived only by agreement of both the program coordinator and the professor offering the seminar. The specific topics of individual courses may vary, depending upon the interests and needs of professors and students. It is thus impossible to list in detail the many topics that may from time to time be offered. The schedule below lists only the major periods or forms of literature in which special topics courses may be available.

Special topics courses having the same course number may be taken more than once providing the course content is different and with the permission of both the program coordinator and the professor offering the course. More than one seminar or course numbered in sequence in any of the listed areas may be offered in a given term.

In the Fall term each year, the Department of English publishes a Graduate Handbook giving complete information as to specific topics of the courses to be offered in the upcoming academic year, with texts, reading assignments, and other details about requirements of the course, wherever possible. Students are welcome to write to or call the office for a copy of this handbook.

Not all of the following areas will necessarily be represented by course offerings in any one year.

26-500. Scholarship and the Profession

26-501. Tutorials

26-505. The English Language and Linguistics

26-510. Literature of the Old English Period

26-515. Literature of the Middle English Period

26-520. Literature of the Renaissance

26-525. Renaissance Drama

26-530. Literature of the Restoration Period

26-535. Literature of the Eighteenth Century

26-540. Literature of the Romantic Period

26-545. Literature of the Victorian Period

26-550. Literature of the Twentieth Century

26-555. Literature of the United States

26-560. Literature of Canada

26-565. Post-Colonial Literature

26-570. Literary Genres: Poetry

26-575. Literary Genres: Drama

26-580. Literary Genres: Fiction

26-585. Literary Genres: Criticism/Cultural Studies

26-591. Creative Writing Seminar A
The Creative Writing Seminar A is the capstone in Windsor's English program in Creative Writing. Its aim is to assist you, who have been chosen to participate in it as highly talented serious students, to become writers of distinction. The seminar will be run primarily as a workshop, where we read and discuss work-in-progress. There will also be occasional assigned reading and writing exercises, and guest speakers, for your challenge and inspiration.

26-592. Creative Writing Seminar B
The Creative Writing Seminar B is a continuation of Seminar A as the capstone in Windsor's English program in Creative Writing. (Pre-requisite: 26-591 or portfolio approval).

26-596. Composition Pedagogy: Theory and Practice
(Required for Graduate Assistants assigned to teach 26-100.)

26-794. Creative Writing Project

26-797. Thesis/Project

Spring 2012 Graduate Calendar

GREAT LAKES INSTITUTE FOR ENVIRONMENTAL RESEARCH (GLIER)

ENVIRONMENTAL SCIENCE: COURSES

68-550. GLIER Multidisciplinary Graduate Seminar
This course will be team-taught by core GLIER faculty who will be responsible for organizing seminar modules in their area of research expertise. Modules will include external speakers and encompass lectures and discussions utilizing a multidisciplinary approach to environmental research, and its role in developing ecosystem-based management decisions that affect large lakes and their watersheds. Students are expected to participate in discussions, prepare and deliver critiques of seminars, and present a seminar. (Required of all GLIER graduate students.) (2 hours per week for 2 semesters.) (6.0 credit course.)

68-570. Environmental Research Proposal
A course aimed at developing proposal and grant writing skills for the academic environment. Students will prepare an original research proposal based on their research topic and defend it publicly. Students will engage in grant writing exercises, developing skills typical of those required by major funding agencies. Effective oral presentation skills will be developed. (Required of all M.Sc. students.) (2 hours per week.) 3.0 credit course.)

68-680. Multiple Stressors and Environmental Modelling
A course aimed at developing an understanding of the nature of interactive, multiple stressors on large watersheds and lakes. Stressors considered will include chemical contaminants, nutrient enrichment, species invasions, climate change, population harvesting and land use changes. Students will model and gain appreciation for how single and interactive stressors affect large lakes and their watersheds, and how confounding issues can be isolated and explored. Students are expected to prepare and participate in critiques of the published literature, and contribute an original essay that explores these issues. (Required of all GLIER Ph.D. students.) (2 hours per week.) (3.0 credit course.).

68-797. Thesis

68-798. Dissertation

Spring 2012 Graduate Calendar

FACULTY OF GRADUATE STUDIES: GENERAL COURSES

The Theory and Practice of University Teaching
This is an introductory course designed for graduate students to enable participants to perform more effectively as university teachers, as seminar leaders, as in-service trainers, and as public speakers. Empirical principles of learning and teaching will be introduced that are appropriate to the university classroom. Educational research will guide the approach taken in the course and will be used as the theoretical basis for course content. This course is a non-credit course and, upon successful completion, will appear on the student's transcript.

The following course will be open to students in various disciplines.
01-500. Current Issues in Argumentation Theory
This course will introduce students to the current leading theories and theoretical controversies in argumentation theory. It will do so from a variety of perspectives, including the logical, the dialectical and the rhetorical. It will cover such topics as rhetorical vs. epistemic uses of argument, the use of ideal models in argumentation analysis, the current state of fallacy theory, relations of argumentation theory to other fields, such as law, computer science, philosophy. Prerequisites: This graduate course requires that the student have completed an undergraduate degree. Normally, the student will have completed at least two undergraduate courses in such areas as logic (formal or informal), critical thinking, argumentation, theory of argument, rhetoric, or dialectic. (Prerequisites: permission of instructor.)

The following course is offered through the Humanities Research Group and the Office of the Dean of the Faculty of Graduate Studies.
09-599. Interdisciplinary Master's Seminar
This course will offer graduate students in English, History, Philosophy, Political Science, Psychology, Sociology, Visual Arts, and any other graduate program with a humanities component, the opportunity, in the course of their intensive, discipline-oriented training, to benefit from an interdisciplinary experience. Topics will vary from year to year (Offered over two terms.)

Spring 2012 Graduate Calendar

HISTORY: COURSES

All of the following courses will not necessarily be offered in any one year.

43-503. Modes of Historical Interpretation
This course introduces students to a variety of methods and theories currently used to advance historical explanation. Particular attention will be paid to the role of narrative, the place of the social sciences, and the complexities of race, gender, ethnicity, and class in historical writing. Readings will also address the problem of synthesis, post-modernism and the relationship between history and public policy. This course also stresses the development of skills in critical reading and analytical writing.

43-504. Research Methods
This course introduces students to the range of methods and approaches to historical research, and to the problems associated with interpreting various kinds of sources. Students will identify and establish a research problem, in which they define the questions to be posed, and begin to move from broad to narrow approaches to their topic. They will discover and evaluate accessible sources of evidence, and at the same time develop an appropriate methodological and interpretive framework for a specific research project.

43-506. Studies in the History of Sexuality
This course will provide a thematic approach to the foundations of Western attitudes towards sexuality, especially as they developed in premodern Europe. The complex interweaving of ancient ideas, medicine, Christian law and theology, and popular practices and beliefs will be explored. This course is problem oriented and will explore some of the theoretical issues pertaining to the historical study of human sexuality.

43-507. Studies in the History of Women and Gender
This course examines the historiography and theory of these two interrelated fields since 1970. It explores the themes and approaches in early studies of women's organizations, labour, and sexuality; the later growth of attention to differences of culture and power among women; and the more recent emergence of poststructuralism and the study of the interrelation of gender, class, and race. Readings will range across time periods and national boundaries but with an emphasis on the U.S. literature.

43-508. Studies in the History of the Book and the Culture of the Written Word
This course will provide an introduction to the historical problems encountered and interpretive possibilities revealed when books (both artefacts and texts) become the focus of inquiry. Ranging broadly through a variety of disciplinary approaches to manuscript and print cultures on both sides of the Atlantic, we will consider such questions as the complex uses of literacy, and the extent to which technological transformations such as the printing press or the computer have determined literary and cultural change. Studies of the book trades (printing, bookselling, journalism, publishing of all kinds) will be used to illuminate changes in religious, scientific, scholarly, literary and other aspects of the cultures (from medieval to postmodern) in which they flourish.

43-509. Studies in Canadian Social History
The course discusses approaches, methods, and debates in the writing of social history in English Canada since 1970. Topics discussed include historiographical debates over the writing of a "national" history, the writing of labour and working class history, women's history, ethnic and immigration history, the history of sexuality, regional history, and family history. How the categories of class, gender, race, ethnicity and sexuality have been incorporated into the writing of Canadian social history is a focus of consideration.

43-510. Studies in Postcolonial History
This course evaluates important works of history and theory written from a postcolonial perspective. It focuses on novel approaches to studying people whose modern experience began as subordinate subjects of the West's colonizing projects. The course will also consider the influence of postcolonial scholarship on contemporary historiography in general. (2 lecture hours a week.)

43-511. Modernity
This course addresses themes in the history of modernity, the lived experience of the capitalist, scientific and technological revolutions over the last three hundred years. Focusing primarily on the years from 1800-1950s, this course will begin with literature on the contemporary ideas of “being modern” in North America and Europe and the critiques of modernity by social theorists such as Marx, Gramsci and Weber. It will then turn to the historical literature on modernity, ideas of the modern and their impact on areas such as politics, the state, the workplace, economic development, education, colonial relationships, the environment.

43-597. Selected Topics in History

43-598. Selected Topics in History

43-796. Major Paper
A sophisticated scholarly essay, normally amounting to some 40-60 pages, incorporating research on primary sources (in most cases), and written under the supervision of two members of the graduate faculty, a supervisor and a second reader. There will be a public oral examination. Students are advised that they may be required to have proficiency in a language other than English in order to do their research.

Spring 2012 Graduate Calendar

KINESIOLOGY: COURSES

All courses listed will not necessarily be offered in any given term. All courses are three hours a week unless otherwise noted.

95-500. Sport Leadership
A survey course using the current research and literature relating to leadership in administrative environments. Several leadership theories will be reviewed and analyzed. Various models of leadership will be discussed relative to the sport administration environments.

95-501. Legal and Human Rights Issues in Sport Management
An analysis of the research and professional practice related to the role of legislation and litigation as they relate to sport and physical activity programs and services and participation. Specific emphasis will be placed on the issue of human rights, covering topics including legislation and case study analyses from the sport management domain.

95-502. Organizational Behaviour in Sport Organizations
An analysis of the interdependent nature of the social/psychological components of organizational behaviour. Special reference will be made to individual and group behaviour in terms of the organizational effectiveness of sport organizations.

95-503. Sport Marketing
An analysis of the research and literature related to the marketing of sport and physical activity programs and services. Specific emphasis will be placed on the review and application of sport marketing research, an overview and application of the related marketing terms and the development of a marketing plan for a sport organization.

95-504. Advanced Topics in the Psychology of Sport & Exercise
An analysis of the research and literature related to the psychological phenomena influencing the participants in the sport and exercise situation. Topics include specific sport/exercise intervention techniques, measurement issues and social psychological aspects of sport and exercise.

95-505. Social Issues in Sport Management
Sport managers operate within a social world. This course examines current social issues and their implications for sport managers. Issues include the impact of various institutions on sport management (e.g., sport, government, economics, media, education), as well as the relationship between sport management and various power relations in society (e.g. race, gender, class, age, and physical ability).

95-506. Crises, Politics and Commercialism in the Modern Olympic Movement
This course focuses on two dimensions: (1) the study of three persistent problems and issues surrounding the history of the Modern Olympic Movement (crises, politics, commercialism), and (2) individual independent research on a course-related topic for which the greater amount of evidence exists in primary documents housed in various regional archives.

95-507. Quantitative Analysis in Kinesiology
The course introduces students to some of the most commonly employed statistical techniques in kinesiology. The content requires a basic background of elementary statistics and mathematical principles. Through classroom discussions, hands-on computer exercises and assignments, students are expected to develop essential understanding of quantitative data analysis techniques and provide interpretations and draw conclusions based on statistical findings drawn from those analyses. (Pre-requisite: Kinesiology Master's Student)

95-508.- Strategic Management in the Sport Industry
This course integrates and applies academic work studied throughout the graduate Sport Management curriculum. More specifically, it is concerned with the work of the general manager who is responsible for the overall success of the organization. Emphasis will be placed on developing skills for diagnosing and critically analysing complex problems occurring at the organizational level, as well as proposing and implementing realistic solutions to such problems within sport organizations.

95-510. Special Problems
Independent study conducted under the advisement of a graduate faculty member. This course cannot be used as a review of literature for thesis. (Prerequisite: consent of program committee.)

95-511 Group Dynamics in Sport and Exercise
The course examines the psychological factors influencing sport and exercise behaviours from a group dynamics perspective. Emphasis is placed on understanding the theoretical constructs and empirical research underlying an individual's involvement in group settings and familiarizing the student with salient group measurement issues. Topics include the impact of cohesion, group leadership, collective efficacy, and group norms in the context of sport and exercise.

95-522. Instrumentation and Modeling in Kinesiology
This course will be designed to expose students to methods and instruments used to collect and process data in Kinesiology research. In addition, the course will expose students to examples of modelling approaches used to represent the nervous system, muscle force generation, musculoskeletal structure and the cardiopulmonary system.

95-523. Applied Biomechanics of Human Performance

This seminar/lecture course will focus on the application of biomechanics concepts and measurement techniques in the study of human performance. Specific topics will reflect the interests of students and may include areas such as sports, locomotion, activities of daily living, and equipment testing and design.

95-524. Biomechanics in the Work Place
This seminar/lecture course will focus on applications of human performance biomechanics in the work place. Special emphasis will be placed on theoretical and practical methods of assessing work place efficiency and effectiveness while considering the comfort and safety of the worker.

95-525. Motor Skill Acquisition
This seminar/lecture course will examine the learning processes involved in skill acquisition by novice and experienced learners in a variety of contexts. In lab/field settings students will carry out task analysis and acquire movement observation/analysis skills.

95-526. Motor Control of Human Performance
This seminar/lecture course will examine the perceptual, cognitive, and neurophysiological aspects of human motor control. Different theoretical and methodological approaches will be examined and applied to the understanding of functional movements in the home, workplace, and sporting environment. Changes in the control of movement in special populations will also be examined.

95-527. Physiological Responses to Human Movement Demands
This seminar/lecture course will examine the acute response and chronic adaptive nature of selected physiological systems directly related to human movement. Specific topics will reflect the interests of students and may include areas such as temperature regulation and fatigue as well as current topics of interest in human movement.

95-528. Neuromuscular Physiology
This seminar/lecture course will examine fundamental concepts of the neuromuscular system as they relate to movement, exercise and sport. Special emphasis is placed on physiologocal adaptations of the neuromuscular system as a result of acute (exercise, fatigue, training) and chronic (age, disease) perturbations.

95-562. Research Methods
A review and appraisal of qualitative and quantitative research methods with special reference to design, data collection, analysis and generalization.

95-590. External Graduate Course
(Must be a course approved by the Faculty of Graduate Studies and Research).

95-595. Selected Topics
Topics developed by individual faculty members, based on new developments in a particular area of study. (Subject to Kinesiology Council approval.)

95-795. Internship
(See Graduate Internship Handbook.)

95-797. Thesis

Spring 2012 Graduate Calendar

MASTER OF SOCIAL WORK AND JURIS DOCTOR (MSW/JD) - COURSES

98-930. Law and Social Work: Advanced Practice Research Methods and Policy Analysis
This course prepares students to use the practitioner-researcher model in the analysis of social policy, as it relates to law, in Canada. This model includes problem formation, qualitative and quantitative research design, data analysis and interpretation, and the dissemination of findings. Students will learn to apply specific analytic frameworks and theories, drawn from law and social work, to issues of Canadian social policy. In addition, students will learn essential elements of program evaluation including needs assessment, program logic models, implementation and process evaluations, and impact evaluations. Particular attention will be given to the implications of social policy for vulnerable and oppressed populations. Credit Weight 4.0. (Crosslisted with Social Work 47-625).

98-931. Advanced Seminar in the Theory and Practice of Social Work and the Law
This seminar focuses on the intersection of law and social work in theory and practice. It will prepare students to think critically about the interrelationship between law and social work, both as disciplines and professions, and to identify and analyze theoretical and substantive areas of compatibility and tension. The challenges of interdisciplinary practice will be considered, with a particular emphasis on ethical norms and the advancement of social justice. (Open to MSW/JD students only, or with the permission of both program areas.)

Spring 2012 Graduate Calendar

MATHEMATICS AND STATISTICS: COURSES

All courses listed will not necessarily be offered in any given year.

MATHEMATICS

62-510. Functions of a Real Variable I
Lebesgue measure, abstract measure, integration, monotone and dominated convergence theorems, Radon-Nikodym theorem, Hahn decomposition theorem, Fubini's theorem, Lp spaces.

62-511. Functions of a Real Variable II
Metric spaces, topological spaces, compactness, Stone-Weierstrass and Ascoli theorems, Baire category theorem, classical Banach spaces.

62-512. Functional Analysis I
Normed linear spaces and examples, Hahn-Banach theorem, open mapping theorem, principle of uniform boundedness, weak and weak* topologies on Banach spaces, Hilbert spaces and bounded linear operators on Hilbert spaces.

62-513. Functional Analysis II
Banach algebras and spectral theory, operator theory, C*-algebras and their representations, elementary von Neumann algebra theory.

62-520. Abstract Algebra
Elements of group theory are explored including such topics as: the Sylow Theorems, classification of groups of low order, Jordan-Holder Theorem, solvable groups, nilpotent groups, groups in terms of generators and relation, representations of groups, basic operations on representations, orthogonality relations

62-521. Ring Theory and Modules
This course is designed to introduce students to the structure theory of general rings and their modules. It will provide an appropriate foundation for more advanced graduate material in algebra at the doctoral level and will be an excellent preparation for doctoral comprehensive examinations. Topics covered will include: semisimple rings, Wedderburn-Artin Theorem, modules over a principal ideal domain, projective, injective and flat modules, introduction to homology theory.

62-523. Lie Algebras
Engel's Theorem, Lie's Theorem, criterion for semi simplicity, root space decomposition, universal enveloping algebra, PBW basis, representation theory, finite dimensional modules, Harish-Chandra's Theorem.

62-525. Matrix Algebra and Analysis
Aspects of measure theory and probability, convergence theorems for integrations and expectations, moments and inequalities, construction of Lebesgue-Stieltjes measure, Riemann-Stieltjes integral, comparison of Riemann and Lebesgue integrals, introduction to complex variable, contour integration, characteristics functions, elementary theorems on linear and matrix algebra, generalized and conditional inverses, distributions of quadratic forms. This course is designed for graduate students in Statistics.

62-530. General Topology
Elementary concepts of topology, product and quotient spaces, continuity and homeomorphisms, nets and filters, separation and countability, compactness, connectedness.

62-551. Advanced Linear Programming
By presenting results and their proofs, the student will acquire a solid understanding of the theory, algorithms and applications of linear programming. This course is a prerequisite for more advanced courses on integer programming, combinatorial optimization and networks flows. Topics emphasized include: formulations of linear programming problems, convex sets and convex functions, separation theorem, Farkas' lemma, duality theory, economic interpretation of duality, optimality conditions, primal and dual simplex algorithms, cycling, sensitivity analysis, interior-point methods and central path, primal-dual methods, convergence results.

62-552. Nonlinear Programming
This course will provide an introduction to the field of nonlinear programming. By presenting results and their proofs, the student will acquire a solid understanding of the theory behind most algorithms for solving nonlinear optimization problems. He/she will also acquire the knowledge and skills needed to conduct research in this area. Topics covered will include: unconstrained optimization, necessary and sufficient conditions for optimality, convex sets and convex functions, steepest descent method, Newton's method, conjugate gradient methods, quasi-Newton's methods, separation theorem and Farkas' lemma, Karush-Kuhn-Tucker conditions, constraint qualification conditions, duality theory, Barrier methods, and quadratic programming.

62-553. Integer Programming
This course will provide the student with a rigorous introduction to the field of integer programming. Topics covered will include: modelling with integer variables, elements of computational complexity theory, elements of polyhedral theory, total unimodularity, branch and bound methods, cutting plane methods, implicit enumeration, Bender decomposition, dynamic programming, lagrangian relaxation, knapsack problems, set covering/packing/partitioning problems, heuristic methods.

62-554 Combinatorial Optimization
This course will provide a rigorous introduction to combinatorial optimization. The student will develop a solid understanding of the theory, algorithms and applications of these problems and their connections to integer programming, linear programming and complexity theory. Topics will include: formulation of combinatorial optimization problems, polytopes and polyhedra, elements of computational complexity theory, shortest paths, bipartite and non-bipartite matchings, max-flow min-cut theorem, multi-commodity flow problems, clique and coloring problems, perfect graphs, traveling salesman problem, spanning trees, matroids.

62-561. Partial Differential Equations
First-order equations, classification of second-order equations, canonical forms and general solutions of second-order equations, diffusion equations, Laplace equations, the maximum principle and uniqueness for the Dirichlet problem, wave equations, Riemann's method for linear hyperbolic equation, Green's functions and transform methods.

62-568. Numerical Analysis I
General error analysis, direct solution of linear algebraic equations, iterative solution of linear equations, algebraic eigenvalue problems, numerical solution of a system of nonlinear equations, error analysis.

62-569. Numerical Analysis II
Interpolation and approximation, numerical integration and differentiation, finite differences. Numerical solution of ordinary and partial differential equations using finite differences.

62-598. Special Topics

62-795. Seminar
Presentations from graduate students, faculty and visiting researchers on various research topics of mathematics and statistics. All graduate students are expected to attend each and every seminar; however students must attend no fewer than 75 percent of all seminars. Students must register in this course in each term of full-time registration in the M.Sc program. This course will be graded on a PASS/FAIL basis.

62-796. Major Paper

62-797. Thesis (M.Sc.)

STATISTICS

65-540. Theory of Probability
Basic probability model, random variables and their distributions, expectation, convergence of random variables and their distributions, independence and conditional dependence. Zero-one laws, characteristic functions, generating functions, Law of large numbers, Central Limit Theorem.

65-541. Stochastic Processes
Discrete and continuous time Markov processes, renewal theory, branching processes, Brownian motion.

65-542. Advanced Mathematical Statistics
A review of probability theory, transformations and expectations, common families of distributions, inequalities and identities, properties of a random sample, data reduction and best estimation strategies, asymptotic approximation.

65-543. Statistical Inference
Measure of performance, pure significance test and formal hypothesis testing, interval estimation, asymptotic evaluations, analysis of variance and regression, analysis of categorical data.

65-544. Multivariate Analysis
This course is aimed at giving theoretical and methodological background on inference procedure for the analysis of multivariate continuous data mainly under the assumption of normaility.

65-546. Statistical Data Analysis
This course takes a computer-oriented approach to equip students with the experience of data analysis, beginning with designing of experiment to presentation of results. Depending on the background of the students, different topics will be emphasized.

65-548. Non-parametric Statistics
Nonparametric tests including Wilcoxon, Mann-Whitney, Smirnov, Fisher's exact test, Cox and Stuart test for trend, runs test. Estimation. Theory and applications.

65-549. Discrete Multivariate Analysis
This course is aimed at giving theoretical and methodological background for the analysis of discrete data mainly in the form of contingency tables. Other discrete models as part of the generalized linear models may be covered.

65-550. Generalized Linear Models
This course is aimed at giving theoretical and methodological background for the analysis of discrete or continuous data using the generalized linear models and other semi-parametric models where full distributional assumptions cannot be justified.

65-552. Experimental Design
Factorial designs with and without interactions, randomized block, Latin square, balanced incomplete block, nested design, confounding factorial and other designs. Fixed, random and mixed models.

65-554. Theory of Sampling and Surveys
Sampling methods including simple random, stratified, cluster, PPS and multistage, ratio and regression estimates. Theory and applications.

65-555. Regression Analysis
Simple and multiple linear regression, inference on regression parameters, residual analysis, stepwise regression, polynomial regression, diagnostics and remedial measures for multicollinearity and influential observations, weighted least squares, logistic regression, nonlinear regression.

65-557. Large Sample Theory
This course will present the basic large sample theory with a minimum coating of abstraction and at a level with the usual program in statistics and applied statistics. The main objective is to present the essentials of large sample theory of statistics with a view toward its application to a variety of problems that generally crop up in other areas. Topics to be covered will include: mathematical background, stochastic convergence, weak convergence and central limit theorems, asymptotic behaviour of estimators and test statistic, multivariate extensions, bootstrapping.

65-558 Sequential Analysis
This course will equip graduate students in Statistics and Biological Sciences with a firm knowledge of the increasingly important sequential analysis methodology. Both theoretical and practical aspects of the sequential analysis applied to medical clinical trials and to biological studies will be covered in this course. Methodologies for designing and analyzing sequential clinical trials using both fully and group sequential methods: permuted block design, sequential biased coin design, Wald's SPRT procedures, O'Brien-Fleming and Pocock group sequential procedures, alpha- and beta-spending function approach, Whitehead's triangular tests, and post-trail estimation methods. Software such as SAS and Splus will be used for analyzing real and simulated trials.

65-559. Topics in Statistics
Topics offered may include queueing theory, statistical quality control, statistical consulting, survival analysis, time series analysis, decision theory, and Bayesian analysis.

65-795. Seminar
Presentations from graduate students, faculty and visiting researchers on various research topics of mathematics and statistics. All graduate students are expected to attend each and every seminar; however students must attend no fewer than 75 percent of all seminars. Students must register in this course in each term of full-time registration in the MSc/PhD programs. This course will be graded on a PASS/FAIL basis.

65-796. Major Paper

65-797. Thesis (MSc.)

65-798. Dissertation (PhD.)

Spring 2012 Graduate Calendar

NURSING: COURSES

Not all of the courses listed below will necessarily be offered in any one year.

63-550. Pathophysiology for Nurse Practitioners
Examine theoretical and practice related concepts in pathophysiology as a basis for advanced nursing practice. Explore alterations in physiological function with an emphasis on age-related, acute, episodic, and chronic conditions found in primary health care practice. (Prerequisite or co-requisite: 63-581.) (3 hours per week.)

63-552. Primary Health Care Nurse Practitioner Roles and Responsibilities
Compare and contrast advanced practice nursing and related frameworks to develop, integrate, sustain, and evaluate the role of the nurse practitioner within primary health care. Critically analyze and develop strategies to implement advanced practice nursing competencies (research, leadership, collaboration, and health and social policy). (Prerequisites or co-requisites: 63-581and 63-583.) (3 hours per week.)

63-554. Evidence-Based Practice (EBP) for Advanced Practice Nursing (APN)
This course provides students with the knowledge and skills required to identify and use best evidence in advanced practice roles. The course focuses on developing a relevant evidence-based practice question, and searching appropriate evidence resources. Frameworks for the critical appraisal of quantitative and qualitative studies will be critiqued. Issues related to influencing practice and health outcomes through evidence, at the level of the individual practitioner and the health care organization, are addressed.This course will explore paradigms and theories that inform knowledge development and knowledge transfer. The foci of the course are the exploration, critical analysis, and application of concepts. Challenges and strategies related to addressing complex health care system issues through evidence, at the level of the individual practitioner and the health care organization, are addressed. (Prerequisites: 63-581 and 63-583.)

63-556. Research Utilization Project: Evidence Based Decision Making in Health Care: Integrating Knowledge into Advanced Practice
This course provides students with the knowledge and skills required to identify and use best evidence in advanced practice roles. The course focuses on developing a relevant evidence based practice question, and searching appropriate evidence resources. Frameworks for the critical appraisal of quantitative and qualitative studies will be critiqued. Learning is facilitated through seminars, and workshops to address a question emerging from their own practice. Issues related to influencing practice, and health outcomes through evidence, at the level of the individual practitioner and the health care organization are addressed. (Prerequisite: COUPN Primary Health Care Nurse Practitioner Certificate)

63-557. Advanced Health Assessment and Diagnosis I
Differentiate concepts and frameworks essential to advanced health assessment, clinical reasoning, and diagnosis in advanced nursing practice. Apply clinical, theoretical, and scientific knowledge in comprehensive and focused health assessment, including history taking, physical examination, diagnostic reasoning, and interpretation for the individual client's diagnostic plan of care. (Prerequisites or co-requisites: 63-550 and 63-581.) (3 hours seminar per week; 6 hours clinical per week.)

63-558. Advanced Health Assessment and Diagnosis II
Integrate conceptual frameworks integral to advanced health assessment, clinical reasoning, and diagnosis in advanced nursing practice. Demonstrate substantive initiative, responsibility, and accountability in complex decision making for individual clients, groups, and/or communities within the nurse practitioner scope of practice. (Prerequisites or co-requisites: 63-557 and 63-581.) (3 hours seminar per week; 6 hours clinical per week.)

63-561. Therapeutics in Primary Health Care I
Critically appraise and interpret concepts and frameworks integral to pharmacotherapy, advanced counseling, and complementary therapies for common conditions across the lifespan. Develop, initiate, manage, and evaluate therapeutic plans of care that incorporate client values and acceptability, goals of therapy, analysis of different approaches, pharmacotherapeutic principles. (Prerequisites or co-requisites: 63-557, 63-581 and 63-583.) (3 hours seminar per week; 6 hours clinical per week.)

63-562. Therapeutics in Primary Health Care II
Integrate conceptual frameworks and evidence underlying the study of pharmacotherapy, advanced counseling, and complementary therapies for complex client situations. Demonstrate substantive initiative, responsibility, and accountability in complex decision making. (Prerequisites or co-requisites: 63-558, 63-561, 63-581, 63-582 and 63-583.) (3 hours seminar per week; 6 hours clinical per week.)

63-570. Counselling Process in Nursing
Development and refinement of counselling skills with an emphasis on human relationships and nursing strategies that facilitate health. Experiential learning will be implemented to bring a balance between counselling theory/research and applied counselling knowledge.

63-572. Women and Health
An analysis of health issues of Canadian women from a holistic woman-centered perspective to include geographical, sociocultural and political variables that impact women's health.

63-574. Organizational and Management Theories Relevant to Health Care Organizations

Theories and concepts relating to health care organizations will be studied. The impact of internal and external forces on health care delivery systems will be studied.

63-576. Management of Human Resources in Nursing
A study of concepts, theories, and practices that will assist nurse leaders to develop effective approaches to human resource management in nursing education and service settings.

63-578. Seminar in Current Nursing Issues
An historical and futuristic examination of the critical issues facing the nursing profession and discipline. Considering the practice orientation of nursing, students will explore issues related to education, practice, discipline, and professionalism.

63-580. Selected Readings in Nursing
Intended for students with a special interest in and knowledge of a specialty area in nursing. To explore theory and research related to human responses and adaptations to alterations in health, or health promotion and illness prevention with selected client populations. (To be taken only with permission of the School.)

63-581. Theoretical Foundations of Nursing
The focus of this course is theory exploration in nursing. Beginning with the theoretical evolution of the discipline of nursing, students progress to issues related to development of theory in a practice discipline. Analysis, evaluation, and comparison are made of selected nursing conceptual models/theories and their major concepts. The contributions of the conceptual models to practice and research are investigated.

63-582. Advanced Statistics
An advanced course with a focus on multi-variate analysis. Topics include ANOVA, MANOVA, regression analyses, critique of statistical analyses of research articles, and computer data analysis.

63-583. Research Methods in Nursing
Students will examine diverse approaches to scientific inquiry in nursing. Within selected research paradigms, students will explore design, process, and evaluation techniques. Models for research analysis will be explored. Opportunities will be provided for students to develop a research proposal to gain solutions to nursing problems.

63-584. Human Responses and Adaptation to Alterations in Health I
With emphasis on nursing assessment, patterns of coping in life situations involving alterations in health will be explored. Theories, concepts, and research related to normative and situational stressors for the individual and family in interaction with the environment will be studied in relation to healthy coping.

63-586. Human Responses and Adaptation to Alterations in Health II
Emphasis on planning, intervening, and evaluating nursing care strategies for promotion of adaptation/coping for individuals, families, groups, and communities. Needs related to age and special populations will be examined in cultural context. Students will analyze social structure features, for example, politics, economics, values which influence resources for healthy coping and adaptation.

63-588. Health Promotion and Illness Prevention Through the Life Cycle I
Students will examine theories and research related to processes which result in both positive and negative changes in health and well-being for individuals within the context of families and communities. Interactional patterns of nurses and clients in promoting clients' right to health will be explored. The role of the nurse as client advocate will be emphasized.

63-589. Summer Institute of Clinical Health Research
This intensive one-week Summer Institute will provide participants (i.e. graduate students, clinicians, and academics from various health related fields) with 35 hours of in-depth exploration and discussion of the principles and applications of clinical health research. Participants will be engaged by a team of experts in discussions pertaining to the understanding and applications of topics such as qualitative research and evidence based practice, the use of mixed methods in clinical health research, epidemiologic research designs, clinical trials, and statistical modeling techniques in clinical health research. Other topics will include successful grant writing, running a successful research program, and ethical issues in clinical health research.(Pre-requisites: Basic Research and biostatistics course(s); Permission of instructor)

63-590. Health Promotion and Illness Prevention Through the Life Cycle II
Health promotion and illness prevention for complex populations will be analyzed, with an emphasis on strategies for nursing intervention to facilitate positive health outcomes. Health issues related to gender, life-cycle, and culture will be included, with examination of related theory and research.

63-592. Health of Individuals, Families and Groups
The focus of this course is excellence in health care delivery for individuals, families, and groups across the lifespan. Students will critically appraise conceptual frameworks and the empirical research underlying health promotion, health adaptation and risk reduction for individuals, families, and groups. Students will be prepared to influence client care and participate in research, education and policy activities related to advanced practice nursing and health care for diverse populations

63-594. Community and Population Health
This course will examine the conceptual frameworks and empirical research underlying health promotion, health adaptation and risk reduction for communities and populations. The course engages the student in using advanced problem-solving , critical thought, and research to develop a comprehensive understanding of the determinants of the health of populations and their complex interaction. Students will have the opportunity to appraise the relationships among the determinants of health, decision making, policy, and legislation at local, provincial, national and international levels.

63-595. Integrative Practicum in Primary Health Care
Synthesize competencies essential to advanced practice nursing to provide primary health care for clients across the life span. Demonstrate autonomy in decision-making, and critical analysis of organizational and system issues that influence scope of practice, professional accountability, and outcomes. (Prerequisites: All PHCNP courses; 63-581, 63-582 and 63-583.) (3 hours seminar per week; 32 hours clinical per week.)

63-596. Theoretical Foundations of Leadership
This course will focus on the examination and critical appraisal of concepts and theories of leadership, research, management, and education within the context of nursing and dynamic health care systems. Emphasis will be placed on organizational and change theories, professional practice, decision making and governance models, power and social justice concepts. Strategies for knowledge transmission and information system development will be appraised.

63-597. Innovations in Nursing Leadership
This course focuses on the application of leadership and organizational theories and research that support excellence and innovation in professional nursing practice, education, and workplace environments. Emphasis will be placed on the planning, implementation, and evaluation of health systems, and human resource management. Students will examine issues pertaining to operations management, including finance, quality and risk management, information systems development and policy development. Students will be prepared to formulate innovative strategies to influence current policy and legislation that impact nursing practice, education, health care systems, and the health of Canadians.

63-598. Clinical Project in Nursing Practice
Students will select an area of clinical interest and will develop skills in the application of nursing theories, evaluation and research. Using their expanded theoretical base and appropriate interventions, students will develop a comprehensive project that will benefit individual clients, families, groups, populations and/or communities, which will be implemented in China. (Open only to students in the MN (International Cohort.)

63-599. Clinical Judgment in Nursing Practice
Students will select an area of clinical interest and apply theories and research in a practice setting. Using their expanded theoretical base, students will conduct comprehensive assessments of clients (individuals, families, groups, populations and/or communities) and will implement appropriate intervention strategies and evaluation protocols. Students will validate their conceptual model of nursing care.

63-796. Non-Thesis Option
An expansion and extension of course work in which students working with a faculty advisor will choose a major project/paper. Students must provide evidence of synthesis of previous course work relative to a selected health issue or area such as clinical practice, teaching or administration.

63-797. Thesis Option
Before writing the thesis, the student must meet with the Master's committee to obtain approval of the thesis investigation. Permission will only be granted when the student has shown sufficient preparation and competence to carry out the thesis proposal. Upon completion, each candidate will be required to make a satisfactory oral presentation and defense of the thesis.

Spring 2012 Graduate Calendar

PHILOSOPHY: COURSES

GROUP A

In a given academic year at least one course will be offered which will deal with a certain problem or set of problems of concern to contemporary philosophers in the following areas:

34-520. Topics in Ethics and Value Theory

34-521. Topics in Social and Political Philosophy

34-522. Topics in Environmental Philosophy
The course will focus on the conceptual foundations of the human relationship to the natural and built environment. The course may adopt either an historical or contemporary emphasis depending on the decision of the instructor. (May be repeated for credit if content changes and with permission of the instructor.)

34-530. Topics in Gender and Sexuality
The course will focus on the philosophical implications of the impact gender and sexuality have on major epistemological, scientific, normative, and political problems. The specific focus of each year's class will be determined by the instructor. (May be repeated for credit if content changes and with permission of the instructor.)

34-526. Legal Philosophy
The objective of this course is to introduce the student to contemporary issues concerning the philosophy of law. Particular emphasis will be placed upon the presupposed relation of concepts to society. The course will examine such issues as the difference and relation of legitimacy to legality, the relation of legal analysis to social needs, the relation of morality and ethicality to the content of legal rules and legal reasoning (Pre-requisite: Final Year of Honour's B.A or M.A. Philosophy students only.) (Cross-listed with 34-426)

34-550. Topics in Mind or Knowledge

34-552. Philosophy of Mind

34-560. Movements and Figures in Argumentation Theory and Informal Logic
The course will focus on selected contemporary movements and figures in Argumentation Theory and Informal Logic. The movement and figure studied in any given year will be determined by the latest developments in the field.

34-561. Problems in Argumentation and Informal Logic

34-565. to 34-569. Advanced Seminar: Selected Topics in Philosophy

34-570. Recent German Philosophy
(Cross-listed with 34-470.)

34-571. Recent French Philosophy
(Cross-listed with 34-471.)

34-572. Recent British Philosophy
(Cross-listed with 34-472.)

34-573. Recent American Philosophy
(Cross-listed with 34-473.)

GROUP B

In a given academic year there will be an intensive study of a philosopher or philosophical issue from one or more of the following periods:

34-577. Topics in Continental Philosophy

34-580. to 34-584. Special Topics

GROUP C

The following course must be taken by all M.A. students:

34-590. Departmental Seminar: The History of Philosophy in Perspective
The aim of the seminar is to deepen students' sensitivity to the history of philosophy and help prepare them for the Master's examination in Philosophy. Each year a specific philosophical theme is traced through a number of key figures in the history of thought.

GROUP D

34-796. Major Paper

34-797. Thesis

Note: Students may receive credit for more than one course offered in Groups A and B provided that the emphasis is sufficiently different. Thus, for example, credit may be received for both "34-570 Greek Philosophy: Plato" and "34-570 Greek Philosophy: Aristotle" where these are entirely distinct course offerings.

Spring 2012 Graduate Calendar

PHYSICS: COURSES

Not all of the courses listed below will necessarily be offered in any one year.

64-510. Seminar for M.Sc. Students
In order to receive credit for this course, a student should attend the weekly departmental seminar throughout M.Sc. studies and present a minimum of one seminar on a topic approved by the Seminar Coordinator.

64-520. Classical Electrodynamics
Radiation by moving charges, synchrotron radiation, bremsstrahlung, scattering of radiation, multipole fields, radiation reaction.

64-540. Theory of Particle Scattering
Classical theory of scattering. Formal quantum theory. The definitions of cross sections, transition probabilities and related concepts. The Born approximation, phase shifts.

64-542. Atomic and Molecular Processes I
Atomic/molecular beam methods and techniques. Collision phenomena in atomic and molecular scattering, including elastic, inelastic and reactive scattering, excitation, ionization, and charge exchange. Detailed discussion of the experimental results and their interpretation in terms of interatomic/ molecular forces and potentials.

64-543. Atomic and Molecular Processes II
A variety of topics in electron and photon collisions highlighting current advances in these fields and including total and differential elastic and inelastic scattering of electrons and positrons, resonances, polarization, coherence and correlation effects, post-collision interactions, photon-stimulation spectroscopy. (Prerequisite: 64-542.)

64-544. Theory of Atomic Structure and Atomic Spectra
Rotation matrices, 3n-j coefficients and graphical techniques for angular-momentum coupling, irreducible tensor operators, the Wigner-Eckart theorem and applications, the density matrix, interactions of atoms with external fields.

64-546. Molecular Spectroscopy
Diatomic molecules, Born-Oppenheimer approximation, adiabatic potentials, Hund's coupling cases, rotational, vibrational, and electronic states and associated spectra. Applications of group theory to the structure and spectra of polyatomic molecules.

64-550. Advanced Quantum Theory I
General principles, representations and transformation theory. Approximation methods. Many-body problems and identical particles.

64-551. Advanced Quantum Theory II
Number representations and second quantization. Dirac equation. An introduction into quantum electrodynamics and the electro-weak theory. (Prerequisite: 64-550.)

64-560. Solid State Physics I
Application of group theory to condensed matter physics: the study of point groups, Bravais lattices and space groups. Inverse lattice with applications to scattering phenomena.

64-563. Special Topics in Physics
Advanced topics in contemporary physics not normally covered in other courses. (May be repeated when the topic is different.) (Prerequisite: consent of instructor.)

64-574. General Theory of Relativity
The principle of equivalence, general co-variance. Riemann spacetime Einstein field equations.

64-581. Theory and Applications of Thin Films
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.

64-584. 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.

64-585. Atmospheric and Environmental Physics
Physics of the atmosphere, general description and layering, interactions of incoming and outgoing radiations, greenhouse effect, atmospheric thermodynamics and stability, cloud physics, atmospheric dynamics, gravity waves and turbulence, atmospheric photochemistry, ozone layer, upper atmosphere, plasma and hydromagnetic effects, ionospere, air glow and aurora.

64-587. Applications of Electron, Ion and Atomic Beams
Non-relativistic theory of charged particles in electric and magnetic fields. Review of matrix optics, electrostatic lenses, magnetic lenses, electrostatic and magnetic vector fields. Applications to energy and mass analysis. The Liouville Theorem and its consequences. Dense electron beams and applications.

64-610. Seminar for Ph.D. Students
In order to receive credit for this course, a student should attend the weekly departmental seminar throughout Ph.D. studies and present a minimum of two seminars on topics approved by the Seminar Coordinator.

64-612, 64-613. Selected Topics in Theoretical and Experimental Physics
These courses consist of two survey lecture series to be selected from among several which will be offered each year. Each lecture series lasts for approximately half a term. Credit may not be obtained for any survey courses in subjects in which the student has taken another graduate course.

64-630. Statistical Physics I
Review of thermodynamics; information theory. The many-body problem in quantum mechanics, particle number representation. Statistical (density) matrix. The perfect gas, real gases, dense plasma, applications.

64-631. Statistical Physics II
The theory of macroscopic quantum phenomena. (Prerequisite: 64-630.)

64-640. Elementary Particles and Their Symmetries
Symmetries and conservation laws, group representations, and particle muliplets; Lie groups and algebras; generators and weights of SU(n); the quark model; quantum chromodynamics; electro-weak interaction theory; supersymmetry; path integrals and Feynman diagrams.

64-650. Classical and Quantum Field Theory I
Variational principles and conservation laws and applications, field equations and their solutions. (Prerequisite: 64-551.)

64-651. Classical and Quantum Field Theory II
Quantization of fields; scalar, vector, and spinor fields. Quantum electrodynamics and applications; renormalization and radiative corrections. (Prerequisite: 64-650.)

64-660. Advanced Topics in Condensed Matter Physics
Crystal field theory in the weak and strong coupling schemes. Molecular orbitals; vibronic interactions. Electronic structure and spectra of molecular complexes. (Prerequisite: 64-551.)

64-796. M.Sc. Major Paper

64-797. M.Sc. Thesis

64-798. Ph.D. Dissertation

Spring 2012 Graduate Calendar

POLITICAL SCIENCE: COURSES

All courses listed will not necessarily be offered in any given year. Courses are normally two hours a week.

45-500. Scope and Approaches to Political Science
A review of the state of the discipline and a survey of approaches to research. This course is mandatory, as students will focus on their major paper/thesis research design.

45-513. Federalism in Canada
Analysis of selected topics in Canadian federalism. Topics may include: federalism, federal/provincial relations, the social union, and the debate over the future of Quebec in Canada.

45-514. Canadian Politics: Participation and Processes
Analysis of selected topics in Canadian politics. Topics may include: parties, elections, voting behaviour, pressure groups, representation, new social movements, Canadian political theories, ideologies, and public opinion as measured through survey research and communication surveys.

45-521. Canadian Public Policy
A review of the applicability of contemporary theories of public policy-making, policy evaluation, and policy delivery within the context of the Canadian political system. May include a focus on specific areas of public policy.

45-530. Politics in the Developed World
An examination of the political systems of economically developed countries. Topics may include comparative government, managing ethnic conflict, new social movements, democratic development, and the development of international political and economic institutions.

45-534. American Politics and Government
Analysis of selected topics in American politics and government. Topics may be selected from the institutional or behavioural areas of the discipline, or may include a comparative analysis of Canadian and American politics.

45-551. Selected Topics in Contemporary Political Theory
This course explores one or more themes in political theory through discussions and seminar presentations. While the focus is on political themes, the readings might be drawn from other disciplines, *e.g.*, literature, psychology, religion, history, or sociology.

45-555. Political Economy, Mass Media and Democracy
This course examines the linkages between media, democracy and the larger political economy. Students will research a media conglomerate; identify media roles in how governments and publics interact. Hegemony, ideology and institutional/organization analyses will bring students an integrated understanding of the role of media in a democracy.

45-560. International Organizations
A theoretical overview of International Organizations; the course will examine why these organizations exist, how they operate, and their impact on international affairs. The course may also focus on specific organizations, for example, the UN, the EU, ASEAN and/or the OAS.

45-561. International Relations Theory
A survey of recent literature on theories and methods in the study of international politics.

45-563. Canadian Foreign Policy
An examination of selected issues in Canadian foreign policy, chosen for the relevance in driving the contemporary research agenda. Topics may include human security, Canadian defence policy, peacekeeping, and/or Canadian aid and development policy.

45-565. International Security
An examination of selected topics in security. Examples of topics may include inter- and intra-state conflict, different approaches to conflict resolution, the utility of force, the causes of war, non-traditional approaches to security and/or detailed case studies of selected conflicts.

45-566. International Political Economy
Study of the major theoretical perspectives in international political economy as applied to such issues as multinational corporations, trade, and international development.

45-567. Islamic Political Thought
This course examines the rise and development of Islamic political thought from the formative period of Islam (622-661 CE) down to the contemporary era described here as the ‘age of fundamentalism’ (1920s – present). The focus of the course will revolve around ideas of significant Muslim thinkers, and, where appropriate, look into the political, legal and cultural traditions that provided the contextual milieu of these intellectual contributions. Preference would be given to those with a background in Political Theory and/or Islamic or Middle Eastern Politics.

45-568. The Third World in International Relations

An examination of the theoretical literature on such topics as the foreign policy of third world states, nonstate actors, structural dependence, North-South conflict, and regional integration.

45-575. Quantitative Methods in Political Science
The course will give an overview of quantitative methods and techniques which are core to the analysis of empirical data analysis in Political Science. The aim is to provide an understanding of statistical methods to be able to (1) conduct statistical tests in a variety of applications, and (2) quantify dependencies between variables. The course requires that students have had some introduction to questions of research design and basic descriptive statistics at the undergraduate level. Along with this introduction to various methods, their application through the use of statistical computer packages (e.g. SPSS) will also be a core part of the course. This course is also designed to help students obtain and analyze data for their major paper/thesis.(Prerequisite: 45-500).

45-588. Selected Topics in Political Science
Topics of current interest selected by the Political Science faculty which may vary from year to year. (May be repeated for credit if offered as a different topic with the permission of the program coordinator.)

45-599. Readings in an Approved Special Field
Intended for students with a special interest in and knowledge of areas not covered in sufficient depth by other courses. (To be taken only with the permission of the program coordinator.)

45-795. Political Science MA Internship
The Political Science MA Internship places students in a full-time work placement relating to public policy and political science generally. Students will be placed with an organization for approximately six months in the summer and fall semesters. During this period they will have the opportunity to continue their study of politics at a practical level, synthesizing the theory to practice. Interns will meet periodically during the internship in a class setting to evaluate the progress of their internships. At the conclusion of the work placement, students will prepare a research paper relating to their work experience. This paper will be publicly presented at a conference in December.

45-796. Major Paper

45-797. Thesis

Spring 2012 Graduate Calendar

PSYCHOLOGY: COURSES

All courses listed will not necessarily be offered in any given year. Some courses are restricted to students in the Clinical Program.

46-501. Historical and Philosophical Foundations of Psychology
The origin of modern psychology as a science and profession and the philosophy of science underlying psychology. (3 hours a week.)

46-502. Applied Metacognition
Models of human cognition and metacognition will be discussed, with an emphasis upon applied factors (ie., interviewing, accuracy of memory, misinformation, decision making). Manners in which these processes are involved in real world phenomena (ie., educational outcomes, legal proceedings, psychotherapy) will be discussed. Topics to be covered include memory, meta-memory, reality monitoring, and decision making. Current research on these and other topics will be reviewed and discussed in a seminar format. (Prerequisite: Any two of the following undergraduate courses or their equivalents from other universities: 46-358, 46-335 or 46-337.)
(3 hours a week.)

46-503. Biological Bases of Behaviour
Basic brain/behaviour relationships are explored in the context of neuro-anatomical and neurotransmitter systems. Traditional theories of brain function are reviewed and current brain modelling techniques are introduced. Individual student presentations or projects based on reviews of specialized brain systems are required.(Prerequisite: Any two of the following undergraduate courses or their equivalents from other universities: 46-353, 46-358 or 46-336.)
(3 hours a week.)

46-505. Cognitive Bases of Behaviour
Systems and methodologies in areas such as attention, perception, learning, memory and thinking. (3 hours a week.)

46-507. Survey Data
Student will work in teams to develop questionnaires, gather data, and prepare them for analysis. Extensive reading will be required on sample design, questionnaire design, and survey administration. (2 lecture, 1 laboratory hour each week.) (Cross listed with 48-507)

46-508. Data Analysis
Students will explore their data and test hypotheses, drawing on methods from other graduate data analytic courses. Students will be required to write a final report which emphasizes communicating findings to non-specialists. (2 lecture, 1 laboratory hour each week.) (Cross listed with 48-508)

46-511. Statistics for Graduate Study in Psychology I
Overview of the general linear model (univariate case) covering statistical analyses used to analyze data from experiments as well as to analyze observational data. Topics will include analysis of variance including between subjects and repeated measures factorial designs, random effects and various mixed designs. Both linear and logistic regression techniques will be covered including vector coding and continuous variable interactions, as well as other extensions. (3 lecture hours, 1 laboratory hour a week.)

46-512. Statistics for Graduate Study in Psychology II
Overview of the general linear model (multivariate case) including classical methods such as canonical correlation analysis, discriminant analysis, multivariate analysis of variance, and exploratory factor analysis. Other topics may include methods of addressing missing data, loglinear modeling, and confirmatory factor analysis. (Prerequisite: 46-511.) (3 lecture hours, 1 laboratory hour a week.)

46-513. Advanced Multivariate Analysis
Topics covered: path analysis; structural equation modeling, including confirmatory analysis; and, clustering methods. Other topics may include hierarchical linear modeling and latent growth modeling; multidimensional scaling, latent partition analysis and other related nonparametric techniques. (Prerequisite: 46-512 or consent of instructor.) (3 hours a week.)

46-514. Research Methods in Clinical Psychology
Review of research values and issues in clinical psychology; survey and evaluation of common research designs and strategies in psychopathology, personality, and psychotherapy. (Prerequisite:46-511.) (3 hours a week.)

46-516. Applied Psychological Measurement
The basic principles of measurement and how they are applied in the construction and evaluation of surveys, tests, and scales will be covered. Also examined will be special problems characteristic of various approaches to measurement, such as the role of sampling in survey work. (Prerequisite: 46-512.) (3 hours a week.)

46-517. Qualitative Methods
This course examines the theory, methods, and inference of qualitative inquiry and includes practical application. Topics to be covered include the historical and theoretical roots of qualitative inquiry, ethics and a range of specific methods which may include interviewing, biography and case study, ethnography, grounded theory, archival and historical methods, and Q-Methodology. (3 seminar hours a week.)

46-519. Advanced Developmental Theory and Research Methods
Provides an overview of research designs and methodological issues in the context of contemporary child psychology research and developmental theories. Students conduct a literature review and design a research project in preparation for fulfilling the programs's thesis and dissertation requirements (Prerequisite: enrollment in the Clinical Program.) (3 hours a week.)

46-529. Structure and Function of the Brain
An in-depth study of selected neuro-anatomical and biochemical systems. (3 hours a week.)

46-530. Neuropathology and Neurological Diagnosis
A critical survey of research findings in neuropathology, emphasizing the diagnostic significance of such data. (Prerequisite: 46-529.) (3 hours a week.)

46-540. Developmental Psychopathology
Review and analysis of developmental theories and research describing normal and abnormal development across the life course. (3 seminar hours a week.)

46-541. Cognitive Development
Review and comparison of major theoretical positions in cognitive development and a consideration of research generated from these theories. (3 hours a week.)

46-542. Emotional Development
An examination of emotional development from infancy through the adult years. Topics include an overview of cognitive-affective theories and research on developmental change in emotions and self-regulation strategies, and cultural variations in displays of emotional expression and control in families. (3 seminar hours a week.)

46-543. Social Development
An examination of theories of the socialization process and research findings concerning social development in children. (3 hours a week.)

46-557. Comparative Cognition
Evidence of general and specialized cognitive processes in human and non-human organisms will be investigated. Topics to be covered include perception, attention, and memory, concept formation, ecological and evolutionary bases of cognitive processes. Current research on these and other topics will be reviewed and discussed in a seminar format. (Prerequisite: Any two of the following undergraduate courses or their equivalents from other universities: 46-353, 46-358 or46-335.) (Also offered as 55-557; cross-listed with 46-457)

46-560. Theory and Research in Social Psychology
A review of research design and methodology in social psychology, in the context of social psychology theory. Students will develop proposals for research projects. (3 seminar hours a week.)

46-566. Program Evaluation
An examination of theory, research, and analytical methods appropriate to the planning, design, implementation, and utilization of program evaluation in education, social, business and other organizational settings. (3 hours a week.)

46-575. Psychology of Women
A survey of psychological research and theoretical approaches to the study of women past and present. The course will focus on one topic within the field in considerable detail (e.g., violence against women, women and "mental health"), or will cover feminist research and theory in psychology more generally, using a number of feminist researchers and/or topics as exemplars. Inclusion of the perspectives of diverse groups of women is ensured through the course material and discussion. (3 hours a week.)

46-577. Ethical Issues in Applied Psychology
This course will provide an overview of ethics and standards in psychological practice and research. Ethical issues in academic, clinical, community and organizational settings will be examined, and feminist and cross-cultural approaches to ethical issues will be considered. (Antirequisite: 46-581.)

46-580. Psychopathology
Seminar on issues, diagnostic categories, etiological perspectives, and research in psychopathology in adults, adolescents, and children. The laboratory section involves training and role playing in diagnostic interviewing. Issues relevant to the clinical understanding of different groups will be discussed. (3 hours a week.)

46-581. Ethical and Professional Issues in Clinical Psychology
Ethics and standards of psychological practice and research are reviewed. Legislation, privileged communication, confidentiality, informed consent, private practice, patient rights and sexism are among the topics discussed. (Anti-requisite: 46-577.) (3 hours a week.)

46-582. Clinical Assessment I
An introduction to clinical psychological assessment. Emphasis is on the cognitive, achievement, and adaptive functioning of children, adolescents, and adults. Topics and activities include: basic psychometrics; interviewing; the construction, selection, evaluation, and use of ability tests; behavioural observations; case formulation; report writing; and an introduction to neuropsychological assessment. Attention is given to the assessment of individuals from cultural and linguistic minority backgrounds and to the assessment of those with disabilities. Students practice the administration, scoring, and

interpretation of tests; practice interviewing; develop basic report writing skills; and conduct at least one cognitive assessment of an adult and a child. (Prerequisite: enrollment in Clinical Psychology program.) (3 seminar, 3 laboratory/practicum hours a week.)

46-583. Clinical Assessment II
Development of knowledge and skills in the assessment of psychopathology and personality in children, adolescents, and adults; evaluation of the clinical utility and psychometric properties of major personality instruments. The focus is on objective personality assessment, with an introduction to projective techniques. Students build on the skills developed in 46-582; practice the administration, scoring, and interpretation of tests, case formulation, and report writing; and conduct at least one clinical evaluation. Attention is given to non-normative aspects of personality and psychopathology assessment of individuals from cultural and linguistic minority backgrounds and to assessment of those with disabilities. (Prerequisite: 46-582.) (3 seminar, 3 laboratory/practicum hours a week.)

46-586. Behavioural Pharmacology
A review and comparison of the major pharmacological agents utilized clinically to affect changes in human behaviour. (3 hours a week.)

46-588. Multicultural Issues in Clinical Practice
An overview of the field of multicultural counseling and psychotherapy and, to a lesser extent, the field of cross-cultural psychology. The course surveys multicultural research, theories, practices, ethical issues, and assessment, and aims to facilitate students' multicultural competency in terms of cultural awareness, knowledge, and skills. A strong emphasis is placed on students' self-examination of personal cultural values and identities, and the impact these variables might have on their clinical work with clients or patients. (3 seminar hours a week.)

46-589. Advanced Adult Assessment
Advanced training in the clinical assessment of adults, with an emphasis on projective techniques, assessment integration, case formulation. and evaluation for specific needs (eg., psychotherapy, pharmacological referrals, differential diagnosis, employee assistance, and general consultation and referral). Attention is given to the assessment of individuals from cultural and linguistic minority backgrounds and of those with disabilities. Students develop and discuss comprehensive clinical presentations based on case samples. (Prerequisite: 46-583; Co-requisite: 46-701.)

46-604. Special Projects in Psychological Research
Provides the opportunity for a student to work on an independent research project under the supervision of a faculty member. Requires consent of instructor and Graduate Program Chair. May be taken for a maximum of two terms.

46-606. Special Topics in Psychology
Seminar format provides an opportunity to study in an area not covered in sufficient depth by other courses. May be taken more than once if offered by a different instructor. (3 seminar hours a week.)

46-610 Special Topics in Health Psychology
This course will focus on a particular topic related to health psychology. Topics will vary depending on the emphasis of the instructor. Possible special topics could include Diversity and Health, Occupational Health, Personality and Health, Violence and Health, and other health-related topics.

46-630. Professional and Practice Issues in Clinical Psychology
A team-taught seminar comprised of modules covering topics in clinical psychology. These topics include, but are not limited to, forensic psychology, child custody and access, clinical health psychology, consultation, program evaluation, private practice, geriatric clinical psychology, and suicide. (3 hours a week.)

46-640. Child Clinical Neuropsychology: Theory Methods and Research
A survey of the literature dealing with brain-behaviour relationships in children. Topics emphasized include: the effect of brain dysfunction on perception, learning, memory, language and thinking; learning disabilities; mental subnormality. Students will receive training in the administration of neuropsychological tests. (Prerequisite or co-requisite: 46-503 or 46-529, or consent or instructor.) (3 seminar, 2 laboratory hours a week.)

46-641. Child Clinical Neuropsychology: Assessment
An examination of neuropsychological tests currently in use for the assessment of brain-behaviour relationships in children. Topics emphasized include: strategies and techniques of assessment; rationales underlying the use of various measures; modes of interpretation; approaches to habilitation and rehabilitation. Students will continue to receive training in the administration of neuropsychological tests. (Prerequisite: 46-640 or consent of instructor.) (3 seminar, 2 laboratory hours a week.)

46-642. Adult Clinical Neuropsychology: Theory Methods and Research
A survey of the literature dealing with brain-behaviour relationships in adults. Topics emphasized include: the effect of brain dysfunction on perception, learning, and thinking; memory disorders; personality disorders associated with cerebral dysfunction. (Prerequisite or co-requisite: 46-503 or 46-529 or consent of instructor.) (3 seminar, 2 laboratory hours a week.)

46-643. Adult Clinical Neuropsychology: Assessment
An examination of neuropsychological test batteries currently in ues for the assessment of brain-behaviour relationships in adults. Topics emphasized include: strategies and techniques of assessment; rationales underlying the use of various measures; modes of interpretation; approaches to rehabilitation. Students will receive training in the administration of neuropsychological tests. (Prerequisite: 46-642 or consent of instructor.) (3 seminar, 2 laboratory hours a week.)

46-644. Neuropsychology of Developmental Disabilities

An examination of the theories, research, and practice related to the neuropsychological and biological correlates of developmental disorders. Disorders considered may include, but are not restricted to, learning disabilities, ADHD, intellectual impairment, specific language impairment, sensory impairment, disorders of the motor system, and seizure disorders. Each disorder will be examined from the perspectives of assessment, diagnosis, and treatment. (Prerequisites: 46-503 and 46-583, or consent of instructor.) (3 seminar hours a week.)

46-645. Neuropsychological Aspects of Rehabilitation
A study of the literature and the methods currently employed in the treatment of brain-injured adults. Topics to be stressed include epidemiology and societal impact, pathophysiology, clinical presentation and both the theories and practices of rehabilitation. (3 hours a week.)

46-646. Developmental Pediatrics
An examination of neurological, genetic, and other medical/developmental issues in infancy and early childhood. (3 hours a week.)

46-648. Neuropsychology of Aging
A survey of the literature dealing with brain-behaviour relationships across the older adult life span. Emphasis is given to the understanding and assessment of normal and dysfunctional aspects of cognitive and affective development in adulthood and aging. (3 hours a week.)

46-651. Survey of Child Psychotherapies
Introduction to psychotherapy with children with an emphasis on fundamental principles and empirical foundations of effective psychotherapy. Several treatment approaches are studied. (Prerequisite: 46-540.) (3 hours a week.)

46-652. Child Clinical Assessment
Advanced training in selection, evaluation, and use of tests designed for the assessment of children's abilities, personality, and behaviour. Practicum in administration, interpretation, and communication of results of comprehensive test batteries. (Prerequisite: 46-583 or consent of instructor.) (3 seminar hours a week, plus laboratory and practicum.)

46-655. School Psychology: Assessment, Intervention, and Consultation
Introduction to the practice of school psychology with didactic exploration of the scientific foundation of school psychology, legislation governing the profession, standards of practice, and ethics codes. Supervised practicum in a school setting will involve experience with the diverse roles of the school psychologist, including psycho-educational assessment, multidisciplinary consultation, behavior management, and crisis intervention. (Pre-requisite: 46-652 or consent of instructor.) (3 lecture hours a week, plus practicum.)

46-657. Issues in Cultural Diversity
An examination of issues associated with the negotiation of individual and intergroup relations in a culturally pluralist society, from an explicitly intercultural psychological perspective that focuses primarily upon the social processes occurring when members of different cultural groups interact with one another. Groups considered include, but are not restricted to, those based on ethnicity, gender, and class. Issues to be covered include the search for universals of social behaviour, the determinants, characteristics, and consequences of acculturative stress, and cultural value differences in the definition of self, inter-personal, and inter-group relations. (3 hours a week.)

46-660. Community Psychology
An overview of the field of community psychology, with emphasis on societal and cultural approaches to community well being, social problems, and effecting social change. Issues in theory, research, and practice in community psychology will be presented and discussed. (3 hours a week.)

46-662. Health Psychology
An overview of health psychology, with emphasis on contributions made by psychology to the areas of health promotion, prevention and treatment of illness, modification of unhealthy behaviours, and improvement of health delivery. Application of the biopsychosocial model to health-related research and practice will be examined. (3 hours a week.)

46-665. Industrial/Organizational Psychology.
An examination of theory, research, and practice in the area of Industrial/Organizational Psychology. Industrial topics include measurement theory, job analysis, criterion development and other areas of personnel decision making. Organizational topics cover leadership, work motivation, team development, organizational development, and other areas of organizational functioning. (3 seminar hours a week.)

46-667. Advanced Topics in Organizational Psychology
This course builds on the organizational psychology topics covered in 46-665. Core topics in the field will be explored in greater depth, supplemented with an examination of current trends in the field. Emphasis will be placed on understanding work behaviour and attitudes and how these affect individuals, groups, and organizations in the work setting. (Prerequisite: 46-665.) (3 seminar hours a week.)

46-668. Advanced Topics in Industrial Psychology
This course builds on the industrial psychology topics covered in 46-665. Core topics will be explored in greater depth, supplemented with an examination of current trends in the field. Emphasis will be placed on a critical analysis of issues related to individual assessments and human resource planning. (Prerequisite: 46-665.) (3 seminar hours a week.)

46-670. Applied Social Psychology
An in-depth exploration of the field of applied social psychology, its development and progress. The course will situate applied social psychological research within the broader field of social psychology. Emphasis will be placed on applications

in community, health, and industrial/organizational psychology. (3 hours a week.)

46-674. Introduction to Psychotherapy
An overview of historical and contemporary models of psychotherapy, common therapeutic factors, and therapy outcome research. Development of basic therapeutic relationship skills and empathic responding through role-playing and other class activities. (Prerequisite: enrollment in Clinical Psychology Program.) (3 hours per week, combined seminar and laboratory.)

THERAPY COURSES

Therapy course sequences consist of courses numbered 46-675 through 46-697 as listed below.

Therapy course sequences are taught over two terms. Seminars involve readings, discussion, and presentations on the theory, relevant research, techniques, and processes that are specific to the therapeutic approach under consideration. Practica involve supervised experience appropriate to the therapeutic modality. Students include practicum hours obtained through therapy courses in the total number of practicum hours reported on internship applications.

At least three different therapy course sequences will be offered in each academic year, but offerings will vary from year to year depending upon demand and the availability of qualified instructors.

46-675. Child Psychotherapy I
Examination of the theory, research, and practice of clinical interventions with children and families with an emphasis on fundamental principles and empirical foundations of effective psychotherapy. Issues relevant to the practice of psychotherapy with different groups will be discussed. (Prerequisites: enrollment in Clinical Psychology Program; 46-674; consent of instructor and Director of Clinical Training.) (Prerequisite or co-requisite: 46-581.) (3 seminar hours a week, plus practicum.)

46-676. Child Psychotherapy II
Seminar and supervised practice in clinical interventions with children and families. (Prerequisite: 46-675.) (3 seminar hours a week, plus practicum.)

46-677. Adolescent Clinical Interventions I
Examination of the theory, research, and practice of clinical interventions with adolescents with an emphasis on fundamental principles and empirical foundations of effective psychotherapy. Issues relevant to the practice of psychotherapy with different groups will be discussed. (Prerequisites: enrollment in Clinical Psychology Program; 46-674; consent of instructor and Director of Clinical Training.) (Prerequisite or co-requisite: 46-581.) (3 seminar hours a week, plus practicum.)

46-678. Adolescent Clinical Interventions II
Seminar and supervised practice in clinical interventions with adolescents. (Prerequisite: 46-677.) (3 seminar hours a week, plus practicum.)

46-681. Behaviour Therapy I
Examination of the theory, research, and practice of behavioural interventions, including Applied Behaviour Analysis. Emphasis will be placed on evidence-based practices, operant- and respondent-based procedures and social learning. Issues relevant to the practice of psychotherapy with different groups will be discussed. (Prerequisites: enrollment in Clinical Psychology Program; 46-674; consent of instructor and Director of Clinical Training.)(Prerequisite or co-requisite: 46-581.) (3 seminar hours a week, plus practicum.)

46-682. Behaviour Therapy II
Supervised practicum in the application of behavioural interventions with clients from various populations and their families. Advanced graduate students may also gain experience in supervising undergraduate practicum students. Emphasis will be placed on behavioural assessment, designing behavioural programs, and systematically increasing/decreasing behaviours and teaching new skills through operant (including Applied Behaviour Analysis) and respondent interventions. (Prerequisite: 46-681.) (3 seminar hours a week, plus practicum.)

46-683. Special Topics in Therapy I
This course provides an Introduction to theory, research and therapeutic techniques related to a specific approach to intervention not covered by other therapy course offered in the Clinical Psychology Program (*e.g.,* marital/couples, group, systemic, crisis intervention, interpersonal, existential, dialectical behaviour theapy). Topics will vary from year to year. (Prerequisites: enrollment in Clinical Psychology Program; 46-674; consent of instructor and Director of Clinical Training.) (Prerequisite or co-requisite: 46-581.) (3 seminar hours a week, plus practicum.) (May be repeated for credit if content changes and with permission of the instructor.)

46-684. Special Topics in Therapy II
Supervised practical experience in applying the specific therapeutic theory and techniques introduced in the linked 46-683 offering. (Prerequisite: 46-683.) (3 seminar hours a week, plus practicum.) (May be repeated for credit if content changes and with permission of the instructor.)

46-685. Psychodynamic Therapy I
This course focuses on the acquisition of the knowledge and skills necessary to practice brief psychodynamic therapy. In terms of systems of psychotherapy, students are instructed in one of the main relational approaches such as, but not limited to, the Core Conflictual Relationship Theme method (CCRT). The chosen relational approach is to be specified by the instructor at the time of course selection by students. Readings on theory of personality included elements of classical theory, object relations, and self-psychology. Each student leads on seminar and one class discussion on a selection of tests, and initiates supervised psychotherapy with one or two clients according to the relational approach chosen by the

instructor. Issues relevant to the practice of psythotherapy with different groups will be discussed. (Prerequisites: enrollment in Clinical Psychology Program; 46-674; consent of instructor and Director of Clinical Training.) (Prerequisite or co-requisite: 46-581.) (3 seminar hours a week, plus practicum.)

46-686. Psychodynamic Therapy II
Students continue supervised practice according with one or two clients according to the relational approach selected for 46-685. Readings focus on the utilization of interpretations in the therapy process. Issues relevant to the practice of psychotherapy with different groups will be discussed. (Prerequisite: 46-685.) (3 seminar hours a week, plus practicum.)

46-690. Family Therapy I
This course covers the background theory, research, and therapeutic techniques of the major approaches to family therapy. Issues relevant to the practice of psychotherapy with different groups will be discussed. Supervised practica will be arranged with families and/or couples. (Prerequisites: one previous therapy course sequence; consent of instructor and Director of Clinical Training.) (3 seminar hours a week, plus practicum.)

46-691. Family Therapy II
Seminar and supervised practice in family therapy. (Prerequisite: 46-690.) (3 seminar hours a week, plus practicum.)

46-692. Cognitive Behaviour Therapy I
This is the first course in a two-course series that is designed to provide a reasonably comprehensive and practical overview of cognitive-behavioural therapy (CBT). The focus in this course is on understanding the basic premises of CBT and on developing assessment, case conceptualization, and basic intervention skills. During the associated practicum, student therapists provide therapy to two clients and attend weekly supervision meetings during which videotaped sessions are reviewed and discussed. (Prerequisites: enrollment in Clinical Psychology Program; 46-674; consent of instructor and Director of Clinical Training.) (Prerequisite or co-requisite: 46-581.) (3 seminar hours a week, plus practicum.)

46-693. Cognitive Behaviour Therapy II
This course focuses on how CBT is applied to a range of common clinical problems, on how CBT may be adapted and modified to meet the needs of diverse populations (*e.g.*, clients from different ethnic and cultural groups), and on reviewing empirical support for the use of CBT. Issues related to therapist training and supervision are addressed. (Prerequisite: 46-692.) (3 seminar hours a week, plus practicum.)

46-694. Experiential Psychotherapy I
An introduction to humanistic experiential psychotherapy (an introduction of the person-centred, gestalt, experiential, and existential perspectives), with an emphasis on developing one's talents in the nonspecific relationship factors central to all modes of psychotherapy. The humanistic experiential approach emphasizes the development and use of therapist, as well as client, self-awareness, and is presented through didactic and experiential seminars. Students see one therapy client under individual supervision. (Prerequisites: enrollment in Clinical Psychology Program; 46-581; 46-694; consent of instructor and Director of Clinical Training.) (Co-requisite: 46-715.) (4 hours a week, combined seminar and practicum.)

46-695. Experiential Psychotherapy II
Further development of the humanistic experiential approach to psychotherapy, with emphasis on its methods and on its application to particular syndromes, situations, and populations. Focus is placed on therapist understanding and experience of issues relevant to childhood abuse, spirituality, substance abuse, vicarious traumatization, gender, and race. Students see one therapy client under individual supervision. (Prerequisite: 46-694.) (Co-requisite: 46-715.) (4 hours a week, combined seminar and practicum.)

46-696. Emotion Focused Therapy I
EFT is based on current emotion theory and experiential therapy theory and research emphasizing the central role of emotion in functioning and therapeutic change. This course covers the theory, research, and therapeutic techniques used in this treatment model. Students will participate in class discussions, role play exercises, and view videotapes of expert therapists. Supervised practica will begin the end of the first semester. (Prerequisites: enrollment in Clinical Psychology Program; 46-674; consent of instructor and Director of Clinical Training.) (Prerequisite or co-requisite: 46-581.) (3 seminar hours a week, plus practicum.)

46-697. Emotion Focused Therapy II
Special topics related to emotional processes in psychotherapy include the therapeutic relationship, problems with emotion regulation; empathy; emotional processing of trauma memories. Students will present seminars on relevant topics and supervised practica will be arranged. (Prerequisite: 46-696.) (3 seminar hours a week, plus practicum.)

46-701. Clinical Practicum: MA Level
Supervised experience in an approved clinical setting with a focus on the development of basic clinical skills in preparation for practice and/or research, including skills related to interviewing, use of clinical assessment instruments, case formulation, report writing, and intervention. Prior to completion of M.A. requirements, students register for this course for each semester in which they attend a practicum placement. (Prerequisites: 46-583 and consent of Director of Clinical Training.)

46-702. Clinical Practicum: PhD Level
Supervised experience in an approved clinical setting with a focus on the development of basic clinical skills in preparation for practice and/or research. Students register for this course for each semester in which they attend a practicum placement. (Prerequisite: completion of M.A. requirements and consent of the Director of Clinical Training.)

46-706. Predoctoral Clinical Internship
A one-year, full-time (or two-year, half-time) internship in a CPA- or APA-accredited clinical setting. (Prerequisites: completion of all doctoral requirements except for 46-798; acceptance of dissertation proposal at time of application for

internship; consent of Director of Clinical Training.)

46-707. Seminar in Clinical Supervision
A review of the purposes, models, and ethics of clinical supervision. Under the supervision of faculty, students will gain experience supervising more junior students conducting clinical interviews, therapy, and/or assessment. This course will include didactic, discussion, and experiential components. (Prerequisites: completion of M.A. requirements; consent of instructor and Director of Clinical Training.) (3 hours a week.)

46-715. Psychological Services Centre Practicum
This intensive practicum focuses on training in psychotherapy theory and practice. Students further develop therapy relationship skills. Emphasis is placed on advanced psychotherapeutic skills applied to various client populations and problems. Although training in individual psychotherapy is the primary focus, students may also be trained in crisis intervention and short-term therapy and in co-therapy with families, groups, or couples. Students explore their own psychological functioning as well as the therapeutic process and thus have the opportunity for personal as well as professional growth. Students are required to register for this practicum for three consecutive terms. Space is limited; preference will be given to students in the Adult Clinical Track for whom 46-715 is required. (Prerequisites: completion of M.A. requirements; completion of two psychotherapy course sequences; enrollment in Clinical Psychology Program and consent of Director of Clinical Training.) (Co-requisites: 46-694 and 46-695.) (16 practicum hours a week.)

46-721. Applied Social Psychology Practicum
Problem solving in work settings, applying methods of community psychology, organizational psychology, and other fields of applied psychology. Students consult and work directly with a group or organization on a project selected for value to the organization and to the student. (Prerequisites: 46-512 and 46-560, or consent of instructor.) (2 class hours biweekly over 2 terms; 100 practicum hours.)

46-722. Organizational Consulting and Intervention Skills
This course provides students with skills for intervention in groups and organizations in community and business settings. Students will develop their consulting and intervention skills through a combination of consulting/ intervention projects, selected readings, and class seminars. Each student will be responsible for undertaking a small, circumscribed consulting project in a community-based, public-sector, or private-sector organizational setting. (Prerequisites: 46-721 or consent of instructor.) (3 hours a week.)

46-731. Applied Social Doctoral Internship I
(500 hours of supervised internship.)

46-732. Applied Social Doctoral Internship II
(500 hours of supervised internship.)

46-741. Comprehensive Examination
Independent study for and completion of the written Comprehensive Examination. Students may register in 46-741 for a maximum of three consecutive terms. (Prerequisite: completion of M.A. requirements.)

46-743. Teaching and Learning in Psychology
General overview of university instruction in the context of a large introductory psychology course. Seminar time is divided between theoretical review/ discussion (1 hour) and practical in-class application (2 hours). Topics include preparing a syllabus, performance evaluation, effective lecturing, facilitating discussions, problem situations, experiential work, collaborative and cooperative learning, problem-based learning, student diversity, ethics. (Prerequisite: consent of instructor.) (This is a non-credit course, and is given over two semesters.)

46-794. Directed Study Major Project I
Under the guidance of the instructor, the candidate will engage in research on a discipline relevant issue, using existing data set(s), leading to the production of a final project which entails empirically grounded policy suggestions. Students will select a Project Committee, review literature and develop research question and identify data set(s). (Cross listed with 48-794)

46-795. Directed Study Major Project II
In the Summer Semester, operationalize concepts, recode variables, analyze data, write report and suggest policies. The final project will show evidence of methodological skills, knowledge of the relevant substantive area, and ability to define policy implications based on analyzed data. (Cross listed with 48-795)

46-797. M.A. Thesis Research

46-798. Doctoral Dissertation Research

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SOCIAL WORK: COURSES

47-503. Foundations of Social Policy Analysis
This course introduces the student to the formulation and analysis of social policy. The student will develop policy analysis skills as a base for recommending changes in existing programs or services and for introducing new services. Special attention will be given to using multiple perspectives to analyze the unmet needs of vulnerable populations within the advanced generalist practice framework.

47-504. Foundation Communication Skills in Advanced Social Work Practice
This course introduces students to the various types of communication skills utilized in advanced social work practice. Through in-depth examination of intentional interviewing and counselling skills, students will explore core social work values in relation to practice situations. Content focuses on the critical analysis of particular verbal, non-verbal and written forms of communication. A laboratory format will be employed to build student competencies in the effective use of interactional skills with clients and client systems.

47-515. Professional Writing for Social Work
Students in this course will describe and demonstrate advanced, professional, written communication and composition skills, critical analysis, application of knowledge to practice, and the use of examples in social work writing. Students will review writing guidelines from the current Publication Manual of the American Psychological Association and demonstrate methods for preparing scholarly papers, reflective essays, literature reviews, research proposals and reports, and grant applications. Writing for social work will be illustrated, including case notes, assessments, action plans, reports, and proposals. The ethical considerations and the impact of social work writing will be discussed.

47-523. Challenges in Human Development
This course examines the impact of biological, psychological, and social challenges on human development. These challenges may include physical illness and disability, mental illness and substance abuse, economic adversity (such as chronic poverty, unemployment, underemployment, or balancing work and family responsibilities), family and community violence, and child neglect/abuse. The additional effect of minority status, diversity, and disenfranchised groups will be included. An ecological perspective will be used to understand the individual, family, community, and society issues related to these challenges. Both the impact of these challenges and strategies responding to these challenges will be appraised and critically analyzed.

47-531. Foundations for Advanced Social Work Practice with Individuals
This course develops a theoretical and applied understanding of foundational knowledge for advanced social work practice with individuals from an ecological perspective. This includes an emphasis on multidimensional assessment and the differential application of therapeutic, supportive, educational, and resource management strategies to individuals. Specific attention is given to the needs of diverse and vulnerable populations in the context of social justice.

47-532. Foundations for Advanced Social Work Practice with Groups
This course provides students with a foundation of the theoretical frameworks used in advanced social work practice with groups within an ecological perspective. Students will use selected practice theories for social work with groups to develop knowledge values and skills in critical analysis, differential assessment, planning and intervention, evaluation and termination with client groups. The challenges faced by diverse and vulnerable populations that affect group composition, and development and processes are explored within the context of social justice. Assessment skills are used to identify group strengths, weaknesses, and challenges in formulating effective social work practice with groups.

47-533. Foundations for Advanced Social Work Practice with Families
This course provides students in with a foundation for assessment and intervention with families as a component of advanced social work practice utilizing an ecological perspective. The focus is on the critical analysis and differential application of selected family therapy approaches. Social work, values and skills for assessment and intervention with families are emphasized.

47-534. Foundations for Advanced Social Work Practice with Organizations and Communities
This course uses an ecological perspective to apply advanced social work practice with organizations and communities. It focuses on planning, implementing, and evaluating interventions with communities and human service organizations. Special emphasis is placed on the use of an ecological perspective in addressing the needs and issues of vulnerable populations.

47-547. Advanced Social Work Research: Practice Evaluation
This course prepares students to understand and critically use research in evaluating social work practice with individuals, families and small groups. This course will critically review the theoretical underpinnings of evidence-based social work practice that emphasizes the integration of research and professional practice. Quantitative and qualitative methods appropriate for the evaluation of social work practice with individuals, families and small groups will be explored.

47-550. Social Work Values, Ethics and Anti-Oppressive Practice
This course serves as an overview of the profession of social work and an introduction to advanced generalist practice with an anti-oppressive focus. The goal is to provide an understanding of the nature, history, traditions, and issues of the social work profession as they relate to the development of a distinct knowledge-base, set of values, and code of ethics. During the course, students will examine ethical questions and value dilemmas encountered by social workers in various fields of practice. Through value analysis and the application of ethical principles, the meaning of professionalism and its expression

in social work are considered using contemporary practice case studies.

47-570. Field Integration Seminar
This seminar course focuses on the integration of academic and field work experience to advance knowledge, values, and skills as they relate to the development of advanced practice competence. Students will use structured reflection and self-evaluation to understand their own practice in terms of values, ethics, policies, theoretical models, and agency expectations. Students will reflect upon personal values and beliefs and explore solutions to actual issues during their field placements. (This course is evaluated on a pass/fail basis.)

47-571. Master of Social Work Foundation Year Practicum
This course is offered in a field education setting and is designed to assure the practice of advanced social work from the ecological perspective.The foundation practicum comprises 450 hours of supervised social work practice (Prerequisites: 47-503, 47-504, 47-515, 47-523, 47-531, 47-532, 47-533, 47-534, 47-547, 47-550.)

47-610. Advanced Direct Social Work Practice
From an ecological perspective, this course will examine the application of a range of advanced professional social work theories and models to direct practice with specific vulnerable populations. Founded on a strengths perspective, this course will analyze client empowerment and constructive transactions with the environment. Aimed at enhancing social justice, the course will involve critical analysis of the prevailing worldviews affecting clients. The use of evidence-based practices with clients to bring about change will be analyzed.

47-611. Advanced Indirect Social Work Practice
From an ecological perspective, this course will critically analyze the application of advanced social work theories and models to indirect practice with specific vulnerable populations. Founded on a strengths perspective, the course will analyze indirect practice related to community and organizational empowerment aimed at social justice through activities such as program planning and development, leadership, administration, management, research, policy development, education, mediation, and advocacy. The course will involve a critical analysis of the social, political, and economic conditions affecting vulnerable populations.

47-621. Social Justice and Vulnerable Populations
This seminar focuses on the history, meaning, and dynamics of barriers that threaten, preclude or compromise the normal participation of selected vulnerable groups in social, economic and political institutions. Using a framework of social justice, it employs concepts such as deviance, dependence, need, social control, and oppression.

47-622. Social Policy Analysis and Development
This course focuses on the processes involved in policy formulation, implementation, social change, and advocacy. It applies specific analytic frameworks and theories to issues of social policy and social justice in relation to vulnerable populations. These are: problem analysis, policy analysis and program analysis.

47-625. Law and Social Work: Advanced Practice Research Methods and Policy Analysis
This course prepares students to use the practitioner-researcher model in the analysis of social policy, as it relates to law, in Canada. This model includes problem formation, qualitative and quantitative research design, data analysis and interpretation, and the dissemination of findings. Students will learn to apply specific analytic frameworks and theories, drawn from law and social work, to issues of Canadian social policy. In addition, students will learn essential elements of program evaluation including needs assessment, program logic models, implementation and process evaluations, and impact evaluations. Particular attention will be given to the implications of social policy for vulnerable and oppressed populations. Credit Weight 4.0. (Crosslisted with Law 98-930.).

47-640. Advanced Social Work Research: Program Evaluation
This course prepares students to use the evidence-based practitioner-researcher model to critically evaluate social work practice with organizations and communities. Students will learn essential elements of program evaluation including needs assessment, program logic models, implementation and process evaluations, and impact evaluations. Students will learn to develop research proposals, including grant proposals, and to disseminate research findings through formal research reports.

47-680. Internship Seminar
This capstone course must be taken concurrently with students' advanced practice internship 47-681. This course provides a structured forum for students to discuss, synthesize and integrate the knowledge they have acquired throughout the program including practice theories, professional ethics, policy development, research and program evaluation. Students utilize peer and instructor consultation to apply best practices which includes developing a research or evaluation proposal based on a need identified by their placement. This proposal is developed outside the students' placement hours and is presented as a poster presentation in a public forum.

47-681. Advanced Practice Internship
This course is offered in a field education setting. Students develop skills which will equip them for leadership in advanced social work practice. The internship comprises 450 hours of supervised social work practice. (Prerequisites: 47-610, 47-611, 47-621, 47-622, 47-640.)

47-696. Thesis Seminar*
This seminar provides students an opportunity to write a formal thesis proposal. It includes developing a plan of study for presentation to a thesis committee.

47-720 Epistemology and philosophy of science in Social Work
This course examines the epistemological foundations of social work research. The nature of knowledge, the different ways

we come to know, and the social process in the distribution of knowledge are discussed. Critical analysis of the historical context, philosophical assumptions, and current debates related to each paradigm--positivist/postpositivist, interpretative, critical and postmodernism are explored. Students identify their own standpoint with respect to their dissertation research. The process by which social work researchers can advance evidence for practice within social justice principles for each of the available paradigms is emphasized.

47-730. History and theory in Social Work
This course provides an in-depth examination of the development of the social work profession over the last one hundred years. An exploration of the impact of changing social, political, economic, moral, and historical contexts on the practice, theoretical and scholarly orientations of the profession will be highlighted. Key debates regarding the mission and development of professions in general and social work in particular; the relationship between practice, scholarship, and social policy; and tensions between disciplinary (and inter-disciplinary) approaches to social work knowledge development will be discussed within its national and international contexts. This seminar will also provide an examination of selected issues facing the profession today.

47-731. Promoting social justice through civic engagement
This course focuses on using advocacy and leadership skills to promote social justice through civic engagement with communities, social programs, and policy developers. Students examine oppression and discrimination and devise methods of addressing related issues using individual and collective strategies. This includes methods of creating partnerships between higher education and the broader community, exploring ways to collaborate with relevant key informants and consumers during the research development process, involving community partners in the teaching of university courses and participation on university committees, and strategies for influencing positive change within communities, social programs, and policy development processes.

47-740. Qualitative methods in Social Work research
This course provides an overview of qualitative research design and application. It is intended to facilitate students' understanding in both designing, and in implementing their doctoral dissertation research or a sample of research involving qualitative methods. A number of designs are discussed as well as debates related to the position of the researcher, interviewing, ethics and diversity. The contribution of qualitative research to current models/issues of evidence-based social work practices, knowledge, truth and representation is also discussed. (3 lecture hours)

47-741. Qualitative Data Analysis
This course examines various approaches to qualitative data analysis and their grounding in various theoretical foundations. Students learn and practice multi-level approaches to data analysis, using software applications as data organization tools. Building on the qualitative methods course, students articulate the reasons for choosing certain approaches to analysis, referring to their consistency with various methodologies and theoretical foundations. The course applies the standards for rigour in qualitative analysis as a tool for evaluating various approaches.(3 lecture hours)

47-742. Mixed methods in Social Work research
Building on the epistemology course, and the qualitative and quantitative research methods courses, this course examines the current conceptualizations of mixed methods in social work research. Students learn how to develop research questions appropriate for mixed research designs, how to select from the varying types of mixed research, and how to critique mixed methods studies in the literature. The course also addresses the emerging debates and tensions about the use and application of mixed methods, and the implications of these for knowledge translation and civic engagement..(3 lecture hours)
(3 lecture hours)

47-743. Quantitative methods in Social Work research
This course introduces students to quantitative research methods, including research designs, sampling methods, standardized measures, questionnaire design, meta-analysis and ethical consideration in conducting research. The course also covers the operationalization of social science concepts and scale construction, validity and reliability, and measurement error. Students gain knowledge about the current trends in evidence-based practice..(3 lecture hours)

47-744 Quantitative data analysis
This course provides an examination of the principles of quantitative data analysis with a focus on conducting and interpreting common bivariate and multivariate statistical procedures used in social science research. Parametric and non-parametric approaches are examined. Students gain competency in the assumptions underlying statistical tests, the criterion for test selection, and the utilization of computer software analysis for analyzing small and large datasets..(3 lecture hours)

47-750. Scholarship of teaching and learning in Social Work education
This course provides conceptual frameworks and practice approaches toward comprehensive and inclusive social work pedagogies. The goal is to prepare students to function as effective social work educators through an understanding of theories of teaching and learning; curriculum development; reflective and critical instruction; diversity and equity issues; and the role of research and evaluation..(3 lecture hours)

47-795. Dissertation seminar
This course guides students through the process of developing a dissertation proposal. It covers each step of the research development process, from examining current knowledge to a description of how the data analysis will be conducted. It encourages students to consider the most appropriate methodology for their purposes (i.e., mixed, qualitative, and quantitative approaches). Students will also be supported through the process of obtaining approval for their project from the University of Windsor Research Ethics Board..(3 lecture hours)

47-797. Thesis
The thesis will integrate knowledge of research and evaluation methods to promote the acquisition of evidence-based

practice to specific vulnerable populations. The thesis is supervised by the student's thesis committee..(3 lecture hours)
*Given annual enrolment numbers, 47-680 and 47-696 may be offered together, concurrently in module formats.

Spring 2012 Graduate Calendar

SOCIOLOGY, ANTHROPOLOGY AND CRIMINOLOGY: COURSES

All courses listed will not necessarily be offered in any given year.

All courses are taught as seminars.

48-500. Sociological Theory
A seminar on current and emerging trends in social theory from social constructionism to world systems theory, including contemporary debates on impacts of globalization, modernity and postmodernity, and the recovery of neglected voices in sociological theory.

48-501. Classical Theories and Beyond
A seminar on selected classical writings by theorists such as Marx, Weber, and Durkheim, as well as critical extensions of their work. Attention will be paid to contributions to the sociology of knowledge.

48-507. Survey Data
Student will work in teams to develop questionnaires, gather data, and prepare them for analysis. Extensive reading will be required on sample design, questionnaire design, and survey administration. (2 lecture, 1 laboratory hour each week.) (Cross listed with 46-507)

48-508. Data Analysis
Students will explore their data and test hypotheses, drawing on methods from other graduate data analytic courses. Students will be required to write a final report which emphasizes communicating findings to non-specialists. (2 lecture, 1 laboratory hour each week.) (Cross listed with 46-508)

48-505. Quantitative Methods and Statistics
Construction and testing of regression and logit models, sampling and questionnaire construction. Additional topics may be selected in view of the needs and interests of students.

48-506. Qualitative Methodology I
An examination of the ethics and politics of research. An emphasis will be placed on interviews and life histories, discourse analysis, and select approaches to historical sociology. The course is designed to provide students with an opportunity to engage in various research activities and debates.

48-520. Social Movements and Popular Mobilization
Seminar on the theory and research of large-scale transformations through historical and cross-cultural examinations of such topics as the development and impact of social movements, states and social revolutions, and the mobilization of people around issues concerning human rights, working conditions, racism, gender, sexuality, environment, peace, poverty, and globalization.

48-521. Social Inequality and the State
Seminar on the theory and research of structured inequality in the national and international context. The focus will be on the role of the state in creating, sustaining and altering different aspects of inequality in terms of resource attainment, political ideology and behaviour. Policy related issues may include globalization, family, sexuality, multiculturalism, immigration, employment, crime, education, health and welfare.

48-525. International Development and its Discontents
Seminar on the central theoretical and empirical issues raised in understanding the ways in which national and global processes of socio-economic development are experienced locally.

48-530. Work and Social Change
This course examines current research and theoretical approaches in the sociology of work with an emphasis on understanding the relationship between the transformation of work and broader social change in class, gender and ethnic relations. Areas of concentration may include the organization of production, worker control and resistance, state labour policies and legislation, unemployment, labour market segregation, and globalization.

48-540. Race and Ethnic Relations
A comparative analysis of race and ethnic relations focussing on such issues as ethnic stratification and mobility patterns, assimilation and cultural pluralism, and policies and legislation governing multiculturalism, employment equity and collective rights.

48-550. Family Relations and Gender Politics
An examination of historical and contemporary debates on gender politics within the context of family formation and social change in Canada. Special attention will be given to the gender division of labour, sexuality, economy and class, and to related social justice issues such as state regulation of marriage, divorce, child care and procreation, reproductive engineering and rights, and ideological power structures and practices that construct family members in particular social and cultural contexts.

48-555. Sexualities and Social Justice
This course will investigate the relationship between sexuality, power inequalities and social change. This may include an

examination of the impact of globalization processes on sexualities, the development of lesbian, gay, bisexual, transgender and queer identities and movements, the racialization and gendering of sexual identity (and the sexualization of racial, ethnic and gender relations), the criminalization of sexualities, and the construction of sexual 'health'.

48-561. Crime and Exclusion
An exploration of research and theory on the conception, construction, and production of crime and other exclusionary processes. Substantive topics may include violence, victimization and the impact of culture, borders, inequalities, and regulatory agencies on crime and deviance.

48-562. Security and Regulation
An examination of research and theory on the regulatory agencies of criminal law and social policy (e.g. courts, police, corrections, social service agencies), modes of regulation (e.g. discipline, surveillance, detention) and their application (e.g. to bodies, spaces, borders and subjectivities).

48-565. Law and Governance
This course examines perspectives on moral regulation, the social construction of law and law as governance. The focus will be the analysis of various forms of law, policy and regulation. Substantive issues to be covered may include sexuality, immigration and exclusion, labour and economic policies, drug policies and communication, or cultural policies.

48-566. Contemporary Criminological Theory
An advanced analysis of social theories in Criminology. Various perspectives will be covered including feminist, Marxist, cultural, postmodern, and constructionist theories.

48-567. Current Issues in Criminology
An examination of contemporary research in criminology, deviance, and/or social justice. Students will critically engage with the results of recent research central to these areas of investigations

48-568. Critical Perspectives on Policy Development
This course provides an in-depth study of the process of policy formation, development, and implementation in the area of crime and criminal justice broadly defined.

48-569. Culture and Globalization
This seminar course uses cultural perspectives to explore processes of globalization. Topics may include migration, mass mediated practices, transnational organizations, work and employment, and human rights.

48-574. Health and Social Justice
Examines the social construction, production, and subjectivities of health and illness with reference to a variety of social justice developments and policy issues.

48-580. Subordination, Identity and Empowerment
A micro level examination of the effects of subordination on everyday life in the generation of acquiescence and resistance, including the use of discourse in identity formation and popular ideologies.

48-590. Directed Readings: Development of the Thesis Proposal
Students will register for this course with a faculty advisor in their declared area of specialization with the purpose of developing a thesis proposal. (Available for credit only in the MA program by thesis.)

48-600. Social Theory and Social Justice
A seminar to develop the theoretical foundations of doctoral research by critically examining the location of research and researchers in the global system, presumptions concerning human subjectivity and empowerment, and the conceptualization and practice of social justice. (Prerequisite: 48-500 or 48-501 or permission of instructor.)

48-605. Statistics and Quantitative Methods
Sociological applications of structural equation modeling, hierarchical modeling, log-linear models, multinomial and ordinal logits, consideration of the strengths and limitations of quantitative sociology and political issues in its exercise. (Prerequisite: 48-505 or permission of instructor.)

48-606. Qualitative Methodology II
A critical exploration of the epistemological assumptions and analytical tools associated with qualitative methodologies. Students will be exposed to a variety of research issues in the areas of sociological field work, select ethnographic techniques, the analysis of documents, and participatory action research. The course is designed to assist students in developing the methodological component of their PhD proposal. (Prerequisite: 48-506 or permission of instructor.)

48-794. Directed Study Major Project I
Under the guidance of the instructor, the candidate will engage in research on a discipline relevant issue, using existing data set(s), leading to the production of a final project which entails empirically grounded policy suggestions. Students will select a Project Committee, review literature and develop research question and identify data set(s). (Cross listed with 46-794)

48-795. Directed Study Major Project II
In the Summer Semester, operationalize concepts, recode variables, analyze data, write report and suggest policies. The final project will show evidence of methodological skills, knowledge of the relevant substantive area, and ability to define policy implications based on analyzed data. (Cross listed with 46-795)

48-797. MA Thesis

48-798. Doctoral Dissertation

Spring 2012 Graduate Calendar

VISUAL ARTS: COURSES

STUDIO

All graduate studio courses are directed individual studies courses. Projects will be planned and carried out in conjunction with a faculty supervisor.

27-561. Studio Practice 1
Directed individual studio projects within the areas of research in; Painting/Drawing, Printmaking, Sculpture and Integrated Media (Video, Sound, Photography, Digital Arts). (This course is supervised by the Guidance Committee composed of two professors and the principal advisor.) (Open to M.F.A. students only.)

27-562. Studio Practice 2
Directed individual studio projects within the areas of research of; Painting/Drawing, Printmaking, Sculpture and Integrated Media (Video, Sound, Photography, Digital Arts). This course is supervised by the Guidance Committee composed of two professors and the principal advisor. (Prerequisite: 27-561) (Open to M.F.A. students only.)

27-563. Studio Practice 3
Directed individual studio projects within the areas of research of; Painting/Drawing, Printmaking, Sculpture and Integrated Media (Video, Sound, Photography, Digital Arts). (This course is supervised by the Guidance Committee composed of two professors and the principal advisor.) (Prerequisite: 27-562) (Open to M.F.A. students only.)

27-564. Studio Practice 4
Directed individual studio projects within the areas of research of; Painting/Drawing, Printmaking, Sculpture and Integrated Media (Video, Sound, Photography, Digital Arts). This course is supervised by the Guidance Committee composed of two professors and the principal advisor. (Prerequisite: 27-563.) (Open to M.F.A. students only.)

27-596. Graduate Seminar 1
The seminar addresses art methodologies in the creative research, the development of critical vocabulary and interpretations in the context of contemporary art making as well as some pedagogical concepts through lectures, group discussions, studio visits, visiting scholars and artists. The seminar provides a forum for peer critique and critical discussion on contemporary concepts related to the students' artistic research. (Open to M.F.A. students only.)

27-597. Graduate Seminar 2
The seminar addresses art methodologies in the creative research, the development of critical vocabulary and interpretations in the context of contemporary art making as well as some pedagogical concepts through lectures, group discussions, studio visits, visiting scholars and artists. The seminar provides a forum for peer critique and critical discussion on contemporary concepts related to the students' artistic research. (Prerequisite: 27-596.) (Open to M.F.A. students only.)

27-598. Graduate Seminar 3
The seminar addresses art methodologies in the creative research, the development of critical vocabulary and interpretations in the context of contemporary art making as well as some pedagogical concepts through lectures, group discussions, studio visits, visiting scholars and artists. The seminar provides a forum for peer critique and critical discussion on contemporary concepts related to the students' artistic research. (Prerequisite: 27-597.) (Open to M.F.A. students only.)

27-599. Graduate Seminar 4
The seminar addresses art methodologies in the creative research, the development of critical vocabulary and interpretations in the context of contemporary art making as well as some pedagogical concepts through lectures, group discussions, studio visits, visiting scholars and artists. The seminar provides a forum for peer critique and critical discussion on contemporary concepts related to the students' artistic research. (Prerequisite: 27-598.) (Open to M.F.A. students only.)

27-600. Special Project
Directed individual artist project outside the Student's area of research. (May be repeated for credit.) (Has to be approved by the Graduate Committee and the Program Coordinator.)

27-797. Thesis

ART HISTORY

The specific topics in the Directed Individual Studies in Art History and the Art History Seminar will vary from year to year, depending upon the interests and needs of professors and students. All courses are three hours a week unless otherwise indicated.

28-600. 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 the M.F.A. Program Coordinator.)

28-660. Seminar on Contemporary Issues
Current issues in art criticism and theory will be considered through reading, discussions, museum trips, guest lectures and research papers culminating in a seminar presentation by individual students on specific issues.

Spring 2012 Graduate Calendar

BIOLOGICAL SCIENCES

GRADUATE FACULTY

Professor Emeritus

Warner, Alden H.; B.A. (Maine), M.A., Ph.D. (Southern Illinois)-1965.

Professors

Ciborowski, Jan J. H.; B.Sc., M.Sc. (Toronto), Ph.D. (Alberta)-1984.

Haffner, G. Douglas; B.Sc. (Queen's), Ph.D. (London, England)-1986.

Corkum, Lynda D.; B.A., M.A. (Drake), Ph.D. (Toronto)-1987.

Zielinski, Barbara; B.Sc., M.Sc. (Waterloo), Ph.D. (Manitoba)-1990.

MacIsaac, Hugh J.; B.Sc. (Windsor), M.Sc. (Toronto), Ph.D. (Dartmouth)-1992.

Crawford, Michael J; B.Sc., M.Sc., Ph.D. (Toronto)-1997.

Heath, Daniel; B.Sc., M.Sc. (McGill), Ph.D. (British Columbia)-2000.

Crosby, William L.; B.Sc. (U.B.C.), Ph.D. (Heriot-Watt)-2004. (Head)

Associate Professors

Hubberstey, Andrew V.; B.Sc. (Waterloo), M.Sc., Ph.D. (Guelph)-1997. Department Head

Drouillard, Ken G.; B.Sc. (Windsor), M.Sc. (Manitoba), Ph.D. (Trent)-2002.

Higgs, Dennis M.; B.Sc. (Michigan State), M.Sc. (Northern Illinois), Ph.D. (Texas)-2003.

Hudson, John W.; B. Sc., M.Sc. (McMaster), Ph.D. (York)-2003.

VanLaerhoven, Sherah; B.Sc., M.P.M. (SFU), Ph.D. (Arkansas)-2003.

Porter, Lisa A.; B.Sc., Ph.D. (McMaster)-2004.

Mennill, Daniel; B.Art.Sc. (McMaster), Ph.D. (Queen's)-2005.

Cristescu, Melania; B.Sc. (Constanta-Romania), Ph.D. (Guelph)-2006.

Doucet, Stéphanie; B.Sc., M.Sc. (Queen's) Ph.D. (Auburn)-2006.

Pitcher, Trevor E.; B.Sc., M.Sc. (York), Ph.D. (Toronto)-2006.

Zhang, Huiming; B.Sc., M.Sc., Ph.D. (Fudan)-2006.

Assistant Professors

Swan, Andrew; B.Sc. (Alberta), Ph.D. (McGill)-2006.

Love, Oliver P.; B.Sc. (Concordia), M.Sc. (McGill), Ph.D. (Simon Fraser)-2009.

Adjunct Professors

Shipp, J. Les; B.Sc., M.Sc. (Guelph), Ph.D. (Iowa State)-2005.

Hamm, Caroline; B. Psych, B.Ed. (Western Ontario), B.Sc. (McGill), M.D. (Dalhousie)-2007.

Otis, Gard; B.S. (Duke), Ph.D. (Kansas) -2008.

Sloane, Bonnie; B.S., M.A. (Duke), Ph.D. (Rutgers)-2008.

Adjunct Associate Professors

Johnson, Timothy; B.Sc. (Guelph), M.Sc. (York), Ph.D. (Wisconsin)-1998.

Mandrak, Nicholas Edward; B.Sc., M.Sc., Ph.D. (Toronto)-2003.

Mackey, Scudder; B.Sc (Hobart College), M.Sc. (Wisconsin-Madison), Ph.D. (New York)-2006.

Neff, Bryan, B.Sc., Ph.D. (Toronto)-2006.

Foote, A. Lee; B.Sc., M.Sc. (Louisiana State), Ph.D. (Utah State)-2007.

Rappolee, Daniel; B.A. (California, Santa Barbara), Ph.D. (California, San Francisco)-2008.

Wilson, Cristopher C.; B.Sc. (Queen's), M.Sc. (Windsor), Ph.D. (Guelph)-2010.

Adjunct Assistant Professors

Yu, Kangfu; B.Sc. (China), M.Sc., Ph.D. (Guelph) - 2006.

Zhao, Yingming; B.Sc. (Xiamen), M.Sc. (Memorial), Ph.D. (Toronto)-2008.

Tomberlin, Jeffery K.; B.Sc. (Georgia), M.Sc. (Clemson), PhD. (Georgia)-2009

Gillespie, David R.; B.Sc., M.Sc., Ph.D. (Simon Fraser)-2009..

Spring 2012 Graduate Calendar

Odette School of Business

GRADUATE FACULTY

Professor Emeriti

Armstrong-Stassen, Marjorie; B.S., M.L.H.R., Ph.D. (Ohio State)-1989.

Professors

Faria, Anthony John; B.S., M.B.A. (Wayne State), Ph.D. (Michigan State)-1975.

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 Statis-tical Inst.), Ph.D. (Johns Hopkins)-1984.

Templer, Andrew; B.A. (Hons.) (Witwaters-rand), M.A. (South Africa), M.Sc. (London), Ph.D. (Witwatersrand)-1984.

Singh, Jang; B.A. (Toronto), M.A. (College of St. Thomas), M.B.A. (Windsor), M.A., Ph.D. (Toronto)-1986.

Ursel, Nancy D.; B.Comm. (McGill), M.B.A. Ph.D. (Concordia)-1989.

Hussey, Roger D.; M.Sc., Ph.D. (Bath)-2000.

Fleisher, Craig; B.S.B.A. (Florida), M.B.A. (Vanderbilt), Ph.D. (Pittsburgh)-2002. (Odette Research Chair)

Associate Professors

Musson, Harold Douglas; B.Comm. (Windsor), M.B.A. (Michigan State)-1968.

Cattaneo, R. Julian; Licenciado (Buenos Aires), Ph.D. (Michigan)-1980.

Rieger, Fritz; B.S. (Manhattan), M.B.A. (Columbia), Ph.D. (McGill)-1984.

Reavley, Martha; B.Comm., M.B.A. (Win-dsor), Ph.D. (Wayne State)-1986.

Lan, George; B.S. (Beloit College), M.A. (Smith College), M.B.A. (Tulane University), Ph.D. (Queens)-1988.

Ong, Audra; B.Sc. (Queen's Belfast), M.B.A. (Wales), Ph.D. (West of England, Bristol)-2000.

Sinha, Rajeeva; B.A. (Patna, India), M.A. (JNU, India), Ph.D. (Warwick)-2000.

Assaf, Ata; B.A. (Lebanese U.), D.H.S., M.A. (Western Ontario), Ph.D. (McGill)-2002.

Pathak, Jagdish; B.Comm., M.Comm. (Rajasthan), Ph.D. (Goa)-2002.

Li, Kevin W; B.Sc., M.A.Sc. (Xiamen University, China), Ph.D. (Waterloo)-2004.

Assistant Professors

Kao, Diana; LL.B. (National Cheng-Chi), Dipl.Acc. (Wilfrid Laurier), M.B.A. (McMaster), Ph.D. (Western Ontario)-1990.

Kerr, Gerald; B.A. (Western Ontario), B.A., B.Admin. (Brock), M.B.A. (McMaster), Ph.D. (York)-2001.

Al-Hayale, Talal H. S.; B.Sc. (Mosul, Iraq), M.A., Ph.D. (Wales, UK)-2002.

Baki, Mohammed; B.Sc. (Bangladesh Inst. Of Technology), M.B.A. (Dhaka), M.B.A. (New Brunswick), Ph.D. (Waterloo)-2002.

Cheung, Keith C.K.; B.A., M.A., Ph.D. (York)-2003.

Lee, Jonathan C.; B.A. (Hons.), M.B.A. (Windsor), Ph.D. (South Carolina)-2003.

Moro, Francisco Baptista Pereira; B. Sc. (PUC-RS, Brazil), M.Eng., Dr.Eng. (UFSC, Brazil), Ph.D. (Wisconsin)-2003.

An, Yunbi; B.S. (Shandong, China), M.A. (Central University, Beijing), M.A. Economics (Windsor), Ph.D. (Queen's)-2004.

Spring 2012 Graduate Calendar

COMMUNICATION, MEDIA, AND FILM

GRADUATE FACULTY

Professors

Winter, James P.; B.J., M.J. (Carleton), Ph.D. (Syracuse)-1981.

Hildebrandt, Kai; M.A. (Hamburg), M.A., Ph.D. (Michigan)-1985.

Associate Professors

Virdi, Jyotika; B.A. (St. Stephen), M.A. Social Work (Delhi), M.A. (Cornell), Ph.D. (Oregon)-1998.

Scatamburlo-D'Annibale, Valerie L.; B.A., M.A. (Windsor), Ph.D. (York)-2000.

Adjunct Assistant Professor

Bryant, Susan E.; B.A., M.E.S. (York), Ph.D. (Simon Fraser)-2003.

Spring 2012 Graduate Calendar

CHEMISTRY AND BIOCHEMISTRY

(Ext. 3520)

GRADUATE FACULTY

Professors Emeriti

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

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.

Green, James R.; B.Sc. (Windsor), Ph.D. (Waterloo)-1989.

Koschinsky, Marlys; B.Sc. (Winnipeg), Ph.D. (UBC)-2008.

Schurko, Robert W.; B.Sc., M.Sc. (Manitoba), Ph.D. (Dalhousie)-2000

Pandey, Siyaram; B.Sc., M.Sc. (Banaras), Ph.D. (J.N.U. New Delhi)-2000.

Macdonald, Charles L.B.; B.Sc., Ph.D. (Dalhousie)-2001.

Rawson, Jeremy M.; B.Sc., Ph.D. (Durham)-2010

Associate Professors

Lee, Lana; A.B. (Mount Holyoke), Ph.D. (Alberta)-1986.

Ananvoranich, Sirinart; B.Sc., M.Sc. (Chulalongkorn), Ph.D. (Concordia)-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

Johnson Samuel A.; B.Sc. (McMaster), Ph.D. (British Columbia)-2002

Wang, Jichang; B.Sc. (Tsinghua), Ph.D. (Copenhagen)-2002.

Rangan, Chitra; B.Sc. (Madras), M.Sc. (Indian Inst. of Technology, Madras), Ph.D. (Louisiana State U)-2003. (Cross-appointed with Physics.)

Vacratsis, Panayiotis, O.; B.Sc. (Eastern Michigan), Ph.D. (Michigan State)-2003.

Carmichael, Tricia B.; B.Sc., Ph.D. (Windsor)-2005.

Assistant Professors

Boffa, Michael; B.Sc., M.Sc., Ph.D. (Queen's) 2008

Wang, Zhuo; B.Sc.(Peking), Ph.D.(North Carolina-Chapel Hill)-2007

Spring 2012 Graduate Calendar

COMPUTER SCIENCE

GRADUATE FACULTY

Professors

Kent, Robert D., B.Sc. (Hons.) (British Co-lumbia), 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.

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.

Mukhopadhyay, Asish; B.Sc., M.Sc. (Calcutta), Ph.D. (Bangalore)-1999.

Goodwin, Scott; B.Math (Hons.), M.Math (Waterloo), Ph.D. (Alberta)-2001.

Associate Professors

Tsin, Yung H.; B.Sc. (Nanyang), M.Sc. (Calgary), Ph.D. (Alberta)-1985.

Morrissey, Joan; B.Sc., Ph.D. (Dublin)-1989.

Chen, Xiao J.; B.C.S. (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.

Ngom, Alioune; B.Sc. (Quebec), M.Sc., Ph.D. (Ottawa)-2000.

Yuan, Xiaobu; B.Sc. (Chinese University of Science and Technology), M.Sc. (Sinica), Ph.D. (Alberta)-2001.

Lu, Jianguo; B.Sc., M.Sc., Ph.D. (Nanjing)- 2002.

Rueda, Luis; Lic. (San Juan), M.C.S., Ph.D. (Carleton) - 2002.

Wu, Dan; B.Sc. (Wuhan), M.Sc. (Peking), Ph.D. (Regina)-2003.

Gras, Robin; B.Sc., M.Sc., Ph.D. (Rennes)-2006.

Assistant Professors

Kobti, Ziad; B.Sc., M.Sc. (Windsor), Ph.D. (Wayne State)-2005.

Adjunct Professors

Liu, Jiming; B.Sc. (East China Normal University), MA (Concordia), MA Eng, Ph.D. (McGill) - 2007.

Wong, Albert Hung Choy; M.D., Ph.D. (Toronto), F.R.C.P.C.-2007.

Habed, Adlane; B.Sc. (Houari Boumediene's U); M.Sc. (Henri Poincare U); Ph.D. (Sherbrooke) - 2009

Cross-Appointments

Aneja, Yash Paul; M.Sc., B.Sc. (Indian Statistical Inst.), Ph.D. (Johns Hopkins)-1983.

Caron, Richard; B.Math (Hons.), M.Math, Ph.D. (Waterloo) - 2005.

Spring 2012 Graduate Calendar

EARTH AND ENVIRONMENTAL SCIENCES

GRADUATE FACULTY

Professor Emeritus

Symons, David T.A.; B.A.Sc. (Toronto), A.M. (Harvard), Ph.D. (Toronto), P. Eng.-1970.

University Professor

Trenhaile, Alan S.; B.Sc., Ph.D. (Wales)-1969.

Professors

Simpson, Frank; B.Sc. (Edinburgh), Dr. Nat. Sc. (Jagiellonian U., Krakow), P.Eng., P.Geo.-1974.

Lakhan, V. Chris; B.A. (Guyana), M.A. (Windsor), Ph.D. (Toronto), F.R.G.S. (U.K.), C.E.I., C.E.S. -1984.

Samson, Iain M.; B.Sc., Ph.D. (Strathclyde)-1986.

Al-Aasm, Ihsan S.; B.Sc., M.Sc. (Baghdad), Ph.D. (Ottawa)-1989.

Fryer, Brian J.; B.Sc. (McMaster), Ph.D. (Massachusetts Inst. Tech.), F.R.S.C.-1993.

Associate Professors

Cioppa, Maria T.; B.Sc. (Carleton), M.Sc. (Victoria), Ph.D. (Lehigh)-2001.

Graniero, Phil A.; B.E.S., M.E.S. (Waterloo), Ph.D. (Toronto)-2001.

Polat, Ali; B.Sc. (Technical University of Istanbul), M.Sc. (Houston), Ph.D. (Saskatchewan)-2002.

Yang, Jianwen; B.Eng. (Guilin Institute of Geology, China), M.Eng. (Central-South University of Technology, China), M.Sc., Ph.D. (Toronto)-2002.

Weisener, Christopher; B.Sc. (Western Ontario), Ph.D. (South Australia)-2005.

Fisk, Aaron; B.Sc., M.Sc. (Windsor), Ph.D. (Manitoba)-2006.

Gagnon, Joel; B.Sc., M.Sc. (Windsor), Ph.D. (McGill)-2006.

Adjunct Professor

Greenough, John D.; B.Sc (Acadia), M.Sc. (Carleton), Ph.D. (Memorial)-1999.

Ames, Doreen E.; B.Sc. (Waterloo), M.Sc., Ph.D. (Carleton)-2005.

Barrie, C. Tucker; B.Sc. (Michigan), M.A. (Texas), Ph.D. (Toronto)-2005.

Coniglio, Mario; B.Sc. (McGill), M.Sc. (Manitoba), Ph.D. (Memorial)-2005.

Spring 2012 Graduate Calendar

ECONOMICS

GRADUATE FACULTY

Professor

Meng, Ronald; B.Sc. (Trent), M.A., Ph.D. (Carleton)-1987.

Townley, Peter G.C.; B.Sc., B.A., M.A. (Guelph), Ph.D. (Queen's)-1986.

Suh, Sang-Chul; B.A. (Korea), M.A. (Tai-wan), Ph.D. (Rochester)-1994.

Associate Professor

Li, Dingding; B.Sc. (Hebei), M.A., Ph.D. (Guelph)-2002.

Wang, YunTong; B.Sc. (Hebei), M.Sc. (Huazhong), Ph.D. (Nankai), Ph.D. (Montreal)-2003.

Assistant Professor

Turdaliev, Nurlan; B.S., M.S. (Moscow State), M.A. (Arkansas), Ph.D. (Minnesota)-2001.

Rhee, Hyuk-jae; B.S., M.S. (Korea), Ph.D. (Michigan State)-2003.

Trudeau, Christian; B.A., M.A. (Sherbrooke), Ph.D. (Montreal)-2003.

Arbex, Marcelo A.; B.S., (Universidade Federal de Juiz de Fora), M.A. (Universidade Federal de Viçosa), Ph.D. (Illinois) - 2007.

Jouini, Tarek; B.A., M.Sc. (Tunisia) Ph.D. (Montreal)-2008.

Spring 2012 Graduate Calendar

FACULTY OF EDUCATION

GRADUATE FACULTY

Professors Emeriti

Diffey, Norman R.; B.A., Dip.Ed. (Oxon.), M.A. (McMaster), Ph.D. (McGill)-1987.

Flewelling, Janet; B.A. (Guelph), B.Ed. (Queen's), M.Ed., Ed.D. (Toronto)-1990.

Morton, Larry; B.A. (Waterloo), B.Th. (O.B.C.), B.Ed. (O.T.E.C.), M.A., Ph.D. (Toronto)-1988.

Rogers, Pat; B.A. (Oxon.), M.Sc. (Toronto), Ph.D. (London)-2001.

Professors

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. (Carelton), Ph.D. (York)-1991.

Starr, Elizabeth; B.A. (Guelph), B.Ed. (Queen's), M.Ed. (Acadia), Ph.D. (Alberta)-1996.

Egbo, Benedicta O.; B.Ed., Dip.Ed. (Al-berta), M.A., Ph.D. (Toronto)-1998.

Rogers, Pat; B.A. (Oxon.), M.Sc. (Toronto), Ph.D. (London)-2001.

Ezeife, Anthony; B.Sc. (Lagos), M.A., M.Sc. (Columbia), Ph.D. (Nigeria)-2002.

Associate Professors

Smith, Kara; B.Comm. (Windsor), B.A. (Waterloo), B.Ed. (Western Ontario), M.Ed. (Western Ontario), Ph.D. (Stirling)-1998.

Salinitri, Geri; B.Sc., B.Ed., M.Ed., Ph.D. (Windsor)-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.

Beckford, Clinton L.; Cert. In Teaching (Church), B.A., Ph.D. (West Indies)-2002.

Bayley, Jonathan G.; B.Mus. (McGill), B. Ed., M. Mus. (Alberta), M.M. (Eastman), Ph.D. (Ohio State)-2003.

Cherian, Finney V.; B.Sc., B.Ed., M.Ed., Ph.D. (Toronto)-2004.

Daniel, Yvette; B.A., M.Ed., Ph.D. (York)-2004.

Daly, Beth; B.A. (Windsor), B.Ed. (Western Ontario), M.A., Ph.D. (Windsor)-2004.

Doan, Lara; B.A. (Hons.) M.A., Ph.D. (York)-2005.

Martinovic, Dragana; B.Sc., M.Sc. (Belgrade), Ph.D. (Toronto)-2005.

Sefton, Terry Gay; B.Mus. (McGill), B.Ed., M.Ed. (Western Ontario), Ph.D. (Toronto)-2005.

Stanley, Darren; B.Sc. (Acadia), M.Sc. (Simon Fraser), Ph.D. (Alberta)-2005.

Xu, Shi Jing; B.A. (Suzhou University-China), M.A. (York), Ph.D. (OISE)-2007.

Zhang, Zuochen; B.A. (Shanghai International), M.Sc. (Minnesota State), Ph.D. (British Columbia)-2007.

Zhou, Guoqiang; B.Sc. (Liaocheng University-China), M.Ed. (Huazhong University of Science and Technology-China), Ph.D. (Alberta)-2007.

Greig, Christopher J.; B.A. (Wilfrid Laurier University), Dip. Ed. (Australia), M.Ed. (Western)-2007, Ph.D. (Western)-2008.

Rideout, Glen; B.A., B.Ed. (Memorial), M.Ed., Ph.D. (Windsor)-2008.

Assistant Professors

Holloway, Susan: Hons. B.A. (Trent), B. Ed. (Toronto), M.A., Ph D. (Manitoba)-2007.

Adjunct Associate Professor

Kustra, Erika: B.Sc., Ph.D. (Mc Master)-2008.

Spring 2012 Graduate Calendar

ENGLISH

GRADUATE FACULTY

University Professor

Dilworth, Thomas R.; B.A., M.A., Ph.D. (Toronto)-1977.

Professors

Davison, Carol Margaret; B.A. (Concordia), M.A. (York), Ph.D. (McGill)-2000.

Markotic, Nicole; B.A. (Calgary), M.A. (Manitoba), Ph.D. (Calgary)-2006.

Associate Professors

Quinsey, Katherine M.; B.A. (Trent), Ph.D. (London)-1989.

Matheson, C. Suzanne; B.A. (McGill), M.A. (Toronto), D. Phil. (Oxford)-1991.

Jirgens, Karl E.; B.A. (Toronto), M.A., Ph.D. (York)-2004. (Head of the Department)

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.

Douglass-Chin, Richard; B.A. (McMaster), M.A. (Western), Ph.D. (McMaster)-2004.

Frank, Johanna; B.A. (Michigan), M.A. , Ph.D. (Indiana)-2005.

Luft, Joanna; B.A., M.A. (Wilfrid Laurier), Ph.D. (McMaster)-2005.

Cabri, Louis; B.A. (Carleton), M.A., (Calgary), Ph.D., (Pennsylvania)-2006.

Assistant Professors

Johnston, Mark; B.A. (Western), M.A. (Queen's), Ph.D. (Western) - 2007.

Spring 2012 Graduate Calendar

CIVIL AND ENVIRONMENTAL ENGINEERING

GRADUATE FACULTY

Professors Emeriti

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.

McCorquodale, John Alexander; B.E.Sc. (Western Ontario), M.Sc. (Glasgow), Ph.D. (Windsor), F.C.S.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), D.Sc. (Hon), FCSCE, P.Eng.,1968.

Madugula, Murty K. S.; B.E. (Hons.), M. Tech., Ph.D. (I.I.T., Kharagpur), P.Eng.-1979. (Acting Head, Civil and Environmental Engineering)

University Professors

Biswas, Nihar; B.E. (Calcutta), M.A.Sc., Ph.D. (Ottawa), P.Eng.-1981. (Sr. Associate Dean, Research & Planning)

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 Dean, Adv. & Professional Studies)

Associate Professors

Henshaw, Paul; B.Sc., B.Eng.Sc. (Western Ontario), M.A.Sc., Ph.D. (Windsor), P.Eng.-1997.

Ghrib, Faouzi; B.Sc. (Tunis), M.Sc., Ph.D. (Ecole Polytechnique), P.Eng.-1999.

Tam, Edwin K. L.; B.Sc., M.Sc. (Alberta), Ph.D. (Toronto)-2001. (Cross-appointment to MAME) (Assistant Dean, Student Affairs-WINONE).

Seth, Rajesh; B.E. (Govt. Engin. College, Jabalpur), M.Tech. (Indian Inst. Of Technology), Ph.D. (Toronto), P.Eng.-2002.

Xu, Xiaohong; B.E. (Beijing Sci. & Tech. Univ.), M.Sc. (China Agric. Univ.), M.Sc., Ph.D. (Connecticut), P.Eng.-2002.

Lalman, Jerald; B. Sc., B.A.Sc., M.Eng., Ph.D. (Toronto), P.Eng.-2003.

Assistant Professors

Carriveau, E. (Rupp); B.A.Sc. (Windsor), M.A.Sc., Ph.D. (Western Ontario), P.Eng.-2004.

Das, Sreekanta; B.Sc. (Calcutta), M.Sc. (Wollongong, Australia), Ph.D. (Alberta), P.Eng.-2004.

Cheng, Shaohong; B.Eng., M.Eng. (Tongji, China), Ph.D. (Carleton)-2005.

Bolisetti, Tirupati; B.E. (Andhra, India), M.Tech. (I.I.T., Kanpur, India), Ph.D. (Windsor), P.Eng. (Ontario)-2006.

Lee, Chris, B.A.Sc. (Toronto), M.E. (Yonsei, Korea), M.A.Sc. (Toronto), Ph.D. (Waterloo), P. Eng.-2007.

Maoh, Hanna; B.A.Sc. (Bethlehem), M.Sc., Ph.D. (McMaster)-2009.

Adjunct Assistant Professor

Carpenter, Donald; B.S. (Purdue), M.S. (Oregon State), Ph. D. (Michigan) - 2006

Li, Jian; B.S. (Wuhan, China), M.S. (Tongji, China), Ph. D. (Meiji, Japan), P.Eng. (Ontario), PE (Michigan)-2006

Adjunct Professor

Tsui, Stephen H.; B.Sc.(Chu Hai, Hong Kong), M.Eng. (Carleton), C. Eng., M.I. Struct.E., P. Eng.-1982

Cross-Appointment

Taylor, Keith E.; B.Sc., Ph.D. (Toronto)-1976.

Spring 2012 Graduate Calendar

ELECTRICAL AND COMPUTER ENGINEERING

GRADUATE FACULTY

Professor Emeritus

Miller, William C.; B.S.E. (Michigan), M.A.Sc., Ph.D. (Waterloo), P.Eng.-1968.

Hackam, Reuben; 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), D.I.C., Ph.D. (Imperial College) C.Eng., F.I.E.E.E.-1981.

Professors

Sid-Ahmed, Maher A.; B.Sc. (Alexandria), M.A.Sc., Ph.D. (Windsor), P.Eng.-1978.
(Head of the Department)

Kwan, H.K. Peter; B.Sc. (London), M.Phil. (CUHK), D.I.C., Ph.D. (London), F.I.E.E., C.Eng., P.Eng.-1988.

Chen, Xiang; B.Sc., M.Sc. (Huazhong Univ. of Science and Tech.), M.Sc., Ph.D. (Louisiana State), P.Eng.-2000.

Chen, Chunhong; B.Sc., M.Sc. (Tianjin), Ph.D. (Fudan, China), P.Eng.-2001.

Erfani, Shervin; B.Sc, M.Sc. (Tehran), M.Sc., Ph.D. (Southern Methodist), C.Eng.-2002.

Wu, Jonathan; B.Sc. (Shandong), M.Sc. (Coventry), Ph.D. (Wales)-2005.

Saif, Mehrdad; B.S.EE., M.S.EE., D.Eng. (Cleveland State)-2011.

Associate Professors

Tepe, Kemal; B.Sc. (Hacettepe U, Ankara, Turkey), M.Sc., Ph.D. (Rensselaer Polytechnic Institute, Troy) - P.Eng. 2002.

Shahrrava, Behnam; B.A.Sc., M.A.Sc. (Tehran), Ph.D. (Waterloo), P.Eng.-2002.

Wu, Huapeng; B.Sc., M.Sc. (USTC, China), Ph.D. (Waterloo) - P.Eng. 2002.

Abdel-Raheem, Esam; B.Sc., M.Sc. (Ain Shams), Ph.D. (Victoria), S.M.I.E.E.E., P.Eng.-2003.

Chowdhury, Sazzadur; B.Sc. (Bangladesh), M.A.Sc., Ph.D. (Windsor), P.Eng -2003.

Kar, Narayan Chandra; B.Sc. (Bangladesh), M.Sc., Ph.D. (Kitami Institute of Technology, Japan), P.Eng.-2003.
(Cross Appointment with Mechanical, Automotive and Materials Engineering)

Khalid, Mohammed A.S.; B. E. (Osmania), M.S.E.E. (Louisiana State U), Ph.D. (Toronto), P.Eng.-2003.

Assistant Professors

Muscedere, Roberto; B.A.Sc., M.A.Sc., Ph.D. (Windsor), P.Eng.-2003.

Mirhassani, Mitra; B.A.Sc. (University of Science and Technology, Tehran), M.A.Sc., Ph.D. (Windsor)-2007.

Adjunct Professors

Jullien, Graham A.; B.Tech. (Loughborough), M.Sc. (Birmingham), Ph.D. (Aston), P.Eng.-1969.

Benlamri, Rachid; B.Eng. (University of Constantine, Algeria), M.Sc., Ph.D. (Manchester)-2007.

Pravica, David B.Sc. (University of Toronto), M.Sc. (University of Toronto), Ph.D. (University of Toronto), 2009.

Nazri, Gholam-Abbas; B.S. (Tehran); M.S. (Tehran); Ph.D. (Cleveland) - 2011

Adjunct Assistant Professor

Rashidzadeh, Rashid; B.A.Sc. (Sharif University ofTechnology, Tehran), M.A.Sc., Ph.D. (Windsor)-2007.

Cross Appointments

Boufama, Boubakeur; Engg. (Constantine), M.Sc. (France), Ph.D. (Grenoble) -1999.

Maev, Roman. G.; B.Sc. (Moscow Physical Engineering Institute), M.Sc. (Moscow Physical Technical University), Ph.D. (Lebedev)- 1995.

Spring 2012 Graduate Calendar

INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING

GRADUATE FACULTY

Professor Emeritus

Lashkari, Reza S.; B.Sc. (Tehran), M.S.I.E., Ph.D. (Kansas State), P. Eng.-1977.

Professors

Wang, Hunglin (Michael); B.S. (National Tsing-Hua U.), M.S. (SUNY), Ph.D. (Iowa), P.Eng.-1991.

ElMaraghy, Hoda A.; B.Eng. (Cairo), M.Eng., Ph.D. (McMaster), P.Eng.-1994.

ElMaraghy, Waguih; B.Eng. (Cairo), M.Eng., Ph.D. (McMaster), P.Eng.-1994. Department Head

Zhang, Guoqing (Michael); B.Eng., M.Eng. (Southeast) , Ph.D. (CityU) -2000.

Associate Professors

Abdul-Kader, Walid; B.A.Sc. (UQTR), M.A.Sc. (École Polytechnique de Montréal), Ph.D. (Laval), P.Eng.-2003.

Oriet, Leo; B.A.Sc., M.A.Sc., Ph.D. (Windsor), P.Eng.-2003.

Pasek, Zbigniew J. ; MSc (Warsaw UTech), PhD, MSE (Michigan), -2005.

Assistant Professor

Urbanic, R. Jill; B.A.Sc. (Waterloo), M.A.Sc., Ph.D. (Windsor)-2007.

Azab, Ahmed; B.Sc.Eng., M.Sc. (Cairo), Ph.D. (Windsor)-2008.

Cross-Appointments

Baki, Fazle N.; B.Sc. (BUET), M.B.A.(U. Dhaka), M.B.A. (UNB), Ph.D. (Waterloo)-1999.

Andrews, David M.; B.P.E., M.Sc. (McMaster), Ph.D. (Waterloo)-2000.

Spring 2012 Graduate Calendar

MECHANICAL, AUTOMOTIVE AND MATERIALS ENGINEERING

ENGINEERING MATERIALS - GRADUATE FACULTY

Professor Emeritus

Watt, Daniel Frank; B.Sc. (Alberta), Ph.D. (McMaster), P.Eng.-1969.

Professors

Northwood, Derek Owen; B.Sc. (Eng.), A.R.S.M. (London), M.Sc. (Part I), Ph.D. (Surrey), F.I.M.M.M., F.A.S.M., FIMMA, F.I.E. Aust., C.Sci. (U.K.), C.P.Eng. (Australia), P. Eng.-1976. (University of Windsor Leadership Chair)

Alpas, Ahmet T.; B.A.Sc., M.Sc. (Middle East Tech., Turkey), Ph.D. (Open University, U.K.) P.Eng., GM/NSERC Industrial Research Chair-1989.

Sokolowski, Jerzy; M.M.E., Ph.D. (Tech. U. Silesia, Poland)-1993.

Altenhof, William Jack Michael; B.A.Sc., M.A.Sc., Ph.D. (Windsor), P.Eng.-1999.

Hu, Henry; B.A.Sc. (Shanghai), M.A.Sc. (Windsor), Ph.D. (Toronto)-2000.

Nie, Xueyuan; B.A.Sc., M.Sc. (Nanjing), Ph.D. (Hull, UK)-2003.

Associate Professors

Bowers, Randy; S.M. (M.I.T.), B.S., Ph.D. (Rensselaer)-2000.

Stoilov, Vesselin; M.Sc. (Sofia, Bulgaria), M.Sc. (Sofia, Bulgaria/Erlangen, Germany), Ph.D. (Alberta) P.Eng.-2003.

Edrisy, Afsaneh; B.Sc. (Isfahan University of Technology), Ph.D., (Windsor) P.Eng.-2004.

Green, Daniel E.; M.S.T. (Université de Metz), D.E.A. (INPL, France), M.A.Sc., Ph.D. (Sherbrooke)-2004.

Assistant Professors

Riahi, Reza; B.Sc. (Shiraz), M.Sc. (Isfahan U. of Technology), Ph.D. (Windsor)-2008.

Adjunct Professor

Cheng, Yang-Tse; B.S., M.S., Ph.D. (Caltech)-2003.

Perry, Thomas; B.S. (Michigan), M.S. (Wisconsin), Ph.D. (Michigan)-2003.

Adjunct Associate Professor

Qi, Yue; B.S. (Beijing) 1996; PhD (California Institute of Technology)-2001.

Adjunct Assistant Professor

Mackay, Robert Ian; B.Sc., M.Sc. (Memorial); M.Eng. (McGill); Ph.D. (Windsor)-2003.

MECHANICAL ENGINEERING - GRADUATE FACULTY

Professors

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.

Sobiesiak, Andrzej; M.Sc., Ph.D. (Warsaw), P. Eng.-1998.

Tjong, Jimi S-Y.; B.A.Sc., M.A.Sc., Ph.D. (Windsor), P.Eng.-1993.

Frise, Peter R.; B.Sc.(Eng.), M.Sc.(Eng.) (Queen's), Ph.D. (Carleton), F.C.A.E., P.Eng.-1997.

Reader, Graham T.; B.Tech. (Bradford), B.A. (O.U.), P.Sc./M.B.A./J.S.D.C., Ph.D. (Bradford), P.Eng., C.M.E., C.Eng., Eur.Ing., F.I.Mar. E.-1999.

Ting, David Sing-Khing; B.Sc. (Manitoba), M.Sc., Ph.D. (Alberta), P.Eng.-1997.

Zheng, Ming; B.Sc. (Transport Tech. Institute), M.Sc. (Tsinghua), Ph.D. (Calgary), P. Eng.-2002.

Zhou, Biao; B.Eng., M.Eng. (Nanjing), Ph.D. (Tsinghua)-2002.

Associate Professors

Gaspar, Robert George Stephen; B.A.Sc., M.A.Sc., Ph.D. (Windsor), P.Eng.-1983.

Altenhof, William; B.A.Sc., M.A.Sc., Ph.D. (Windsor), P.Eng.-1999.

Hu, Henry; B.A.Sc. (Shanghai), M.A.Sc. (Windsor), Ph.D. (Toronto)-2000.

Fartaj, Amir; B.Sc., M.Sc., Ph.D. (Kansas), P.Eng.-2001.

Stoilov, Vesselin; M.Sc. (Sofia, Bulgaria), M.Sc. (Sofia, Bulgaria/Erlangen, Germany), Ph.D. (Alberta)-2003.

Green, Daniel E.; M.S.T. (Université de Metz), D.E.A. (INPL, France), M.A.Sc., Ph.D. (Sherbrooke)-2004.

Assistant Professors

Novak, Colin; B.A.Sc., M.A.Sc. (Windsor), P.Eng.-2003.

Johrendt, Jennifer L.; B.Sc. (Eng.), M.Sc. (Eng.) (Queen's), Ph.D. (Windsor), P.Eng.-2005.

Cross-Appointments

Barron, Ronald Michael; B.A., M.Sc. (Win-dsor), M.S. (Stanford), Ph.D. (Carleton)-1975.

Tam, Edwin Lap Tam; B.Sc., M.Sc. (Al-berta), Ph.D. (Toronto), P. Eng.-2001.

Balachandar, Ram; B.E. (Madras), Ph.D. (Concordia), P.Eng.-2003.

Spring 2012 Graduate Calendar

GREAT LAKES INSTITUTE FOR ENVIRONMENTAL RESEARCH (GLIER)

GRADUATE FACULTY

Cross-appointments

Professors

Haffner, G. Douglas; B.Sc. (Queen's), Ph.D. (London, England)-1986.

MacIsaac, Hugh J.; B.Sc. (Windsor), M.Sc. (Toronto), Ph.D. (Dartmouth)-1992.

Fryer, Brian J.; B.Sc. (McMaster), Ph.D. (Massachusetts Inst. Tech.), F.R.S.C.-1993.

Heath, Daniel; B.Sc., M.Sc. (McGill), Ph.D. (British Columbia)-2000.

Fisk, Aaron; B.Sc., M.Sc. (Windsor), Ph.D. (Manitoba)-2006.

Associate Professors

Drouillard, Ken G.; B.Sc. (Windsor), M.Sc. (Manitoba), Ph.D. (Trent)-2002.

Lalman, Jerald; B. Sc., B.A.Sc., M.Eng., Ph.D. (Toronto), P.Eng.-2003.

Weisener, Christopher; B.Sc. (Western Ontario), Ph.D. (South Australia)-2005.

Cristescu, Melania; B.Sc. (Constanta-Romania), Ph.D. (Guelph)-2006.

Gagnon, Joel; B.Sc., M.Sc. (Windsor), Ph.D. (McGill)-2006.

Spring 2012 Graduate Calendar

HISTORY

GRADUATE FACULTY

University Professor

Howsam, Leslie; B.A. (Waterloo), M.A., Ph.D. (York)-1993.

Professors

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

Way, Peter; B.A. (Trent), M.A. (Queens), Ph.D. (Maryland)-2006.

Associate Professors

Simmons, Christina; B.A. (Radcliffe), M.A., Ph.D. (Brown)-1990.

Burr, Christina A.; B.A. (Western), M.A. (Western Ontario), Ph.D. (Memorial)-1997.

Palmer, Steven; B.A. (British Columbia), M.A., Ph.D. (Columbia)-2001.

Lazure, Guy; B.A. (Montreal), M.A., Ph.D. (Johns Hopkins)-2003.

Wright, Miriam; B.A. (Western Ontario), M.A. (Queen's), Ph.D. (Memorial)-2004.

Nelson, Robert; B.A., M.A. (Simon Fraser), Ph.D. (Cambridge)-2005.

Assistant Professors

Mohamed, Mohamed H.; B.A. (Kartoum); M.A.; Ph.D. (Alberta)-2004.

Huffaker, Shauna; B.A. (Boise State); M.A.; Ph.D. (Univ. of California, Santa Barbara)-2007

Spring 2012 Graduate Calendar

FACULTY OF HUMAN KINETICS

GRADUATE FACULTY

Professors Emeriti

Moriarty, Richard James; B.A., M.A. (Assumption), M.Ed. (Wayne State), Ph.D. (Ohio State)-1956.

Kimmerle, Marliese; B.A., B.P.H.E. (Queen's), M.A., Ph.D. (Michigan)-1969.

Metcalfe, Alan; D.L.C. (Loughborough), B.P.E. (British Columbia), M.S., M.A., Ph.D. (Wisconsin)-1969.

Salter, Michael A,; D.P.E. (Sydney), BPE., M.A., Ph.D. (Alberta)-1972

Boucher, Robert L.; B.Sc. (Mankato State), M.Sc. (Illinois State), Ph.D. (Ohio State)-1974. (Dean, Human Kinetics)-1974.

Professors

Marino, G. Wayne; B.A., B.P.E. (McMaster), M.P.E. (Windsor), Ph.D. (Illinois)-1977. (Department Head, Kinesiology)

Weir, Patricia; B.H.K., M.H.K. (Windsor), Ph.D. (Waterloo)-1991.

Andrews, David M.; B.P.E., M.Sc. (McMaster), Ph.D. (Waterloo)-2000.

Chandler, Krista; B.A. (Prince Edward Island), M.A. (Queen's), Ph.D. (Western Ontario)-2001.

Taks, Marijke; B.Sc., M.Sc., Ph.D. (Leuven)-2001.

Khan, Michael; B.Sc., (McGill), M.A. (Western), Ph.D. (British Columbia)-2011. (Dean, Human Kinetics)-2011.

Associate Professors

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; B.P.E. (McMaster), M.H.K. (Windsor), Ph.D. (Alberta)-1984.

Martyn, Scott G.; B.A., M.A., Ph.D. (Western Ontario)-2000.

Loughead, Todd; B.Sc. (Ottawa), B.Ed. (Brock), M.Sc. (Toronto), Ph.D. (Western Ontario) -2005.

Horton, Sean; B.A., M.A., PhD. (Queen's) - 2007

McNevin, Nancy H.; B.A. (McMaster), M.H.K. (Windsor), Ph.D. (Louisiana State)-2007.

Assistant Professors

Azar, Nadia R.; B.H.K., M.H.K. (Windsor), M.S. (Wayne State), Ph.D. (Wayne State)-2007.

Dixon, Jess C.; Hon. B.S.M. (Brock), M.H.K. (Windsor), Ph.D. (Massachusetts)-2007.

Milne, Kevin; B.H.K. (Windsor), M.Sc. (Western), Ph.D. (Western)-2008.

Cort, Joel; B.A. (Wilfrid Laurier), M.H.K. (Windsor), Ph.D. (McMaster)- 2009.

McGowan, Cheri; B.Sc. (Waterloo), M.Sc. (McMaster), Ph.D. (McMaster)- 2009.

Woodruff, Sarah; BPE (New Brunswick), M.Sc. (New Brunswick), Ph.D. (Waterloo)-2009.

Adjunct Professors

Forsyth, Janice E; B.H.K. (Windsor), M.H.K. (Windsor), Ph.D. (Wayne State, MI)-1997.

Leigh, Lawrence, B.Sc. (Waterloo), MHK (Windsor), Ph.D. (Madison University)-2008.

Spring 2012 Graduate Calendar

MATHEMATICS AND STATISTICS

GRADUATE FACULTY

Professor Emeriti

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., Tech., Ph.D. (Indian Inst. of Tech.)-1970.

Lemire, Francis William; B.Sc. (Windsor), M.Sc., Ph.D. (Queen's)-1970.

Wong, Chi Song; B.S. (National Taiwan), M.S. (Oregon), M.S., Ph.D. (Illinois-Urbana)-1971.

Fung, Karen Yuen; B.A., M.S., Ph.D. (U.C.L.A.)-1976.

University Professors

Paul, Sudhir R.; B.Sc., M.Sc. (Dacca), Ph.D. (Wales)-1982.

Professors

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.

Caron, Richard J.; B.M., M.M., Ph.D. (Waterloo)-1983.

Hlynka, Myron; B.Sc. (Manitoba), M.A., Ph.D. (Pennsylvania State)-1986.

Hu, Zhiguo; B.Sc., M.Sc. (Northeast China), Ph.D. (Alberta)-1993.

Ahmed, Ejaz; B.Sc., M.Sc. (Karachi), M.Sc. (Guelph), Ph.D. (Carleton)-2002.

Associate Professor

Traynor, Tim Eden; B.A., M.A. (Saskatchewan), Ph.D. (British Columbia)-1971.

Alfakih, Abdo Y.; Licence (Lebanese U.), M.Sc., Ph.D. (Michigan)-2003.

Hussein, Abdulkadir A.; B. Sc. (U of Trieste), M.Sc., Ph.D. (Alberta)-2003.

Monfared, Mehdi; B. Sc. (Sharif U. Of Technology), M.Sc. (Iran U. of Science & Technology), Ph.D. (Alberta)-2003.

Nkurunziza, Sévérien; I.T.S. (IAMSEA), M.Sc., Ph.D. (UQAM)-2005.

Assistant Professors

Yee, Wai Ling; B.Math (Waterloo), Ph.D. (M.I.T.)-2006.

Yang, Dilian; B.MathEd. (Sichuan), Ph.D. (Waterloo) - 2008.

Shapiro, Ilya; B.Sc (York); M.S., Ph.D. (Chicago)-2011.

Adjunct Professors

Brill, Percy; B.Sc. (Carleton), M.A. (Columbia), Ph.D. (Toronto)-1984.

Cross-Appointments

Aneja, Yash Paul; B.Sc., M.Sc. (Indian Statistical Institute), Ph.D. (Johns Hopkins)-1984.

Spring 2012 Graduate Calendar

FACULTY OF NURSING

GRADUATE FACULTY

Professors Emeritae

Thomas, Barbara Campbell; RN, Dip.P.H.N., B.N.Sc. (Queen's), M.Ed. (Windsor), Ed.D. (Wayne State), -1969.

McMahon, Sharon; RN, B.Sc.N., B.A., M.Ed. (Windsor), Ed.D. (Wayne State), -1973.

Rosenbaum, Janet N.; RN, B.Sc.N., M.Sc.N., Ph.D., (Wayne State)-1975.

Cameron, W. Sheila; RN, R.S.C.N. (Scotland), B.A. (McMaster), M.A. (Nurs. Educ.) (Detroit), Ed.D. (Wayne State), F.A.A.M.R.,.-1976. (University Professor)

Professors

Carty, Laurie; RN, B.Sc.N., B.A., M.Ed. (Windsor), Ph.D. (Wayne State),-1980.

Associate Professors

Yiu, Lucia, RN, B.Sc. (Toronto), B.Sc.N., B. A.. (Windsor), M.Sc.N. (Western Ontario),-1987.

Rajacich, Dale; RN, B.Sc.N. (Windsor), M.Sc.N. (Western Ontario), PhD. (Nursing) (McMaster)-1987.

Kane, Deborah; RN, B.Sc.N. (Windsor), M.Sc.N. (Western Ontario), Ph.D. (Nursing) (Michigan),-1989.

Hernandez, Cheri; Reg.N. B.Sc.N., B.A., M.Ed. (Windsor), Ph.D. (Toronto), Ph.D. (Case Western Reserve)-1997.

Fox, Susan M.; Reg.N., B.N. (Memorial), M.Sc.N. (Western Ontario)-2000, Ph.D. (Wayne State) -2000.

Patrick, Linda; Reg.N., B.Sc.N., M.A. (Central Michigan), M. Sc. (Windsor) -Ph.D. (McMaster) -2001.

Thrasher, Christine; Reg.N.(EC), B.Sc.N., B.A. (Windsor), M.Sc.N. (D'Youville), Primary Care Nurse Practitioner Certificate (Ryerson), Ph.D. (McMaster University)-2001.

El-Masri, Maher; RN, B.Sc.N. (A-Quds), M.Sc.N. and Ph.D. (Nursing) (Maryland)-2002.

Assistant Professors

Williamson, Karen; Reg.N., B.Sc.N. (Toronto), M.Sc.N. (Toronto) Ph.D.(c) (Nursing) (Toronto)-2001.

de Witt, Lorna; RN, B.Sc.N. (Western Ontario), Ph.D. (McMaster)-2007.

Freeman, Michelle; RN, B.Sc.N, B.A. (Windsor), M.Sc.N., Ph.D. (McMaster)-2007.

Crawley, Jamie; RN, B.A., B.Sc.N. (Windsor), M.B.A. (Phoenix), Ph.D. (Wayne State)- 2010.

Spring 2012 Graduate Calendar

PHILOSOPHY

GRADUATE FACULTY

Professors Emeriti

Pinto, Robert C; B.A., M.A., Ph.D. (Toronto)-1963.

Johnson, Ralph Henry; B.A. (Xavier), M.A., Ph.D. (Notre Dame), F.R.S.C.-1966.

Blair, John Anthony; B.A. (McGill), M.A. (Michigan)-1967.

Professors

Cook, Deborah; B.A., M.A. (Ottawa), Doct. 3e cycle (Sorbonne)-1989.

Tindale, Christopher W.; B.A. (Wilfrid Laurier), M.A., Ph.D. (Waterloo)-2006.

Associate Professors

Hansen, Hans V.; B.A. (Lakehead), M.A. (Manitoba), 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.

Assistant Professors

Hundleby, Catherine; B.A. (Toronto), M.A. (Guelph), Ph.D. (Western Ontario)-2003.

Neculau, Radu; M.A. (New School for Social Research, New York), Dr.phil. (Clausenburg), Ph.D. (NSSR, New York) - 2007.

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.

Spring 2012 Graduate Calendar

PHYSICS

GRADUATE FACULTY

Professors Emeriti

Krause, Lucjan; B.Sc. (London), M.A., Ph.D. (Toronto), D.Sc. (London; Nicholas Copernicus), F.Inst.P.-1958.

Czajkowski, Mieczyslaw; M.Sc., D.Sc. (Nicholas Copernicus)-1967.

Schlesinger, Mordechay; M.Sc., Ph.D. (Jerusalem), F.Inst.P.-1968.

Baylis, William Eric; B.S. (Duke), M.S. (Illinois), D.Sc. (Technical U. of Munich)-1969.

Atkinson, John Brian; M.A., D.Phil. (Oxford.)-1972.

Glass, Edward N.; B.S. (Carnegie-Mellon), M.S., Ph.D. (Syracuse)-1974.

McConkey, John William; B.Sc., Ph.D. (Queen's University of Belfast), F.Inst.P.-1970. (Killam Research Fellow, 1986-1988)

University Professors

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).

Maev, Roman G.; B.Sc. (Moscow Physical Engineering Institute), M.Sc. (Moscow Physical Technical University), Ph.D. (Lebedev)-1995.

Professors

Reddish, Timothy John; B.Sc., Dipl. Adv.Stud.Sci., Ph.D. (Manchester)-2003. (Head of the Department)

Associate Professors

Maeva, Elena Yu; B.Sc., M.Sc. (Mendeleev Institute of Chemical Technology), Ph.D. (Instutite 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)-2003.

Rangan, Chitra; B.Sc. (Madras), M.Sc. (Indian Inst. of Technology, Madras), Ph.D. (Louisiana State U)-2003.

Assistant Professors

Rehse, Steven J.; B.Sc (Michigan Technological University), M.Sc., Ph.D. (Colorado State) - 2011.

Adjunct Professors

Verbrugge, Mark, MBA (Massachusetts), Ph.D. (Berkeley) - 2008

Brown, Stephen L., B. Sc. (Waterloo), M.Sc. (Toronto), Ph.D. (Toronto) - 2008.

Cross-Appointment

Aroca, Ricardo; B.Sc. (Chile), Ph.D. (Moscow State), D.Sc. (Leningrad)-1985.

Schurko, Robert W.; B.Sc., M.Sc. (Manitoba), Ph.D. (Dalhousie)-2000.

Wang, Jichang; B.Sc. (Tsinghua), Ph.D. (Copenhagen)-2002.

Spring 2012 Graduate Calendar

POLITICAL SCIENCE

GRADUATE FACULTY

Professor Emeritus

Briggs, E. Donald; B.A. (New Brunswick), Ph.D. (London)-1963.

Professors

Amore, Roy C.; B.A. (Ohio), B.D. (Drew), Ph.D. (Columbia)-1970.

Brooks, Stephen; B.A., M.A. (Windsor), Ph.D. (Carleton)-1985.

Lee, Martha; B.A., M.A. (Calgary), Ph.D. (Syracuse)-1992.

Wittebols, James, B.A. (Central Michigan), M.A., Ph.D. (Washington State)-2004.

Anderson, William P.; B.A., M.A., Ph.D. (Boston)-2008.

Associate Professors

MacIvor, Heather; B.A. (Dalhousie), M.A., Ph.D. (Queen's)-1992.

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.

Najem, Tom; B.A., M.A. (Windsor), Ph.D. (Durham)-2002.

Essex, Jamey; B.A. (Kentucky), M.A., Ph.D. (Charles University)-2005.

Sidahmed, Abdel Salam; B.A., M.A. (Khartoum), Ph.D. (Charles University)-2005.

Assistant Professors

Henstra, Daniel; B.A. (Windsor), M.A., Ph.D. (Western) - 2007.

Collier, Cheryl, N.; B.A., M.A. (Carleton), PhD (Toronto)-2008.

Paul Martin Senior Scholar in International Diplomacy
Bell, Ambassador Michael-2005.

Spring 2012 Graduate Calendar

PSYCHOLOGY

GRADUATE FACULTY

Professor Emeritus

Rourke, Byron P.; B.A. (Windsor), M.A., Ph.D. (Fordham), F.R.S.C.-1965. (retired University Professor)

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.

Associate Professor Emeritus

Shore, Douglas L.; B.A., M.A., Ph.D. (Wayne State)-1985.

University Professor

Page, Stewart; B.A., M.A. (Western On-tario), Ph.D. (Toronto)-1981.

Professors

Cohen, Jerome S.; B.A. (Michigan State), M.A., Ph.D. (Wayne State)-1968.

Orr, R. Robert; B.A. (Valparaiso) M.A., Ph.D. (Iowa)-1969.

Hakim-Larson, Julie A.; B.S. (Michigan State), M.S. (Eastern Michigan), Ph.D. (Wayne State)-1991.

Lafreniere, Kathryn D.; B.A. (Windsor), M.A., Ph.D. (York)-1991.

Senn, Charlene Y.; B.Sc., M.Sc. (Calgary), Ph.D. (York)-1992.

Cramer, Kenneth M.; B.A., M.A., Ph.D. (Manitoba)-1998.

Paivio, Sandra C.; B.A., M.Ed. (Western Ontario), Ph.D. (York)-1998.

Buchanan, Lori; B.A. (Wilfrid Laurier), M.A., Ph.D. (Waterloo)-2001.

Associate Professors

Voelker, Sylvia L.; B.A. (Indiana), M.A., Ph.D. (Wayne State)-1984.

Towson, Shelagh M.J.; B.A. (York), M.A. (Wisconsin), Ph.D. (Waterloo)-1985.

Menna, Rosanne; B.A. (Brock), M.A., Ph.D. (Toronto)-1998.

Hibbard, Stephen; B.A. (Santa Clara), M.A. (California State), Ph.D. (Tennessee)-2000.

Casey, Joseph; B.A. (Windsor), M.A. (Carleton), Ph.D. (Windsor)-2000.

Hart, Kenneth E.; B.A. (Laurentian), M.A. (Lakehead), Ph.D. (Houston)-2001.

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.

Baird, Anne; B.Sc. (Duke), M.A., Ph.D. (Wayne State)-2003.

Jackson, Dennis L.; B.A., M.A., Ph.D. (Wichita State)-2003.

Scoboria, Alan; B.A. (Albion College), M.A., Ph.D. (Connecticut)-2004.

Assistant Professors

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.

Sirois, Fuschia M.; B.Sc. (Hons.), B.A. (Hons.) (Ottawa), M.A., Ph.D. (Carleton)-2003.

Babb, Kimberley A.; B.A., M.A., Ph.D. (University of California, Irvine)-2004.

Abeare, Christopher A.; B.S. (U. of Michigan, Flint), M.A., Ph.D. (Wayne State)-2005.

Fritz, Patti A.; B.A. (Michigan), M.A., Ph.D. (S.U.N.Y.)-2005.

Pascual-Leone, Antonio; B.A. (York), D.E.A. (Toulouse), Ph.D. (York)-2005.

Chung-Yan, Gregory A.; B.A. (York), M.A., Ph.D. (Guelph)-2006.

Miller, Carlin J.; B.A. (Lexington), M.Ed. in Spec. Ed. (Nashville), M.Ed. in Ed. Psych., Ph.D. (Georgia)-2006.

Jackson, Jill; B.A. (Oklahoma State), M.A. (Wichita), Ph.D. (North Texas)-2007.

Spring 2012 Graduate Calendar

SOCIAL WORK

GRADUATE FACULTY

Professors

Gorey, Kevin M.; B.A., M.S.W., Ph.D. (S.U.N.Y. Buffalo)-1994.

Leslie, Donald R.; B.A. (Guelph), M.S.W. (British Columbia), Ph.D. (Georgia)-1994.

Angell, G. Brent; B.A. (Trent), M.S.W. (Wilfrid Laurier), Ph.D. (Case Western Reserve)-2003.

Associate Professors

Calderwood, Kim; B.A. (Waterloo), M.S.W. (Wilfrid Laurier), Ph.D. (Toronto), R.S.W.-2003.

Carter, M. Irene; B.A. (Toronto), B.Ed., M.Ed., M.S.W. (Dalhousie), Ph.D. (Calgary) - 2005.

Kvarfordt, Connie L.; B.S., M.Ed. (Utah), M.S.W. (Wisconsin), Ph.D. (Virginia Commonwealth)-2005.

Barrett, Betty; B.S.W (Virginia Commonwealth), M.S.S.W (Wisconsin, Madison), Ph.D. (Wisconsin, Madison)-2006.

Park, Wansoo; B.A. (Yonsei), M.S.W (Ohio State), PhD (South Carolina)-2006.

Wright, Robin; B.A., B.S.W. (McMaster), M.S.W., Ph.D. (Toronto)-2007.

Selmi, Patrick;: B.A. (San Francisco State), M.A., Ph.D. (Chicago)-2008.

Assistant Professors

Yun, Sung Hyun; B.A. (Pousan), M.S.W. (South Carolina)-2006.

Coyle, James P.: B.A. (LaSalle), M.S.W. (State University of New York at Buffalo), Ph.D (State University of New York at Buffalo)-2007.

Damianakis, Thecla; B.S.W., M.S.W. (McMaster), Ph.D (Toronto)-2007.

Grant, Jill; B.A. (Western), B.Ed. (Western), M.S.W. (Wilfrid Laurier), Ph.D (Wilfrid Laurier)-2007.

Weaver, Robert; B.A. (Western), B.S.W. (Victoria), M.S.W. (Regina), Ph.D (Georgia)-2007.

Habibov, Nazim; M.Sc. (Azerbaijan), M.S.W. (Columbia), Ph.D. (Calgary)-2007.

McMurphy, Suzanne: B.A.(Albion College), M.S.S. (Bryn Mawr), M.L.S.P. (Bryn Mawr), PhD. (Bryn Mawr)-2009.

Donnelly, Elizabeth: B.S. (Minnesota), M. Public Health (Minnesota), M.S.W. (Minnesota), Ph.D (Florida)-2010.

Hernandez Jozefowicz, Debra; B.S. (Wayne State), M.S.W., Ph.D. (Michigan)-2010.

List of Community Service Organizations

Field Administrator
Medcalf, Mary; B.S.W., M.S.W. (Windsor)-2002

AIDS Committee of Windsor
Alzheimer's Society of Windsor and Essex County
Bulimia Anorexia Nervosa Association
Canadian Hearing Society
Canadian Mental Health Association
Catholic Family Counselling Centre
Centre for Seniors
Chatham-Kent Integrated Children's Services
Children First
Citizen Advocacy Windsor-Essex
Community Mental Health Clinic - WRH Western Campus
Community-University Partnership for Community Development
Crossroads Centre for Personal Empowerment
Department of Veteran's Affairs Medical Centre
Education Development Centre & Student Disability Services
Elgin Counselling and Mediation Centre
Erie-St.Clair Community Care Access Centre

Extendicare-Southwood Lakes
Family Services - Ken
Frontenac Children's Aid Society (Kingston)
Glengarda Child and Family Services
Greater Essex County District School Board
Hamilton Health Sciences Centre
Harmony in Action
Hospice
Hospice Village
House of Sophrosyne
IRIS Inns and Services
Legal Assistance of Windsor
London Children's Aid Society
Maryvale Adolescent and Family Services
Multicultural Council of Windsor and Essex County
Regional Children's Centre
Sandwich Community Health Centre
Spirit of Excellence
St. Joseph Hospital and Lawson Health Research Institute
Teen Health Centre
Toronto District School Board
United Way/Centraide of Windsor-Essex County
University of Windsor, Student Counselling Centre
Victim Services Windsor-Essex County
Well-Come Home Shelter for Homeless Women
Windsor Regional Cancer Centre
Windsor Regional Hospital - Metropolitan Campus
Windsor Regional Hospital - Western Campus
Windsor Y Residence
Windsor-Essex Children’s Aid Society
Woodstock General Hospital
Youth and Family Resource Network

Spring 2012 Graduate Calendar

SOCIOLOGY, ANTHROPOLOGY AND CRIMINOLOGY

GRADUATE FACULTY

University Professors

Adam, Barry D.; B.A. (Simon Fraser), M.A., Ph.D. (Toronto)-1976.

Maticka-Tyndale, Eleanor; B.A. (State U. of New York, Binghamton), M.A. (McGill), Ph.D. (Calgary)-1993.

Professors

Phipps, Alan G.; B.A. (Manchester), M.A. (Queen's), Ph.D. (Iowa), M.C.I.P.-1978.

Basok, Tanya; B.A., M.A., Ph.D. (York)-1989.

Phillips, Lynne; B.A. (British Columbia), M.A., Ph.D. (Toronto)-1989.

Nakhaie, M. Reza; B.A. (National University of Iran), M.A. (Guelph), Ph.D. (Waterloo)-1997.

Lippert, Randy; B.A. (Lethbridge), M.A. (Ottawa), Ph.D. (British Columbia)-1998.

Associate Professors

Shuraydi, Muhammad; B.A. (American U. of Beirut), Ph.D. (Alberta)-1973.

Hall, Alan; B.A. (Bishop's), M.A. (Guelph), Ph.D. (Toronto)-1994.

Lewis, Jacqueline; B.A., M.A., Ph.D. (Toronto)-1994.

Omorodion, Francisca Isi; B.A. (McMaster), M.A. (Toronto), M.A. (Exeter), Ph.D. (Benin)-1995.

Mann, Ruth M.; B.A. (York), M.A., Ph.D. (Toronto)-1996.

George, Glynis; B.A., M.A., Ph.D. (Toronto)-2000.

Arnold, Robert; B.A., M.A. (Saskatchewan), Ph.D. (McMaster)-2001.

Cheran, Rudhramoorthy; B.Sc. (Jaffna), M.A. (International Institute of Social Studies, The Hague), Ph.D. (York)-2001.

Soulliere, Danielle; B.A., M.A. (Windsor), Ph.D. (Wayne State)-2001.

Deukmedjian, John; B.A. (Waterloo) , M.A., Ph.D. (Toronto) -2003.

Albanese, John; B.A. (Western Ontario), M.A. (Toronto), Ph.D. (McMaster)-2004.

Cradock, Gerald; B.A., M.A. (Simon Fraser), Ph.D. (UBC)-2004.

Fitzgerald, Amy J.; B.A., M.A. (Windsor), Ph.D. (Michigan State)-2006.

Assistant Professors

Ku, Jane; B.A. (York), M.A., Ph.D. (OISE/Toronto)-2007.

Coulter, Kendra; B.A. (Western Ontario), Ph.D. (Toronto)-2008.

Spring 2012 Graduate Calendar

VISUAL ARTS

GRADUATE FACULTY

Professor Emeritus

Baxter&, Iain; B.Sc., M.Ed. (Idaho), M.F.A. (Washington State), R.C.A.-1988.

Professors

Gold/Smith, Susan; B.A., M.A. (Wayne State)-1970.

Francis Pelkey, Brenda; M.F.A. (Saskatchewan)-2003.

Associate Professors

Mogyorody, Veronika; B.A. (Windsor), M.A. (Wayne State), B.Arch. (Detroit), Ph.D. (Rensselaer)-1976.

Lee, Brent; B.Mus., M.Mus. (McGill), D.M.A. (British Columbia)-2002.

MacDowall, Cyndra; B.A.E. (Queen's), M.F.A.. (Concordia)-2002.

Torinus, Sigi; B.A. (Art Institute Braunschweig, Germany), M.F.A. (Hameln, Germany), M.F.A. (San Francisco State)-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.

Rodney, Lee; B.F.A. (Nova Scotia), M.A. (York) Ph.D. (Goldsmiths College, U.K.)-2004.

Assistant Professors

Engle, Karen J.; B.A. (Queens), M.A., Ph.D. (Alberta)-2006.

Nelson, Kim; B.A. (British Columbia), M.F.A. (York)-2007.

Darroch, Michael; B.A. (McGill), M.A. (Université de Montréal), Ph.D. (McGill University) - 2008.

Willet, Jennifer; B.F.A. (Calgary), M.F.A. (Guelph), Ph. D. (Concordia) - 2008

Sessional Lecturer

Strickland, Rod; B.F.A. (Windsor), M.F.A. (Tennessee)-1984.

Adjunct Associate Professor

Giles, Ken; B.A.A.(Ryerson), M.F.A. (University of Michigan), PhD (University of Kent at Canterbury, England)-2008.

Spring 2012 Graduate Calendar

OTHER GRADUATE FACULTY

Associate Professors

Walsh, Lionel; B.F.A. (Windsor), M.F.A. (Virginia Commonwealth)-1997.

Collet-Najem, Tanja; Licence (Antwerp), M.A., Ph.D. (Montreal)-2001.

Rossini, Antonio; B.A. (Rome), M.A., Ph.D. (Toronto), L.M.S. (Pontifical Institute of Mediaeval Studies, Toronto)-2005.

Spring 2012 Graduate Calendar

DEFERRED APPLICATIONS

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 considered for admission at a later date will normally be required to complete a new application and to resubmit their documents.

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DOCUMENTATION REQUIRED

All documents received become the property of the University and will not be returned.

Action will be taken on an application for admission when all the documents listed below have been received:

1) The online form "Application for Admission to the Faculty of Graduate Studies " properly completed.

2) One copy of official or unofficial transcripts of all undergraduate and graduate work from all colleges or universities attended. If an offer of admission is extended on the basis of unofficial transcripts, final official transcripts must be submitted prior to registration in the program.

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 www.gre.org.

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 www.gmat.org.

6) For 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 contact www.ets.org or the Office of the Registrar.

(b) The English Language Institute of the University of Michigan, Michigan English Language Assessment Battery (MELAB). Contact www.lsa.umich.edu/eli/ melab.htm.

(c) Canadian Academic English Language (CAEL) Assessment. Contact www.cael.ca.

(d) International English Language Testing System (IELTS). Contact www.ielts.org.

(e) The University of Windsor's English Language Improvement Program (ELIP) (level III) with a minimum final grade of 75%.

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 on an exceptional basis by writing to the Dean of Graduate Studies and presenting supporting documentation of English proficiency.

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ADMISSION LEVELS

Master's Qualifying Admission (M1): An applicant who holds a three-year degree in the discipline to which s/he is applying, or a four-year degree in another discipline, may be admitted as a qualifying student, with a recommendation for advancement to the M2 level contingent upon completion of a prescribed set of qualifying courses, with a minimum grade as specified by the program. Since qualifying students are not candidates for a degree, a qualifying student is not considered a graduate student.

Regular Admission (M2): Applicants who hold a four-year degree or equivalent in the discipline to which they are seeking admission may be admitted to this level.

Transitional Admission (M2): An applicant who holds a four-year degree, but not one in the discipline to which s/he is applying, may be admitted to a Master's program as a transitional student. 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 students. Upon completion of these extra courses, with a minimum grade as specified by the program, the student may continue in the Master's program as a regular student.

Probationary Admission (M2): An applicant who does not meet the minimum departmental program admission requirements, but who can present evidence of leadership, and/or substantial related work experience, may be considered for probationary admission upon the recommendation of the program. Students who are accepted on probation will be required to satisfactorily complete a minimum of two specified graduate courses, in addition to any other admission requirements, before conditions are waived. During the probationary period, no other graduate courses may be taken. A student will not normally continue on probationary admission for more than two terms. Graduate credit will be given for the graduate courses after the conditions are waived. The final decision on probationary admission rests with the Faculty of Graduate Studies .

Ph.D.: Applicants who hold a Master's degree or, in exceptional cases, a four-year Bachelor's degree, may be admitted to this level.

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POSTGRADUATE AWARDS AND FINANCIAL AID

ELIGIBILITY FOR GRADUATE FUNDING

Full-time graduate students in research-based programs may receive funding from three main sources: scholarships (internal and external), Graduate Assistantships (GAs), and Research Assistantships (RAs). This latter category is Department or even supervisor specific. Eligibility for the first two, scholarships and GAs, are subject to constraints dictated by the funding sources and, in the case of GAs, by the Collective Agreement.

One of the constraints upon funding eligibility is temporal and depends upon continuous registration. Support from the University of Windsor at the Master's level can be offered within the first two years from the first term of registration at the Master's level (M2). Support from the University of Windsor at the Doctoral level can be offered within the first four years from the first term of registration at the Doctoral level (D2). While external awards are administered according rules defined by the source agencies, and these can differ slightly from program to program, their rules regarding eligibility are similar to the above listed.

In order to retain support once it is awarded, students must maintain continuous full-time registration; rare exceptions can be made to accommodate a Leave of Absence for medical, maternity or paternity leave. Where leave is granted for other reasons, the term(s) on leave will diminish the number of terms that a student was eligible to receive support.

Failure to register by the posted late registration deadline for each semester will result in forfeiture of support for that semester. Students who are eligible to apply for external awards are obliged to do so, or they may forfeit their funding from the University of Windsor.

For up-to-date detailed information on the funding available to graduate students, please refer to the website of the Faculty of Graduate Studies (**www.uwindsor.ca/grad**).

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CATEGORIES OF REGISTRATION

The University designates graduate students as full- or part-time:

1) *Full-Time Student:* A student who is admitted to a program on a full-time basis and who meets the following criteria will be registered as a full-time student:

(a) is geographically available and visits the campus regularly. It is understood that a graduate student may be absent from the University while still under supervision, *e.g.*, visiting libraries, attending a graduate course at another institution, doing field work, *etc*. If such period of absence exceeds four weeks in any term, written evidence must be made available to the Office of Graduate Studies to the effect that the absence has the approval of the program coordinator;

(b) students employed by the University may not work for more than an average of ten hours a week. If a student is employed as a teaching assistant or a sessional instructor, the ten hours a week should represent the total time spent by the student in connection with the appointment, including time spent on preparation, reading, setting assignments, marking examinations, *etc*.

2) *Part-Time Student:* Some graduate programs are available on a part-time basis. Students interested in part-time studies should first consult the program coordinator. If a student has not been accepted on a part-time basis at first registration, he or she must petition the Faculty of Graduate Studies for permission to transfer to part-time status for cause. Such petitions will not normally be granted to students meeting criteria (a) and (b) above for full-time students, or students completing major paper, thesis or dissertation work. However, petitions based on domestic responsibilities which demand more than ten hours a week will be considered.

Note: Part-time students may not take more than two courses in any term. Registration in any given term for a major paper, thesis, or dissertation is counted as the equivalent of one course.

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GRADUATE REGISTRATION REGULATIONS

1) Graduate students must register before the proper deadline or they will not receive credit for academic work they may be doing during the term. Note: Registration is not complete until the appropriate fees have been paid.

Students completing all requirements for the degree within the first few weeks of a term may be eligible for a tuition refund for that term. (Consult the Office of Graduate Studies .)

2) Full-time students are required to maintain continuous registration through all terms of their graduate program. Failure to do so will require application for readmission to their program and payment may be required for terms missed, up to a maximum of three terms.

3) In accordance with the circumstances listed below, a student may apply to the Dean of Graduate Studies for, and may be granted, a leave of absence.

Maternity Leave: Graduate students may request a maternity leave for no more than three consecutive terms without prejudice to their academic standing.

Paternity Leave: In recognition of a father's role, a graduate student may request paternity leave for no more than one term without prejudice to their academic standing.

Parental Leave: Parental leave is intended to recognize the need for a pause in studies in order to provide full-time care in the first stages of parenting a child. Either or both parents may request one term of leave without prejudice to their academic standing. The request for leave must be completed within twelve months of the date of birth or custody.

Financial Leave: In the case of financial necessity, primarily as evidenced by the support awarded through the University, a student shall be granted a leave of no more than one term out of three upon application (not available to part-time students.)

Medical Leave: Graduate students may apply for a leave of absence on medical grounds for up to three terms without prejudice to their academic standing. Students are required to provide documentation to support a medical leave of absence.

Personal Leave: Graduate students may apply for a leave of absence on grounds of serious personal circumstances for up to three terms without prejudice to their academic standing. Examples, though not wholly inclusive, are death in the immediate family, psychological difficulties, and educational opportunities (*e.g.*, B.Ed., LL.B.).

A term is defined as a four-month period coinciding with the academic calendar (January to April; May to August; and September to December).

While on leave, a student will not have access to any university resources, including office space, computer access, library facilities, continuation of laboratory experiments, computer research applications, and guidance by faculty members.

Apart from the combination of maternity or paternity and parental leave, sequentially combining two leave of absence classifications is allowable only in special and extenuating circumstances.

Applications may be submitted to the student's department for recommendation before the end of the second week of the term. A student on leave of absence will be assessed a fee of fifty dollars ($50.00) per term. Appeals against any decisions shall be heard promptly by the Graduate Appeals Committee.

4) Part-time students must register in every session in which the facilities of the University are to be utilized, whether in residence or off-campus. This includes those who are consulting with faculty members while working on a major paper, thesis, or dissertation. Part-time students who have not registered in two consecutive terms will be required to apply for readmission, and their applications will be considered on their merits in the light of the then prevailing conditions and circumstances.

5) Students are reminded that they will not receive credit for courses for which they are not properly registered or for courses completed during terms in which the student has not paid fees.

Once a student has registered, course changes or withdrawal after the published deadlines require permission from the Dean of Graduate Studies . Subjects dropped without permission from the Dean will be regarded as failures.

Non-Degree Registration: A student who is not interested in admission as a degree student may be allowed to register for individual courses on a non-degree basis. The maximum number of courses taken overall on this basis is two. Only students who have been admitted to a graduate program may receive graduate credit at the University of Windsor for courses taken.

Audit Student: An audit student in any course is one who attends the course without credit toward a degree or program. Such a student will not be allowed to write examinations and cannot be graded in any way. The student will pay the regular fees for the course(s).

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PhD 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. In particular, 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 cases, 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 admission.

Applications will be received from students in their final undergraduate or Master's year, but acceptance will be conditional until a satisfactorily completed record is submitted.

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, upon recommendation of the program concerned, when a student has satisfied the requirements for candidacy of the Faculty of Graduate Studies and of the program, as these may be specified in program listings in the 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.

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PhD 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 calendar years, normally in succession. Credit for one of these years may be given for the time spent in proceeding to a Master's degree.

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, upon recommendation of the program coordinator.

A full-time residence year indicates that a student is in full-time work under the direction of a faculty member at the University of Windsor. Persons who teach more that 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.

If an extension of the time limit becomes necessary, the student should address a petition to the Dean of Graduate Studies giving reasons for the request and plans for the completion of the work. 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 program listings. Planning and direction of the student's course of study are the responsibility of the program coordinator or a designated departmental advisor. A specific program of study should be worked out at the time of the student's first registration, in consultation with the program coordinator or an advisor. Training in methodology may be required, at the discretion of the program.

Since in several programs only a few courses listed will be offered each year, students are advised to ascertain from the program coordinator or an academic advisor which courses will be offered in any given year.

In consultation with their advisor or the program coordinator, all students must complete an Annual Report which is to be submitted to the Office of Graduate Studies by May 31 of each year.

It is expected that students working toward the degree of Doctor of Philosophy will maintain a superior average in all course work. Normally, graduate credit will be given only for A or B standing in a course. Concerning credit for C grades, see Grading and Dropping Courses.

After consultation between student and professor and authorization by the program coordinator, a graduate course may be recorded INC (Incomplete) when:

1) the student has completed the class work but is unable to take the end of course examination because of illness or other acceptable reason, or

2)
(a)the student is unable to complete the work for the course because of illness or other acceptable reason, and
(b)the student has done satisfactory work in the course, and
(c)in the opinion of the professor, the student can complete the normally required work of the course without repeating the course in class.

Committees: Research undertaken as part of a doctoral program is normally directed and supervised by a doctoral committee.

By the end of the first term of registration in the dissertation, the program coordinator will recommend the appointment of members of the doctoral committee, whose appointments must be approved by the Executive Committee of the Faculty Council of Graduate Studies. At the same time the candidate will be required to validate the *Non-Exclusive License to the University of Windsor* authorizing the University to archive, reproduce, and distribute the dissertation.

The doctoral committee will consist of a research advisor from the program, who is a member of graduate faculty, two other faculty members in the program, and one from another program at the University of Windsor. Additional members may be added with the approval of the program coordinator and the Executive Committee of the Faculty Council of Graduate Studies. This committee will, from time to time, review the student's progress.

The majority of the members of an advisory committee must have graduate faculty status and the supervisor must have graduate faculty status. In the case of co-supervision one of the co-supervisors must have graduate faculty status.

The doctoral committee is also charged with conduct of the final examination of the doctoral candidate (see below).

For the defense of the dissertation (final oral examination), the committee will be supplemented by an independent, external examiner who, as an expert in the field in which the candidate's research is carried out, will appraise the dissertation and ordinarily will also be present at the final oral examination.

The external examiner will be recommended by the doctoral committee, subject to the approval of the program coordinator and the Dean of Graduate Studies. The external examiner must not be involved in the preparation of the dissertation before it is submitted to him or her for final evaluation.

If the research involves human ethics, the faculty supervisor is responsible for the conduct of the study, the ethical performance of the project, and the protection of the rights and welfare of human participants. With the signed approval of the faculty supervisor, the graduate student submits an application to the Research Ethics Board. Research involving human subjects, including secondary use of data, cannot begin until ethics clearance has been obtained. (Consult the Office of Research Services.)

If the research involves animal care or biohazards, the supervisor of the dissertation is responsible for obtaining prior approval from the respective committees governing the above topics. (Consult the Office of Research Services.)

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PhD DISSERTATION

A dissertation embodying the results of an original investigation in the field of specialization is required of all candidates for the degree of Doctor of Philosophy. Before beginning the dissertation, the candidate should submit a prospectus, outlining the problem proposed. Copies of this prospectus should be filed with the doctoral committee not later than four weeks after the student is admitted to candidacy.

The regulations of individual programs should be consulted for details of their dissertation procedures. The general format is prescribed in the *Guidelines for Major Papers, Theses, and Dissertations*, which may be obtained from the Administrative Officer in the Office of Graduate Studies or from www.uwindsor.ca/grad. Within the dissertation, the student should use formats approved for scholarly publication in the field of specialization and approved by the program coordinator. Final checking of the general format of the dissertation is the responsibility of the Office of Graduate Studies , but the student should consult the doctoral committee for instructions as to the internal form of the dissertation.

Copies of a Ph.D. dissertation are to be provided to all members of the doctoral committee and two copies to the Office of Graduate Studies , of which one copy will be transmitted to the external examiner, at least four weeks before the expected date of defense. Before the dissertation is forwarded to the external examiner, it must be approved by the majority of the doctoral committee. No changes may be made to the composition of the doctoral committee between these deadline dates and the defense except under the most extraordinary circumstances and with approval of the Executive Committee of Graduate Studies . The oral presentation should be completed at least three weeks prior to the Convocation for which the candidate has applied to receive the degree. A public notice of defense must be received in the Office of Graduate Studies and posted in the academic unit at least eight days in advance of the oral presentation.

A doctoral committee shall notify the Office of Graduate Studies whether, in its view, notice of defense is to be posted, but the decision to proceed shall be contingent upon the report of the external examiner to the Dean of Graduate Studies .

The candidate will present the dissertation at a public defense. The Chair of a Ph.D. defense will be the Dean of Graduate Studies or designate, such as the Associate Dean of Graduate Studies , Dean of a Faculty or senior member of graduate faculty from outside the program, to be named by the Dean of Graduate Studies at the time the defense is publicly announced. The chair is non-voting. Questions will be permitted from the general audience at the discretion of the chair. The general audience may remain until the defense is completed and the committee begins its deliberations on the outcome. These deliberations are held in camera.

The minimum basis for acceptance of a Ph.D. dissertation shall be positive unanimity less one vote providing the dissenting vote is not by an external examiner who is present at the defense, and the chair of the defense determines that the examination by the external examiner has been fair to the candidate. Unless an examining committee is unanimously negative, a candidate may resubmit the dissertation once, after a minimum period of three months and before a maximum period of twelve months. The second decision shall be final.

Copies of the corrected dissertation must be deposited with the Administrative Officer in the Office of Graduate Studies at least two weeks prior to Convocation.

The title page of the dissertation, or a separate page immediately following the title page, must bear the Universal Copyright Convention symbol ©, the full name of the author, and the year the doctoral degree was granted. Arrangements for binding the dissertation and payment of fees connected with binding and microfilming should be made with the Administrative Officer. The Office of Graduate Studies will transmit a copy of the dissertation to the National Library, accompanied by a "Theses Non-Exclusive License", supplied by the Office and validated by the candidate, which authorizes the National Library to produce single copies, in response to a formal request from an individual, a research institute, or a library.

If approved, the physical dissertation becomes the property of the University. Two copies, the original (after return from the National Library) and one other, will be filed in the Leddy Library, and a third copy in the academic unit.

Occasionally, it is necessary to withhold the dissertation from public circulation, especially where the student's interests (*e.g.*, patent rights) would be jeopardized by publication. In such cases, a thesis may be held from the public domain, i.e., the Leddy Library and the National Library of Canada. Such delay in circulation may be requested for six months without cause being given, and an additional period of six months with good cause. Forms for withholding a thesis are available from the Office of Graduate Studies .

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PhD DISSERTATION REQUIREMENTS SYNOPSIS

1) Dissertation format must be as prescribed by *Guidelines for Major Papers, Theses, and Dissertations*.

2) Copies of the dissertation must be provided to all committee members and two copies to the Office of Graduate Studies at least four weeks before the oral defense, which must occur at least three weeks prior to the Convocation at which the candidate has applied to receive the degree.

3) Public notice of defense must be received in the Office of Graduate Studies and posted in the academic unit at least eight (8) days in advance of the defense date.

4) Following successful defense, the candidate will deposit copies of the dissertation in the Office of Graduate Studies, as prescribed in *Guidelines for Major Papers, Theses, and Dissertations.*

5) The candidate will validate a "Theses Non-Exclusive License", supplied by the Office of Graduate Studies, authorizing the National Library to produce single copies. The title page of the dissertation, or separate page following, must bear the Universal Copyright Convention symbol ©, full name of author, and year the doctoral degree was granted.

6) Fees for above are to be paid at time of deposit of the dissertation in the Office of Graduate Studies .

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PhD EXAMINATIONS

In addition to the usual examinations on course work, there are three types of special examinations which may be required (see individual program regulations) in the program leading to the degree of Doctor of Philosophy:

1) *Qualifying Examinations:* A qualifying examination is one in which the student is asked to demonstrate a reasonable mastery of the fundamentals in the major subject; it is designed to test the student's preparation for advanced graduate work. If such an examination is required, it must be administered and passed within one year after a student enters a graduate program.

2) *Comprehensive Examinations:* The comprehensive examination is one in which the student is asked to demonstrate a reasonable mastery of the field of specialization; it is designed to test the student's command of knowledge and ability to integrate that knowledge, after completion of all or most of the graduate course work. Normally, this examination is completed at the end of the second year of graduate study and is a prerequisite to admission to candidacy.

3) *Final Examinations:* The final examination of a doctoral candidate is an oral defense of the dissertation.

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MASTER'S ADMISSION REQUIREMENTS

Graduates of recognized universities may be admitted to programs leading to the Master's degree. A student with a four-year degree or equivalent in the discipline to which s/he is seeking admission, and who has an academic standing at least in the B range in the final two years of study (full time equivalent) may be admitted to a Master's program (M2).

An applicant who holds a four-year degree in another discipline, and who has an academic standing at least in the B range overall and in the final year of study and the major subject, may also be admitted to a Master's program as a transitional student. 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 students. Upon completion of these extra courses, with a minimum grade as specified by the program, the student may continue in the Master's program as a regular student.

An applicant who does not meet minimum departmental program admission requirements, but who can present evidence of leadership, and/or substantial related work experience, may be considered for probationary admission upon the recommendation of the program. Students who are accepted on probation will be required to satisfactorily complete a minimum of two specified graduate courses, in addition to any other admission requirements, before conditions are waived. During the probationary period no more than two graduate courses may be taken. A student will not normally continue on probationary admission for more than two terms. Graduate credit will be given for the graduate courses after the conditions are waived. The final decision on probationary admission rests with the Faculty of Graduate Studies .

An applicant who holds a three-year degree in the discipline to which s/he is applying, or a four-year degree in another discipline, and who has an academic standing at least in the B range overall and in both the final year of study and major subject may be admitted as a qualifying student, with a recommendation for advancement to M2 level contingent upon completion of a prescribed set of qualifying courses, with a minimum grade as specified by the program. Since qualifying students are not candidates for a degree, a qualifying student is not considered a graduate student.

Applicants are urged to apply as early as possible to enable the program and the Faculty of Graduate Studies to evaluate qualifications.

Possession of the minimum requirements does not ensure admission.

Candidacy: A student in an M2 program is also a candidate for the Master's degree. Students in the two-year M1 program followed by the M2 program are not admitted to candidacy until they have satisfactorily completed the M1 program. A positive recommendation from a program and approval of that recommendation are required for a student to proceed to the M2 program.

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MASTER'S 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 . 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 . If a student does not expect to fulfil the residence requirement in the normal way, reasons for departing 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.

The residency 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 honours 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 Dean of Graduate Studies , upon the recommendation of the program coordinator. 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.

If an extension of these time limits becomes necessary, the student should address a petition to the Dean of Graduate Studies giving reasons for the request and plans for the completion of the work. 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 program listings. Planning and direction of the student's course of study are the responsibility of the program coordinator or a designated advisor. A specific program of study should be worked out at the time of the student's first registration, in consultation with the program coordinator or an advisor. Students are directed to obtain the approval of the program coordinator or designated advisor for changes in the program of study. Training in methodology may be required, at the discretion of the program.

In consultation with their advisor or the program coordinator, all students must complete an Annual Report which is to be submitted to the Office of Graduate Studies by May 31 of each year.

Students working toward the Master's degree must maintain at least a B- average in all course work. A candidate for the Master's degree who does not obtain graduate credit in any course may repeat the course once only, and not more than one course may be repeated. Normally, graduate credit will be given only for A or B standing in a course. Concerning credit for C grades, see section "Examination and Grading Procedures". Letter grades or Satisfactory/Unsatisfactory may be assigned for theses, major papers, and projects depending on individual program policy.

After consultation between student and professor and authorization by the program coordinator, a graduate course may be recorded as INC (Incomplete) when:

1) the student has completed the class work but is unable to take the end of course examination because of illness or other acceptable reason, or

2)
(a) the student is unable to complete the work for the course because of illness or other acceptable reason, and
(b) the student has done satisfactory work in the course, and
(c) in the opinion of the professor, the student can complete the normally required work in the course without repeating the course in class.

Committees: Research undertaken as part of a Master's program is normally directed and supervised by a Master's committee. By the end of the first term of registration in the thesis, the program coordinator will recommend the appointment of members of the Master's committee, whose appointments must be approved by the Executive Committee of the Faculty Council of Graduate Studies. At the same time the candidate will be required to validate the *Non-Exclusive License to the University of Windsor* authorizing the University to archive, reproduce, and distribute the thesis.

The Master's thesis committee will include as a minimum the chief advisor from the program, who is a member of graduate faculty, and two other University of Windsor faculty members, one of whom shall belong to a program other than the one in which the student is obtaining the degree. Additional members may be added with the approval of the program coordinator and the Executive Committee of the Faculty of Graduate Studies . The member(s) from outside the program need not participate in the direction of research but shall contribute a judgment on its completion.

The majority of the members of an advisory committee must have graduate faculty status and the supervisor must have graduate faculty status. In the case of co-supervision one of the co-supervisors must have graduate faculty status.

The role of faculty members holding Limited Term Appointments will be limited to participation on Master's committees and only in the following capacity: co-supervisor; internal department reader; outside department reader.

The Master's committee is also charged with conduct of the final examination of the Master's candidate (see below).

If the research involves human ethics, the faculty supervisor is responsible for the conduct of the study, the ethical performance of the project, and the protection of the rights and welfare of human participants. With the signed approval of the faculty supervisor, the graduate student submits an application to the Research Ethics Board. Research involving human subjects, including the secondary use of data, cannot begin until ethics clearance has been obtained. (Consult the Office of Research Services.)

If the research involves animal care or biohazards, the supervisor of the thesis is responsible for obtaining prior approval from the respective committees governing the above topics. (Consult the Office of Research Services.)

Spring 2012 Graduate Calendar

MASTER'S THESIS OR MAJOR PAPER

A thesis incorporating the results of an investigation in the field of the major subject may be required of candidates for the Master's degree.

Candidates for some Master's programs may choose, instead of the course of study including a thesis, a program requiring additional course work and/or the submission of a major paper or project on which there will be a final evaluation. The Major Paper/Project is a scholarly essay/research project that shows evidence of critical analysis and understanding on a topic approved by the student's supervisor and acknowledged by the program coordinator.

The Major Paper/Project committee will include a supervisor, who is a member of graduate faculty, and one other program faculty member. Additional members may be added with the approval of the program coordinator.

Upon completion of the Major Paper/Project each student will deliver a public oral presentation and defense which shall be announced publicly (with a copy sent to the Office of Graduate Studies) at least eight days in advance. Major Paper/Projects are graded by the committee with letter grades or as Satisfactory or Unsatisfactory.

The Major Paper/Project is not subject to thesis regulations concerning full library binding, copyright application, and microfilming for the National Library, but is deposited in the library and in the departmental office of the program.

The regulations of individual programs should also be consulted for details of their thesis or major paper requirements. Letter grades or Satisfactory/Unsatisfactory may be assigned for theses and major papers, depending on program policy.

Although in some cases it may be acceptable for more than one candidate to make use of a common set of data or research findings, each candidate is responsible for a single-authored thesis/major paper.

The regulations of individual programs should be consulted for details of their procedures. The general format is prescribed in *Guidelines for Major Papers, Theses, and Dissertations*, which may be obtained from the Administrative Officer in the Office of Graduate Studies or from www.uwindsor.ca/grad. Within the thesis, the student should use formats approved for scholarly publication in the field of specialization and approved by the program coordinator. Final checking of the general format of the thesis is the responsibility of the Office of Graduate Studies , but the student should consult the Master's committee for instructions as to the internal form of the thesis.

Copies of the Master's thesis must be provided to all members of the Master's committee and one copy to the chair of the defense, at least two weeks before the expected date of defense. Students are advised to ascertain from the academic unit any prior deadline established by the unit. No changes may be made to the Master's committee between these deadline dates and the defense except under the most extraordinary circumstances and with the approval of the Executive Committee of Graduate Studies . The oral presentation should be completed at least three weeks prior to the Convocation at which the candidate expects to receive the degree.

No later than eight days before a proposed defense a Master's committee shall notify the Office of Graduate Studies that a notice of defense is to be posted. The chair of a Master's defense will be a member of graduate faculty who has not served on the candidate's Master's committee, and who is appointed by the Department Head at the time the defense is publicly announced. The chair is non-voting. The general audience may remain until the defense is completed and the committee begins its deliberations on the outcome. These deliberations are held *in camera.*

The minimum basis for acceptance of a Master's thesis is positive unanimity by the examining committee less one vote. Unless an examining committee is unanimously negative, a candidate may resubmit the thesis once, after a minimum period of three months and before a maximum period of twelve months. The second decision shall be final.

Copies of the corrected thesis must be deposited in the Office of Graduate Studies at least two weeks prior to Convocation.

The title page of the thesis, or a separate page immediately following the title page, must bear the Universal Copyright Convention symbol ©, the full name of the author, and the year the Master's degree was granted. Arrangements for binding the thesis and payment of fees connected with binding and microfilming should be made with the Administrative Officer. The Office of Graduate Studies will transmit a copy of the thesis to the National Library, accompanied by a "Theses Non-Exclusive License", supplied by the Office and validated by the candidate, which authorizes the National Library to produce single copies, in response to a formal request from an individual, a research institute, or a library.

If approved, the physical thesis becomes the property of the University. Two copies will be filed in the Leddy Library, and a third in the academic unit.

Occasionally, it is necessary to withhold the thesis from public circulation, especially where the student's interests (*e.g.*, patent rights) would be jeopardized by publication. In such cases, a thesis may be held from the public domain, i.e., the Leddy Library and the National Library of Canada. Such delay in circulation may be requested for six months without cause being given, and an additional period of six months with good cause. Forms for withholding a thesis are available from the Office of Graduate Studies .

Spring 2012 Graduate Calendar

MASTER'S THESIS/MAJOR PAPER REQUIREMENTS SYNOPSIS

1) Thesis or Major Paper format must be as prescribed by *Guidelines for Major Papers, Theses, and Dissertations.*

2) Copies of the thesis for Master's degree must be provided to all committee members, and one copy to the chair of the defense at least two weeks before the oral presentation prior to the Convocation at which the candidate has applied to receive the degree.

3) Public notice of the defense must be received in the Office of Graduate Studies at least eight days in advance of the defense date.

4) Following successful defense, the candidate will deposit copies of the thesis in the Office of Graduate Studies, as prescribed in *Guidelines for Major Papers, Theses, and Dissertations.*

5) The candidate will validate a "Theses Non-Exclusive License", supplied by the Office of Graduate Studies, authorizing the National Library to produce single copies. The title page of the thesis, or separate page following, must bear the Universal Copyright Convention symbol ©, full name of author, and year the Master's degree was granted.

6) Copyright application and microproduction by the National Library do not apply for the major paper. Two copies are required to be deposited in the Office of Graduate Studies (one for the Leddy Library, one for the program).

7) Fees for the above are to be paid at the time of deposit of the thesis or major paper in the Office of Graduate Studies .

Spring 2012 Graduate Calendar

MASTER'S EXAMINATIONS

In addition to the usual examinations on course work, there are three types of special examinations that may apply in some programs leading to the Master's degree:

1) *Qualifying Examinations:* A qualifying examination is one in which the student is asked to demonstrate a reasonable mastery of the fundamentals in the major subject; it is designed to test the student's preparation for advanced graduate work. If such an examination is required, it must be administered and passed before the student registers for the final year of Master's work.

2) *Comprehensive Examinations:* The comprehensive examination is one in which the student is asked to demonstrate a reasonable mastery of the field of specialization; it is designed to test the student's command of knowledge and ability to integrate that knowledge, after completion of all or most of the graduate course work. Normally, this examination is written at the end of the student's final year of study for the Master's degree.

3) *Final Examinations:* The final examination of a candidate for a Master's degree is an oral defense of the thesis, major paper, or project.

Spring 2012 Graduate Calendar

EXAMINATIONS AND APPEALS

A program may require either oral or written examinations in graduate courses.
Each instructor must inform his or her students, by the end of the second week of each course, concerning the following:

(a) the basis for determining the final grade in the course;
(b) the approximate dates for tests, essays, *etc*.

Alterations in the announced procedure may be made by the instructor with the consent of the majority of the registered class.

A student who wishes to receive consideration on account of a serious illness or a bereavement prior to or during the examination period should communicate with the Head of the Department or program coordinator concerned as soon as possible, and must submit supporting documents (*e.g.*, a medical certificate) within one week of the scheduled examination. In such cases, the Dean of Graduate Studies, on recommendation of the program and the Academic Standing Committee, may grant aegrotat standing in the subject or subjects concerned on the basis of the term mark, or approve an Incomplete grade or grant permission for a supplemental examination.

Graduate appeals must be made in writing to the Dean of Graduate Studies, in accordance with the Graduate Appeals Policy as stated in **Senate Bylaw 51: Academic Evaluation Procedures.** Appeals must be received no later than three weeks after the final mark has been released by the Registrar.

Spring 2012 Graduate Calendar

GRADING AND DROPPING COURSES

For the standards which are required in specific degree programs, see sections on PhD requirements and Master's requirements.

Letter Grades for Graduate Courses:

A+, A, A-, B+, B, B-, C+, C, C-, F, F-, NR (Failure, No Record)

INC (Incomplete - course work only)

IP (In Progress - major paper, project, thesis, or dissertation)

P or NP (Pass or Non-Pass)

S or U (Satisfactory or Unsatisfactory)

The final deadline for dropping one-term (*i.e.*, twelve- or thirteen-week) graduate courses in Fall, Winter, or Summer term without a grade being assigned is nine weeks from the start of the term; for six-week courses in Intersession and Summer Session, three weeks are allowed. Prior to the deadline, courses dropped will be recorded as "Voluntary Withdrawal".

The granting of an Incomplete grade must follow discussion between the student and the course instructor concerning the nature of the work to be completed and the time period for completion. Courses recorded as Incomplete must be completed and a grade reported within twelve months of the original due date unless an earlier deadline has been established. If such courses are not completed within twelve months, they will be permanently designated as Incomplete on the student's transcript. Normally, a student may carry only one Incomplete grade at a time. Graduate students carrying more than one Incomplete grade at the end of a term will have their progress reviewed by their program chair, and a recommendation will be forwarded in each case to the Office of Graduate Studies. Incomplete grades are normally not granted for major papers, theses or dissertations.

The Faculty of Graduate Studies requires that students maintain at least an 8.0 cumulative G.P.A. at all times.

Courses in which a grade of B- or higher is received will be accepted for graduate credit. In addition, upon the positive recommendation of the program concerned, the Faculty of Graduate Studies may grant credit for not more than two term courses in which a grade of C+, C or C- has been obtained. The regulations of individual departments should be consulted for their particular policies on C grades.

If a student fails to obtain credit in a course, the course may be repeated once only, at the discretion of the program concerned and the Dean of Graduate Studies. No student may repeat, or replace with another course, more than two term courses in which credit was not obtained.

Letter grades or Satisfactory/Unsatisfactory may be assigned for theses and major papers, depending on program policy.

Theses and major papers, for which a letter grade is assigned, must be graded B- or better to receive credit.

Spring 2012 Graduate Calendar

THE MASTER OF BUSINESS ADMINISTRATION DEGREE

The purpose of the Master of Business Administration program is to provide broad graduate study in the general field of business administration. It provides students with three important components to prepare them for management positions; academic knowledge, job skills and work experience.

Graduate students have the opportunity of expanding their accounting, administrative, finance, marketing, management science and strategy expertise. The program emphasizes knowledge that prepares students for careers in private industry and business, for the public service, and for doctoral studies.

Admission Requirements

1) Applicants who have secured satisfactory standing (at least a B- average) in their undergraduate work may be admitted. Major consideration is given to the performance during the last two years of the undergraduate program. Applicants without an undergraduate degree who hold a professional qualification such as (for example) C.G.A., C.M.A., or C.H.R.P. and a minimum of five years' experience in their profession may be considered for admission to the MBA program. Possession of the minimum requirements for admission does not ensure acceptance.

Students must write the GMAT before applying for admission to the Faculty. Applicants who hold an M.B.A or a Ph.D. from a foreign University (or equivalent degree) in any discipline will not be required to write the GMAT. (Details of the Test may be obtained from The Educational Testing Service, Princeton, New Jersey, 08540.) The order form for the Bulletin of Information for the GMAT is available in the Office of the Registrar and in the M.B.A office.

2) Graduates from a four-year Honours program in Commerce or Business Administration who, in the opinion of the Odette School of Business, have covered an adequate program of studies, may be admitted to the candidate year in the Fast Track Co-op M.B.A. program provided they have obtained satisfactory standing (at least a B- average) in their undergraduate degree.

3) Students will be recommended for admission to the candidate year if they have maintained a B- average or better in the first year of the program.

4) Students in the candidate year who maintain a B- average or better will qualify for the M.B.A. degree.

Prerequisites

The prerequisites required for admission are: first-year university-level mathematics; micro- and macroeconomics. The mathematics prerequisite may be waived depending on an applicant's quantitative GMAT score. If the prerequisites have not been completed prior to admission, they must be completed during the first year of the program.

Fee Policy for M.B.A. Students Taking Undergraduate Economic Courses

M.B.A. students will pay undergraduate fees for undergraduate courses taken as prerequisites for admission if the courses are taken within the first three terms after admission. The undergraduate courses will not be counted towards the graduate degree.

Part-time Status

Students who are unable to complete the program on a full-time basis for health, family, or other reasons may, upon recommendation from the Odette School of Business, be permitted to continue their studies on a part-time basis.

Professional Accounting Designation

Students who are interested in pursuing both a professional accounting designation (*i.e.*, C.A., C.M.A., or C.G.A.) and the M.B.A. are advised to complete their accounting course requirements while being registered in the Bachelor of Commerce for University Graduates program and then to apply for admission directly to the M.B.A. program.

ODETTE SCHOOL OF BUSINESS: PROGRAM INFORMATION (MBA)

ODETTE SCHOOL OF BUSINESS: COURSES

ODETTE SCHOOL OF BUSINESS: PROGRAMS

ODETTE SCHOOL OF BUSINESS: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

MATHEMATICS AND STATISTICS

THE MASTER OF SCIENCE DEGREE IN MATHEMATICS AND STATISTICS

Program Requirements for the M.Sc. Mathematics and Statistics (Mathematics)

The candidate shall successfully complete one of the following courses of study:
(a) seven graduate courses and a major paper;
(b) six graduate courses and a thesis. The originality of a Master's thesis may lie in the organization, presentation, and scholarly evaluation, rather than in the result.

In addition to the above course work, students registered in the Major Paper/Thesis are required to register in Seminar 62-795. They must attend 75 percent of the regular department's seminars in the first year of the program.

Graduate courses completed at this institution must include two of the following: Real Analysis (62-510), Functional Analysis (62-512), or Partial Differential Equations (62-561).

Master's Committee

If the Thesis option is taken for either the M.Sc. Mathematics and Statistics (Mathematics) or the M.Sc. Mathematics and Statistics (Statistics), a Masters committee must be appointed within the student's first term of study at the Master's II (or M2) (Candidate) level. The Master's committee must be approved by the Executive Committee of the Faculty of Graduate Studies and Research. The Master's committee shall include the student's supervisor as chairperson, one other member of the Department, and one faculty member from outside the Department.

MATHEMATICS AND STATISTICS: COURSES

MATHEMATICS AND STATISTICS: PROGRAMS

MATHEMATICS AND STATISTICS: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

MATHEMATICS AND STATISTICS

THE MASTER OF SCIENCE DEGREE IN MATHEMATICS AND STATISTICS

Program Requirements for the M.Sc. Mathematics and Statistics (Statistics)

The candidate shall successfully complete one of the following courses of study:
(a) seven graduate courses, of which at least five must be numbered with the prefix 65-, and a major paper;
(b) six graduate courses, of which at least four must be numbered with the prefix 65-, and a thesis. The originality of a Master's thesis may lie in the organization, presentation, and scholarly evaluation, rather than in the result.

In addition to the above course work, students registered in the Major Paper/Thesis are required to register in Seminar 65-795. They must attend 75 percent of the regular department's seminars in the first year of the program.

In both M.Sc. (Statistics) programs, up to two courses prefixed 65- may be replaced by 62-510 and/or 62-511.

Master's Committee

If the Thesis option is taken for either the M.Sc. Mathematics and Statistics (Mathematics) or the M.Sc. Mathematics and Statistics (Statistics), a Masters committee must be appointed within the student's first term of study at the II Master's (Candidate) level. The Master's committee must be approved by the Executive Committee of the Faculty of Graduate Studies and Research. The Master's committee shall include the student's supervisor as chairperson, one other member of the Department, and one faculty member from outside the Department.

MATHEMATICS AND STATISTICS: COURSES

MATHEMATICS AND STATISTICS: PROGRAMS

MATHEMATICS AND STATISTICS: INSTRUCTORS

GRADUATE STUDIES FACULTY REGULATIONS

Spring 2012 Graduate Calendar

Mission Statement

The mission of the University of Windsor Master of Science degree program in Nursing is to prepare graduates for advanced nursing practice. Graduates will address societal health needs relating to health promotion and illness prevention, or human responses and adaptations to alterations in health. Through the integration of theory, research, and practice students will advance their scientific base for practice. In addition the program supports development of leadership and advocacy skills for contributions to health care, education and research. Through faculty guidance and self-directed learning activities, students from diverse backgrounds will develop advanced professional knowledge through critical thinking, decision making, and scholarly inquiry in a multicultural society. This program is especially designed to meet the needs of employed baccalaureate prepared nurses.

Spring 2012 Graduate Calendar

EXAMINATION AND GRADING PROCEDURES