Courses of Instruction

This section presents the descriptions of all courses offered at the University of Victoria. Courses are listed in alphabetical order by course abbreviation (BIOL, EDUC). The course abbreviations for all courses offered within each faculty are listed on page 248. A list of the course abbreviations and their corresponding subject areas is presented on page 249.

Please note that not all courses listed are necessarily offered every year; students should consult the department or faculty concerned for an official listing of the courses that will be offered in a given session. Registration and current timetable information is also available on the web at <uvic.ca/course-registration>.

Students must ensure that they are familiar with the program requirements and restrictions noted in the entry for each academic unit.
Courses by Faculty

**Division of Medical Sciences**
NRSC  Neuroscience

**Faculty of Education**
ED-D  Educational Psychology and Leadership Studies
Department of Educational Psychology and Leadership Studies
EDCI  Curriculum and Instruction Studies
Department of Curriculum and Instruction
EPHE  Exercise Science, Physical and Health Education
School of Exercise Science, Physical and Health Education
IED  Indigenous Education

**Faculty of Engineering**
CSC  Computer Science
Department of Computer Science
ELEC  Electrical Engineering
Department of Electrical and Computer Engineering
MECH  Mechanical Engineering
Department of Mechanical Engineering

**Faculty of Fine Arts**
AHVS  Art History and Visual Studies
Department of Art History and Visual Studies
ART  Visual Arts
Department of Visual Arts
CH  Cultural Heritage Management
Department of Art History and Visual Studies and Division of Continuing Studies
MUS  Music
School of Music
THEA  Theatre
Department of Theatre
WRIT  Writing
Department of Writing

**Faculty of Graduate Studies**
GS  Graduate Studies by Special Arrangement
INTD  Interdisciplinary Program

**Faculty of Human and Social Development**
ADMN  Public Administration
School of Public Administration
CD  Community Development
School of Public Administration
CYC  Child and Youth Care
School of Child and Youth Care
DR  Dispute Resolution
School of Public Administration
HINF  Health Information Science
School of Health Information Science
HSD  Human and Social Development
Interdisciplinary Courses
IGOV  Indigenous Governance
INGH  Indigenous Health Studies
School of Public Health and Social Policy
NUED  Nursing, Advanced Practice: Nurse Educator Option
School of Nursing
NUHI  Nursing and Health Information Science
School of Nursing
NUNP  Nursing, Advanced Practice: Nurse Practitioner Option
School of Nursing
NURA  Nursing, Advanced Practice: Nurse Leadership Option
School of Nursing
NURP  Nursing Policy and Practice
School of Nursing
NURS  Nursing
School of Nursing
PADR  Public Administration Dispute Resolution
School of Public Administration
PHSP  Public Health and Social Policy
School of Public Health and Social Policy
SOCW  Social Work
School of Social Work

**Faculty of Humanities**
DHUM  Digital Humanities
ENGL  English
Department of English
FRAN  French
Department of French
GMST  Germanic Studies
Department of Germanic and Slavic Studies
GRS  Greek and Roman Studies
Department of Greek and Roman Studies
HSTR  History
Department of History
ITAL  Italian
Department of Hispanic and Italian Studies
LING  Linguistics
Department of Linguistics
PAAS  Pacific and Asian Studies
Department of Pacific and Asian Studies
PHIL  Philosophy
Department of Philosophy
SLST  Slavic Studies  
Department of Germanic and Slavic Studies  
SPAN  Spanish  
Department of Hispanic and Italian Studies  

Faculty of Law  

LAW  Law  

Faculty of Science  

ASTR  Astronomy  
Department of Physics and Astronomy  
BCMB  Biochemistry and Microbiology  
Department of Biochemistry and Microbiology  
BIOC  Biochemistry  
Department of Biochemistry and Microbiology  
BIOL  Biology  
Department of Biology  
CHEM  Chemistry  
Department of Chemistry  
EOS  Earth and Ocean Sciences  
School of Earth and Ocean Sciences  
FORB  Forest Biology  
Department of Biology  
MATH  Mathematics  
Department of Mathematics and Statistics  
MICR  Microbiology  
Department of Biochemistry and Microbiology  
MRNE  Marine Science  
Department of Biology  
PHYS  Physics  
Department of Physics and Astronomy  
STAT  Statistics  
Department of Mathematics and Statistics  

Faculty of Social Sciences  

ANTH  Anthropology  
Department of Anthropology  
CSPT  Cultural, Social and Political Thought  
Department of Political Science  
ECON  Economics  
Department of Economics  
ES  Environmental Studies  
School of Environmental Studies  
GEOG  Geography  
Department of Geography  
POLI  Political Science  
Department of Political Science  
PSYC  Psychology  
Department of Psychology  
SDH  Social Dimensions of Health  
Social Dimensions of Health Program  
SOCI  Sociology  
Department of Sociology  

Sardul S. Gill Graduate School of Business  

BUS  International Management and Organization  
ENTC  Entrepreneurship Certificate  
ENTD  Entrepreneurship Diploma  
MBA  Master of Business Administration  
MBME  Master of Business Administration + Master of Engineering  
MBA Program and Faculty of Engineering  
MBMS  Master of Business Administration + Master of Science (CSC)  
MBA Program and Faculty of Engineering  
MGB  Master of Global Business
<table>
<thead>
<tr>
<th>Courses by Subject Area</th>
<th>Code</th>
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<tbody>
<tr>
<td>Anthropology</td>
<td>ANTH</td>
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<tr>
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<tr>
<td>Art History and Visual Studies</td>
<td>AHVS</td>
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<td>Faculty of Fine Arts</td>
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<td>Astronomy</td>
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<td>Biochemistry</td>
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<td>Faculty of Science</td>
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<tr>
<td>Biochemistry and Microbiology</td>
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<td>Biology</td>
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<td>Chemistry</td>
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<td>Faculty of Science</td>
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<td>Child and Youth Care</td>
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<td>Faculty of Human and Social Development</td>
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<td>Community Development</td>
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<td>Cultural, Social and Political Thought</td>
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<td>Curriculum and Instruction Studies</td>
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<td>Faculty of Education</td>
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<td>Digital Humanities</td>
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<td>Dispute Resolution</td>
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<td>Faculty of Human and Social Development</td>
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<td>Earth and Ocean Sciences</td>
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<td>Educational Psychology and Leadership Studies</td>
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<td>Exercise Science, Physical and Health Education</td>
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<td>Forest Biology</td>
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<td>Geography</td>
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International Management and Organization ................................BUS
  Sardul S. Gill Graduate School of Business
Italian .......................................................................................................................ITAL
  Faculty of Humanities
Law..........................................................................................................................LAW
  Faculty of Law
Linguistics.............................................................................................................LING
  Faculty of Humanities
Marine Science ....................................................................................................MRNE
  Faculty of Science
Master of Business Administration.............................................................MBA
  Sardul S. Gill Graduate School of Business
Master of Business Administration + Master of Engineering ............
  Sardul S. Gill Graduate School of Business
Mathematics ......................................................................................................MATH
  Faculty of Science
Mechanical Engineering ................................................................................MECH
  Faculty of Engineering
Microbiology .....................................................................................................MICR
  Faculty of Science
Music ....................................................................................................................MUS
  Faculty of Fine Arts
Neuroscience ....................................................................................................NRSC
  Division of Medical Sciences
Nursing .................................................................................................................NURS
  Faculty of Human and Social Development
Nursing and Health Information Science ..............................................NUHI
  Faculty of Human and Social Development
Nursing Policy and Practice .................................................................NURP
  Faculty of Human and Social Development
Nursing, Advanced Practice: Nurse Educator Option ..............NUED
  Faculty of Human and Social Development
Nursing, Advanced Practice: Nurse Leadership Option ..............NURA
  Faculty of Human and Social Development
Nursing, Advanced Practice: Nurse Practitioner Option .........NUNP
  Faculty of Human and Social Development
Pacific and Asian Studies ..............................................................................PAAS
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Philosophy ..............................................................................................................PHIL
  Faculty of Humanities
Physics ..................................................................................................................PHYS
  Faculty of Science
Political Science ....................................................................................................POLI
  Faculty of Social Sciences
Psychology ............................................................................................................PSYC
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  Faculty of Social Sciences
Spanish .................................................................................................................SPAN
  Faculty of Humanities
Statistics ................................................................................................................STAT
  Faculty of Science
Theatre ..................................................................................................................THEA
  Faculty of Fine Arts
Visual Arts .............................................................................................................ART
  Faculty of Fine Arts
Writing ....................................................................................................................WRIT
  Faculty of Fine Arts
### Course Abbreviation and Number
Courses are listed alphabetically by course abbreviation of up to four letters (e.g., ANTH for Anthropology) and course number (e.g., 100). Three numbers are used for course number plus a letter as appropriate. The first number indicates the year level (0 for university-level upgrading, 1 to 4 for undergraduate level, 5 and 6 for graduate level, 7 for Education Professional Year and 8 for co-op work terms). See page 249 for the subject area corresponding to the course abbreviation.

### Cross-listed Courses
The same course may be offered by two different departments. Such courses are listed twice, once under each department course abbreviation. Students may obtain credit for the course from either department, but not both.

### Former Course Abbreviation and Number
If a course was previously offered at UVic under another abbreviation and number, the former abbreviation and number are shown here.

### Prerequisites and Corequisites
Prerequisites are courses or other requirements that must be completed before a student may register in a course. Corequisites are courses or other requirements that must be completed at the same time as a specific course.

For more information on how to read prerequisites, please see [www.uvic.ca/prereq](http://www.uvic.ca/prereq).

### Course descriptions do not include information on when courses will be offered. That information is available online at [www.uvic.ca/timetable](http://www.uvic.ca/timetable).
ADMN 502A  Units: 1.5
Surveying, Appraising and Commissioning Information
Understanding how research is structured and conducted is a vital skill in the public sector. Introduces students to essential skills and components of the research process, weaknesses and strengths. Key issues in research ethics and design are explored, including: research and data validity, measurement, qualitative methods, sampling, survey research techniques, questionnaire design, research design, measures of central tendency, dispersion, correlation, and computer-based analyses.

ADMN 502B  Units: 1.5
Data Analysis & Interpretation
Develops skills in understanding, evaluating and applying techniques of data analysis relevant to policy analysis and management research. Topics include: descriptive and inferential statistics, techniques of estimation in the context of opinion polls and related survey research methods; statistical testing using data collected from survey research, correlational studies, and experimental and quasi-experimental research designs. The computer lab component will allow students to further develop spreadsheet skills using EXCEL.
Prerequisite(s):
• ADMN 502A or PADR 502A; or
• permission of the school.

ADMN 504  Units: 1.5
Government and Governance
Provides a foundation that helps students build and refine their understanding of Canadian public sector governance. Focus is on key governance institutions and processes, the efforts made to reform them, and theories behind those reform initiatives and changes. Specifically, examines strategic governance challenges and reforms in areas such as service delivery, regulation, policy making, budgeting, citizen engagement, federal-provincial relations, public sector ethics and accountability.

ADMN 507  Units: 1.5
Leadership and Ethics in the Public Sector
Public leadership requires an understanding of others and one’s self in order to mobilize effort in challenging environments. Provides frameworks and practical strategies for understanding personal capacity, team dynamics, and working with others within and across organizational boundaries. Introduces students to competing values and ethics, and equips them with skills and strategies for analyzing, motivating and managing change and the challenges they may face.

ADMN 507A  Units: 1.5
Public Sector Leadership: Teams, Self and Organization
An understanding of team dynamics and of personal capacity in a team environment are vital to public sector work. Introduces students to the internal and external challenges they may face in the work environment and equips them with the skills and strategies necessary to analyze, motivate and manage human resources in public sector organizations, with an emphasis in library sector leadership.
Note: Credit will be granted for only one of ADMN 507A, ADMN 507, ADMN 507B.
Prerequisite(s):
• ADMN 517A; and
• admission to Graduate Professional Certificate program in Library Sector Leadership.

ADMN 507B  Units: 1.5
Public Sector Leadership: Teams, Self and Organization
An understanding of team dynamics and of personal capacity in a team environment are vital to public sector work. Introduces students to the internal and external challenges they may face in the work environment and equips them with the skills and strategies necessary to analyze, motivate and manage human resources in public sector organizations, with an emphasis in cultural sector leadership.
Note: Credit will be granted for only one of ADMN 507B, ADMN 507, ADMN 507A.
Prerequisite(s):
• ADMN 517B; and
• admission to Graduate Professional Certificate program in Cultural Sector Leadership.

ADMN 509  Units: 1.5
Microeconomics for Policy Analysis
Provides a foundation in microeconomic principles, the rationale for public sector interventions in the market, and essential tools for economic policy analysis. Students will be introduced to rational choice theory, resource allocation methods, supply and demand, efficiency and equity, elasticity, income redistribution, externalities, public goods, and imperfect information. Relies on practical problem-based learning. Contemporary themes include behavioral and nudge economics, economic inequality, and the moral economy.
Pre- or Corequisite(s):
• 502A or PADR 502A; and
• ADMN 504 or permission of the department.

ADMN 512  Units: 1.5
Public Financial Management and Accountability
Explores the budgeting cycle: budget preparation and execution, internal and external auditing, financial statements, and performance budgeting and reporting. Examines management tools that support resource allocation decisions and accountability. Considers the rationale for alternative goods and services provision arrangements. Reviews evidence-based approaches for efficient resource allocation decisions, benchmarking performance, and incentives to motivate employees and contractors. Explores public sector fiscal challenges.
Pre- or Corequisite(s):
• 502A or PADR 502A; and
• ADMN 509 or permission of the department.
ADMN 530B  
**Units:** 1.5  
**Increasing Organizational Effectiveness**

An introduction to the challenges of improving the effectiveness of public sector programs. The dynamics of work and consulting teams are studied, and students will review literature and participate in exercises in how to introduce lasting changes in organizations, and the complementary roles of leadership and management in ensuring more effective organizations, with a particular focus on the cultural sector.

**Note:** Credit will be granted for only one of ADMN 530B, ADMN 530, ADMN 530A.

**Prerequisite(s):**
- ADMN 517B, and
- admission to Graduate Professional Certificate program in Cultural Sector Leadership.

ADMN 531  
**Units:** 1.5  
**Performance and Strategic Human Resource Management**

Students explore the critical role of human capital in public organizations and how to align it with strategic objectives. Students learn about human resource management functions - planning, staffing, training and development, performance management, compensation, and labour relations - and theories and approaches to improving organizational performance. Considers some of the contemporary challenges, such as high public expectations, constrained budgets, demographic turnover, and technological change.

**Note:** Credit will be granted for only one of ADMN 531, ADMN 431.

**Prerequisite(s):**
- ADMN 507 or PADR 504; or
- permission of the school.

ADMN 531A  
**Units:** 1.5  
**Strategic Human Resource Management**

Students will explore the vital role of human capital in organizations, with an emphasis on the library sector. Focuses on the alignment of the organization’s strategic objectives with its human capital. Students will study how to structure each of the human resource management functions, including planning, staffing, training, performance management, compensation and labour relations, in ways that optimize organizational performance. Assists students in dealing with contemporary challenges of globalization of work, demographic shifts, and information technology.

**Note:** Credit will be granted for only one of ADMN 531A, ADMN 531B.

**Prerequisite(s):**
- ADMN 517B, and
- admission to the Graduate Professional Certificate program in Library Sector Leadership.

ADMN 531B  
**Units:** 1.5  
**Strategic Human Resource Management**

Students will explore the vital role of human capital in organizations, with an emphasis on the cultural sector. Focuses on the alignment of the organization’s strategic objectives with its human capital. Students will study how to structure each of the human resource management functions, including planning, staffing, training, performance management, compensation and labour relations, in ways that optimize organizational performance. Assists students in dealing with contemporary challenges of globalization of work, demographic shifts, and information technology.

**Note:** Credit will be granted for only one of ADMN 531B, ADMN 531A, ADMN 531.

**Prerequisite(s):**
- ADMN 517B, and
- admission to the Graduate Professional Certificate program in Cultural Sector Leadership.

ADMN 537  
**Units:** 1.5  
**Program Evaluation and Performance Measurement**

Examines program evaluation and performance measurement in public and nonprofit organizations. Emphasis is placed on acquiring skills needed to model programs, measure key constructs, select appropriate research designs, and conduct both quantitative and qualitative program evaluations. Issues involved in designing and implementing program performance measurement systems are introduced.

**Note:** Credit will be granted for only one of ADMN 537, ADMN 437.

**Prerequisite(s):**
- ADMN 502A or PADR 502A; and
- ADMN 502B; or
- permission of the school.

ADMN 544  
**Units:** 1.5  
**Economic Evaluation Methods and Applications**

A practical introduction to the theory and methods of economic evaluation, including cost-benefit analysis, cost-effectiveness analysis, and cost-utility analysis, with emphasis on public sector applications.

**Prerequisite(s):**
- For students admitted to MPA program: ADMN 502A or PADR 502A; and
- ADMN 502B and ADMN 509.
- For students not admitted to MPA program: permission of the school.

ADMN 547  
**Units:** 1.5  
**Intergovernmental Relations in Canada**

Examines the impact on public policy of relations between governments resulting from the distribution of powers among federal, provincial, and municipal governments in Canada. Topics will include the interpretive role of the courts, the instruments of fiscal federalism, administrative relationships, and the concepts of “executive federalism” and “intergovernmental governance”. Individual and team projects will explore how policy issues are handled at different stages and in different arenas of the intergovernmental process.

**Note:** Credit will be granted for only one of ADMN 547, ADMN 462, POLI 462.

**Recommendation(s):** ADMN 504 recommended prior to ADMN 547.

ADMN 548  
**Units:** to be determined  
**Special Topics in Public Policy**

A study of selected special topics in Public Policy drawn from the current literature in Public Administration or related fields.

**Note:** May be taken more than once for credit in different topics.

ADMN 550  
**Units:** 1.5  
**Strategic Communication and Engagement**

Communicating with and engaging stakeholders about policy priorities, problems, the design of policy and services, and implementation are crucial features of modern public and non-profit sector governance. Reviews theories, research, and practical strategies for identifying, analyzing and involving diverse groups in policy and program development, and developing multi-faceted communications strategies in the digital era. Students will also develop engagement and communications strategies.

**Note:** Credit will be granted for only one of ADMN 550, ADMN 470 (if taken with same topic).

ADMN 551  
**Units:** 1.5  
**Formerly: 551A and 551B.**

**Administrative Justice System in Canada**

Examines constitutional and administrative law structures and principles that underlie Canada’s administrative justice system. Students develop critical understanding of (1) characteristics of federal and provincial systems, (2) legal principles under which statutory decision-making is done, (3) process and principles applied to development of administrative justice system legislation, (4) breadth and influence of tribunal decisions on activities of Canadians. Examples are drawn from federal and provincial levels, comparisons to US, UK and France as appropriate.

**Note:** Credit will be granted for only one of ADMN 551, ADMN 551A, ADMN 551B.

ADMN 553  
**Units:** 1.5  
**Understanding Cities**

Cities are a basic building block to society, and offer an interesting opportunity to study political, social and economic issues. Examines European and North American/Canadian cities using academic and government resources to analyze and compare their various aspects.

ADMN 554  
**Units:** 1.5  
**Responsible Public Management**

Designed to give students the opportunity to understand the value dimensions of public management; reflect upon and enhance their own ethical reasoning skills; critically examine existing behavioural standards and guidelines for public managers; work with colleagues to establish what actions would be morally defensible in real administrative and policy making situations; and consider what steps can be taken to enhance responsible public management.

**Note:** Credit will be granted for only one of ADMN 554, ADMN 422, PADR 503.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Units</th>
<th>Course Name</th>
<th>Description</th>
<th>Prerequisite(s)</th>
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<tbody>
<tr>
<td>ADMN 556</td>
<td>1.5</td>
<td>Managing Public Policy</td>
<td>Examines the theory and practice of public policy emphasizing the strategic aspects of problem identification, policy design, decision making, implementation and evaluation. Designed to provide students a thorough understanding of public policy and dynamics of the policy process and to apply this knowledge to important policy issues. Policy development is examined within the context of multi-level and multi-sector governance, and addresses the involvement of key players such as the courts, media, and other prominent stakeholders.</td>
<td>• Admission to the Graduate Professional Certificate or permission of the department.</td>
</tr>
<tr>
<td>ADMN 577</td>
<td>1.5</td>
<td>Strategic Planning and Implementation</td>
<td>Examines the concepts and practice of strategic planning and project management. Students will explore how to negotiate strategic planning initiatives, construct mandate, mission and vision statements, analyze the environment, conduct stakeholder analyses, and prepare the organization for implementation of the plan. Students will develop competencies in implementing strategic plans through the design and management of projects flowing from the strategies outlined in the plan. Familiarizes students with the key components of project management including definition of the project, its scope and life cycle, the maintenance of quality control, scheduling, critical path analysis and the management of human resources involved in project management. This course will have a specific focus on the cultural sector.</td>
<td>Note: Credit will be granted for only one of ADMN 577B, ADMN 477, ADMN 577, ADMN 577A.</td>
</tr>
<tr>
<td>ADMN 578</td>
<td>1.5</td>
<td>European Union Urban Region Policies</td>
<td>Compares issues associated with the politics, policy analysis, and policy environment of cities and urban regions in the European Union (EU), including integration issues and Canada. Considers ways in which the EU intervenes to improve the policy capacity of urban/regional governments, looking at broad issues of economic development and growth, equity and redistribution in comparative perspective. Focuses on the responsibilities, functions, resources, bureaucracy, and multilevel governance issues linking the federal/state/local governments.</td>
<td>Note: Credit will be granted for only one of ADMN 578, ADMN 478, ADMN 548 (if taken in the same topic).</td>
</tr>
<tr>
<td>ADMN 579</td>
<td>1.5</td>
<td>European Union Border Region Policies</td>
<td>Introduces students to the various complexities of European Union (EU) border policy making processes. Students compare EU policy and policy-making with the Canada-US and US-Mexico borders, studying specific issues including cross border trade flows, immigration, environmental issues, government activities including security, and the activities of local and regional communities spanning borderlands. Studies and reflects upon complex policy-making and multilevel governance mechanisms that are increasingly typical in the EU and Canada.</td>
<td>Note: Credit will be granted for only one of ADMN 579, ADMN 479, ADMN 548 (if taken in the same topic).</td>
</tr>
<tr>
<td>ADMN 580</td>
<td>1.5</td>
<td>Qualitative Evaluation Methods and Applications</td>
<td>Explores the principles and practices of effective qualitative evaluation methods: planning, design strategies, data collection, analysis and reporting. Coursework includes: selecting appropriate design strategies and sampling methods; collecting data using in-depth, open-ended interviews, fieldwork-based observations, participant observation, and documents; analyzing large volumes of qualitative data to produce clear, credible and relevant findings. The course will also examine strategies for integrating multiple lines of qualitative findings in evaluations.</td>
<td>Note: May be taken more than once for credit in different topics with permission of the school.</td>
</tr>
<tr>
<td>ADMN 581</td>
<td>1.5</td>
<td>Quantitative Methods for Public Policy Analysis and Program Evaluation</td>
<td>Building on the knowledge acquired in 502B, describes the logic behind various quantitative methodologies used in conducting retrospective quantitative evaluations in public policy programs and research. Demonstrates the application of these methodologies using real world policy applications. Topics may include: simple and multiple regression, endogeneity, limited dependent variables, panel data, and experimental methods.</td>
<td>Note: Credit will be granted for only one of ADMN 581, ADMN 5681.</td>
</tr>
<tr>
<td>ADMN 582</td>
<td>1.5</td>
<td>Topics in Program Evaluation, Performance Measurement, Performance Management and Knowledge Management</td>
<td>Designed to explore contemporary issues and problems in the field of evaluation and performance management. Topics will be selected for each offering of the course; examples of topics to be included are: contribution analysis; gaming of performance measurement; professional evaluation; managing knowledge creation and its uses in complex organizations; understanding and influencing organization cultures to increase and sustain knowledge utilization; audit and evaluation; comparative evaluation; and evaluation in developing countries.</td>
<td>Note: May be taken more than once for credit in different topics with permission of the school.</td>
</tr>
<tr>
<td>ADMN 590</td>
<td>to be determined</td>
<td>Directed Studies</td>
<td>Notes:</td>
<td>Note: Pro Forma required.</td>
</tr>
<tr>
<td>ADMN 596</td>
<td>4.5</td>
<td>Evaluation Project</td>
<td>The evaluation project is a substantial evaluation of a policy or program designed and conducted for a public sector or non-profit organization. Each evaluation project will have a client and will be supervised by a faculty member in the School of Public Administration. The completed project report will be assessed by a committee consisting of the academic supervisor, a second reader (both members of the School of Public administration), and the client for the project.</td>
<td>Grading: INP, F.</td>
</tr>
<tr>
<td>ADMN 598</td>
<td>4.5</td>
<td>Master's Project</td>
<td>Requires a substantial analysis of a management, policy or program problem for a client in the nonprofit or public sector. The Master's Project is completed in consultation with the client and an academic supervisor in the School of Public Administration and must be both practical and academically rigorous. A written project report is defended in an oral examination. For more information, please refer to the School of Public Administration website.</td>
<td>Grading: INP, COM, N, F.</td>
</tr>
</tbody>
</table>
ADMN 599 - AHVS 509

ADMN 599  Units: 6.0
Master's Thesis
Requires a substantial contribution to the knowledge in the field of Public Administration. An MPA Thesis will demonstrate a student’s mastery of a substantive body of scholarly or practice literature as well as using appropriate and academically defensible methodologies to analyze research questions, test hypotheses or contribute new theoretical knowledge. Individual students will work with an academic supervisor in the School of Public Administration.
Grading: INP, COM, N, F.

ADMN 600  Units: 0
Doctoral Seminar
The doctoral seminar supports the advancement of research and writing skills. Students will develop competencies in preparing and publishing research. Students are asked to register in this course each term during their PhD program.
Grading: INP, COM, N, F.

ADMN 602  Units: 1.5
Research Methods in Public Administration
An overview of the most prominent research methods employed in public administration, concentrating on procedures for collecting and analyzing empirical data. Students are introduced to key methodological issues and debates and are required to critically appraise examples of applications of methods in the literature.

ADMN 604  Units: 1.5
Also: POLI 610
Theories of Public Management
Explores different theories and approaches to understanding public administration and reform. Considers variations in three areas: political and constitutional authority, accountability and responsibility, and the roles of elected and non-elected officials; government structures, responsibilities for policy and service delivery, and distributed governance; and patterns and trends in central decision-making, budgeting, control, transparency, and citizen engagement. Students will review seminal comparative studies on administrative practice and reform and undertake a comparative study on a selected topic.
Note: Credit will be granted for only one of ADMN 604, POLI 610.

ADMN 605  Units: 1.5
Also: POLI 607
Comparative Policy and Governance
Focuses on the study of diverging governance practices and policy outcomes in different jurisdictions. Examines: policy determinants such as history, culture, institutions, and the economy; policy dynamics and processes such as agenda-setting and decision-making, networks and communities, and policy change; and policy styles and transfer, referring to the state’s ability to design, coordinate, implement, and learn from policy interventions. Students will review seminal studies and undertake a comparative policy project.
Note: Credit will be granted for only one of ADMN 605, POLI 507, POLI 607.

ADMN 607  Units: 1.5
Organizational Behaviour and Analysis
A review of the origins, analytic traditions, and evolution of the study of organizations, focusing on exploring and analyzing the behaviour of public organizations. Topics include goal formation, tasks, technology, formal structure, informal organization, motivation, perception, values, culture, information, decision making, group dynamics, conflict, leadership, empowerment, creativity, learning and innovation. Concepts and theories are complemented by reviewing seminal literature on private, public, and non-profit organizations, and by undertaking field research.

ADMN 620  Units: 1.5
Policy and Institutional Design and Analysis
A review of the interdisciplinary foundations of the analysis and design of public policy, and the institutions and strategies for implementing them. Examines the rationale, comparative advantage, and combinations of government hierarchies, markets, networks, and policy instruments. Considers how to meld different disciplinary and professional perspectives and techniques for addressing design and implementation challenges, and how to draw lessons from different policy domains and jurisdictions, through case studies and projects in selected policy domains.

ADMN 621  Units: 1.5
Policy and Program Evaluation and Performance
Evaluates and compares different sources of information and methodologies that policy-makers and policy analysts use to inform policy debates and decisions, implementation and management strategies, accountabilities, and program reviews. Topics include meta-analysis, cost-benefit analysis, quasi-experiments, program evaluation, performance measurement, smart practices, and other quantitative and qualitative methodologies. Explores the challenges of securing reliable and valid data, the trade-off between high quality and timely information, and conveying complex findings. These approaches and challenges are explored through intensive assessments of existing studies, cases and projects.

ADMN 645  Units: 1.5
Organizational Change and Development
Examines the philosophy, history, and evolving approaches associated with organizational change and development, with special focus on initiating and managing change in the public sector. Reviews the diverse perspectives on change and the special roles of those who seek to change and develop organizations. Includes topics such as planned and unplanned change, alternative interventions, resistance, leadership, and incremental versus radical change. Students will undertake case studies and assessments of organizational change initiatives.

ADMN 681  Units: 1.5
Quantitative Methods for Public Policy Analysis and Program Evaluation
Describes the logic behind various quantitative methodologies used in conducting retrospective and prospective evaluations in public policy programs and research. Demonstrates the application of these methodologies using real-world policy applications. Topics may include: simple and multiple regression, endogeneity, limited dependent variables, panel data and experimental methods.
Note: Credit will be granted for only one of ADMN 681, ADMN 581.

ADMN 690  Units: 1.0-3.0
Directed Studies
Notes:
• May be taken more than once for credit in different topics with permission of the school.
• Pro Forma required.

ADMN 693  Units: 3.0
PhD Candidacy Examination
Students enrol in ADMN 693 for the duration of their preparation for their candidacy examinations. This begins at the time a student first enrols in the PhD program and continues until candidacy requirements have been completed.
Grading: INP, COM, N, F.

ADMN 699  Units: 30.0
Dissertation
Prerequisite(s): ADMN 693.
Grading: INP, COM, N, F.

AHVS
Art History and Visual Studies
Department of Art History and Visual Studies
Faculty of Fine Arts

AHVS 501  Units: 1.5
Formerly: HA 501
Colloquium in Theories and Practices
Notes:
• Credit will be granted for only one of AHVS 501, HA 501.
• A compulsory seminar for all master's students.

AHVS 502  Units: 1.5
Formerly: HA 502
Special Topics in Art History and Visual Studies
Note: Credit will be granted for only one of AHVS 502, HA 502.

AHVS 509  Units: 1.5
Formerly: HA 509
Workshop in Art Historical Writing
Notes:
• Credit will be granted for only one of AHVS 509, HA 509.
• A compulsory workshop.
Prerequisite(s): AHVS 501 or HA 501.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Units</th>
<th>Former Course Code</th>
<th>Former Course Title</th>
<th>New Course Title</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHVS 520</td>
<td>1.5</td>
<td>HA 520</td>
<td>Seminar in Medieval Art</td>
<td>Note: Credit will be granted for only one of AHVS 520, HA 520.</td>
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</tr>
<tr>
<td>AHVS 530</td>
<td>1.5</td>
<td>HA 530</td>
<td>Seminar in the Arts of South and/or Southeast Asia</td>
<td>Note: Credit will be granted for only one of AHVS 530, HA 530.</td>
<td></td>
</tr>
<tr>
<td>AHVS 535</td>
<td>1.5</td>
<td>HA 535</td>
<td>Seminar in Late Medieval and Early Renaissance Art, c. 1200-1500</td>
<td>Note: May be taken more than once for credit in different topics.</td>
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<tr>
<td>AHVS 540</td>
<td>1.5</td>
<td>HA 540</td>
<td>Seminar in Renaissance Art</td>
<td></td>
<td></td>
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<tr>
<td>AHVS 545</td>
<td>1.5</td>
<td>HA 545</td>
<td>Seminar in Early Modern Art, c. 1500-1750</td>
<td>Note: Credit will be granted for only one of AHVS 545, HA 545.</td>
<td></td>
</tr>
<tr>
<td>AHVS 549</td>
<td>1.5</td>
<td>HA 549</td>
<td>Seminar in Orientalism in Art and Architecture</td>
<td>Note: Credit will be granted for only one of AHVS 549, HA 549.</td>
<td></td>
</tr>
<tr>
<td>AHVS 550</td>
<td>1.5</td>
<td>HA 550</td>
<td>Seminar in Islamic Art and Civilization</td>
<td>Note: Credit will be granted for only one of AHVS 550, HA 550.</td>
<td></td>
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<tr>
<td>AHVS 552</td>
<td>1.5</td>
<td>HA 552</td>
<td>Seminar in the Arts of Moghal India</td>
<td>Note: Credit will be granted for only one of AHVS 552, HA 552.</td>
<td></td>
</tr>
<tr>
<td>AHVS 553</td>
<td>1.5</td>
<td>HA 553</td>
<td>Seminar in the Arts of Safavi Iran</td>
<td>Note: Credit will be granted for only one of AHVS 553, HA 553.</td>
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</tr>
<tr>
<td>AHVS 554</td>
<td>1.5</td>
<td>HA 554</td>
<td>Seminar in 19th- and/or 20th-Century Architecture</td>
<td>Note: Credit will be granted for only one of AHVS 554, HA 465, HA 554.</td>
<td></td>
</tr>
<tr>
<td>AHVS 555</td>
<td>1.5</td>
<td>HA 555</td>
<td>Seminar in Canadian Art</td>
<td>Note: Credit will be granted for only one of AHVS 555, HA 555.</td>
<td></td>
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<tr>
<td>AHVS 560</td>
<td>1.5</td>
<td>HA 560</td>
<td>Seminar in Modern Art I (1870-1945)</td>
<td>Note: Credit will be granted for only one of AHVS 560, HA 560.</td>
<td></td>
</tr>
<tr>
<td>AHVS 561</td>
<td>1.5</td>
<td>HA 561</td>
<td>Seminar in Modern Art II (1945-1990)</td>
<td>Note: Credit will be granted for only one of AHVS 561, HA 561.</td>
<td></td>
</tr>
<tr>
<td>AHVS 563</td>
<td>1.5</td>
<td>HA 563</td>
<td>Seminar in Political Art</td>
<td>Note: Credit will be granted for only one of AHVS 563, HA 563.</td>
<td></td>
</tr>
<tr>
<td>AHVS 564</td>
<td>1.5</td>
<td>HA 564</td>
<td>Seminar in Contemporary Art</td>
<td>Note: Credit will be granted for only one of AHVS 564, HA 564.</td>
<td></td>
</tr>
<tr>
<td>AHVS 565</td>
<td>1.5</td>
<td>HA 565</td>
<td>Seminar in Contemporary North American Indigenous Arts</td>
<td>Note: Credit will be granted for only one of AHVS 565, HA 565.</td>
<td></td>
</tr>
<tr>
<td>AHVS 570</td>
<td>1.5</td>
<td>HA 570</td>
<td>Seminar in East Asian Art</td>
<td>Note: Credit will be granted for only one of AHVS 570, HA 570.</td>
<td></td>
</tr>
<tr>
<td>AHVS 571</td>
<td>1.5</td>
<td>HA 571</td>
<td>Seminar in the Arts of China</td>
<td>Note: Credit will be granted for only one of AHVS 571, HA 571.</td>
<td></td>
</tr>
<tr>
<td>AHVS 578</td>
<td>1.5</td>
<td>HA 578</td>
<td>Seminar in Theory &amp; Film Culture</td>
<td>Note: Credit will be granted for only one of AHVS 578, HA 578.</td>
<td></td>
</tr>
</tbody>
</table>
| AHVS 580    | 1.5   | HA 580             | Topics in Cultural Resource Management | Note: Credit will be granted for only one of AHVS 580, HA 580. 
Prerequisite(s): Permission of the department. |
| AHVS 582    | 1.5   | HA 582             | Seminar in Indigenous Arts | Note: Credit will be granted for only one of AHVS 582, HA 582. |
| AHVS 584    | 1.5   | HA 584             | Seminar in Contemporary Art: The Pacific Northwest | An intensive study of a selected aspect of Pacific Northwest art. Content will vary from year to year. 
Notes: 
• Credit will be granted for only one of AHVS 584, HA 584. 
• May be taken more than once with permission of the department. |
| AHVS 590    | 1.5   | HA 590             | Directed Studies MA Level | Notes: 
• Credit will be granted for only one of AHVS 590, HA 590. 
• Pro Forma required. |
| AHVS 593    | 1.5   | HA 593             | Seminar on the Williams Collection | An intensive study of selected aspect of the Williams Collection. Topics will vary. 
Notes: 
• Credit will be granted for only one of AHVS 593, HA 593. 
• May be taken more than once with permission of the department. 
• Several classes may be taught at area museums and galleries. |
| AHVS 598    | 4.5   | HA 598             | Research Paper | An extended research paper of approx. 10,000 words which will also be presented to a public audience. 
Notes: 
• Credit will be granted for only one of AHVS 598, HA 598. 
• Required for MA students who elect the Research Paper Option. 
Grading: INP, COM, N, F |
| AHVS 599    | 7.5   | HA 599             | MA Thesis | Note: Credit will be granted for only one of AHVS 599, HA 599. 
Grading: INP, COM, N, F |
| AHVS 601    | 1.5   | HA 601             | Colloquium in Theories and Practices | Notes: 
• Credit will be granted for only one of AHVS 601, HA 601. 
• A compulsory course for all doctoral students, except for students who have credit for AHVS 501. |
| AHVS 609    | 1.5   | HA 609             | Workshop in Art Historical Writing | Notes: 
• Credit will be granted for only one of AHVS 609, HA 601. 
• A compulsory workshop. |
| AHVS 690    | 1.5-6.0 | HA 690         | Directed Studies PhD Level | Notes: 
• Credit will be granted for only one of AHVS 690, HA 690. 
• Pro Forma required. |
### ANTH 500
**Units:** 1.5  
**Seminar in Anthropological Theory**  
Diverse perspectives in anthropological thought, focussing on epistemological issues, integrative practice among anthropology’s subfields, the collaborative dimensions of anthropological research, and implications for ethically engaged community-based research.  
**Prerequisite(s):** Permission of the program.

### ANTH 510
**Units:** 1.5  
**Selected Topics in Social and Cultural Anthropology**  
Depending on the student’s interests and the availability of an instructor, studies may be selected in one or more of the following:  
**Prerequisite(s):** Permission of the program.

### ANTH 510A
**Units:** 1.5  
**Social Organization**

### ANTH 510B
**Units:** 1.5  
**Economic Anthropology**

### ANTH 510C
**Units:** 1.5  
**Political Anthropology**

### ANTH 510D
**Units:** 1.5  
**Anthropology of Religion**

### ANTH 510E
**Units:** 1.5  
**Symbolic Anthropology**

### ANTH 510F
**Units:** 1.5  
**Cultural Ecology**

### ANTH 510G
**Units:** 1.5  
**Cultural Change**

### ANTH 510H
**Units:** 1.5  
**Medical Anthropology**

### ANTH 511
**Units:** 1.5  
**Formerly: 501**  
**Advanced Research Seminar in Inequality, Culture and Health**  
In-depth and critical survey of current issues, topics, theory and method in anthropology, with particular emphasis on inequality and health.  
**Note:** Credit will be granted for only one of ANTH 511, ANTH 501.

### ANTH 516
**Units:** 1.5  
**Seminar in Anthropological Research Methods**  
An advanced consideration of the assumptions which lie behind various approaches to conducting research in anthropology.

### ANTH 520
**Units:** 1.5  
**Specialized Themes in Anthropology**  
Depending on the student's interests and the availability of an instructor, studies may be selected in one or more of the following:  
**Note:** May be taken more than once for credit in different topics with permission of the department.  
**Prerequisite(s):** Permission of the program.

### ANTH 520A
**Units:** 1.5  
**Themes in Sociocultural Anthropology**

### ANTH 520B
**Units:** 1.5  
**Themes in Archaeology**

### ANTH 520C
**Units:** 1.5  
**Themes in Biological Anthropology**

### ANTH 530
**Units:** 1.5  
**Ethnology of Selected Areas**  
Depending on the student’s interests and the availability of an instructor, studies may be selected in a geographic area of the student’s interest.  
**Note:** May be taken more than once for credit in different topics with permission of the department.  
**Prerequisite(s):** Permission of the program.

### ANTH 541
**Units:** 1.5  
**Formerly: 540**  
**Advanced Research Seminar in Indigenous Peoples in Historic and Contemporary Contexts**  
In-depth and critical survey of current issues, topics, theory and method relating to indigenous peoples in historic (archaeological) and contemporary contexts.  
**Note:** Credit will be granted for only one of ANTH 541, ANTH 540.

### ANTH 542
**Units:** 1.5  
**Archaeology of a Selected Area**  
**Prerequisite(s):** Permission of the program.

### ANTH 551
**Units:** 1.5  
**Formerly: 550**  
**Advanced Research Seminar in Ecology and Evolution**  
In-depth and critical surveys of current issues, topics, theory and method in topics related to both human and non-human primate ecology and evolution, including both morphological and behavioural adaptations and evolution.  
**Note:** Credit will be granted for only one of ANTH 550, ANTH 551.

### ANTH 552
**Units:** 1.5  
**Selected Topics in Biological Anthropology**  
Depending on the student’s interests and the availability of an instructor, studies may be selected in one or more of the following:  
**Prerequisite(s):** Permission of the program.

### ANTH 552A
**Units:** 1.5  
**Applied Topics in Osteological Methods**  
**Prerequisite(s):** Permission of the program.

### ANTH 552D
**Units:** 1.5  
**Primatology**  
**Prerequisite(s):** Permission of the program.

### ANTH 552E
**Units:** 1.5  
**Advanced Topics in Biological Anthropology**  
**Prerequisite(s):** Permission of the program.

### ANTH 561
**Units:** 1.5  
**Also: LING 560**  
**Selected Topics in Linguistic Anthropology**

### ANTH 571
**Units:** 1.5  
**Advanced Research Seminar in Visual Anthropology and Materiality**  
In-depth and critical survey of current issues, topics, theory and method relating to visual anthropology and materiality in historical and contemporary contexts.

### ANTH 590
**Units:** 1.5-3.0  
**Directed Studies**  
**Prerequisite(s):** Permission of the program.

### ANTH 597
**Units:** 0.0-3.0  
**Thesis Proposal Development**  
Offered every term, for MA students who are preparing their thesis proposals. After the proposal is approved, students enrol in 599.  
**Grading:** INP, COM, N, F

### ANTH 598
**Units:** 0  
**Comprehensive Examinations**  
**Note:** Enrolment restricted to non-thesis MAs only.  
**Grading:** INP, COM, N, F
ANTH 599 - ART 581

**Visual Arts**
Department of Visual Arts
Faculty of Fine Arts

**ART 500**
Units: 9.0
First Year Drawing

**ART 501**
Units: 9.0
Second Year Drawing

**ART 511**
Units: 9.0
First Year Painting

**ART 512**
Units: 9.0
Second Year Painting

**ART 521**
Units: 9.0
First Year Sculpture

**ART 522**
Units: 9.0
Second Year Sculpture

**ART 541**
Units: 9.0
First Year Photography

**ART 542**
Units: 9.0
Second Year Photography

**ART 551**
Units: 9.0
First Year Digital Media

**ART 552**
Units: 9.0
Second Year Digital Media

**ART 570**
Units: 3.0
Directed Study
An independent study course normally taken during the term between the student's first and second year.

**ART 580**
Units: 6.0
First Year Seminar

**ART 581**
Units: 6.0
Second Year Seminar
The graduate seminar meets weekly, serving as a forum for active investigation of contemporary art practices as they pertain to student and faculty research areas. The seminar also serves as an occasional forum for visiting artists and critics. Students are expected to make presentations based on their work and research, to participate actively in discussion and to demonstrate their critical and analytical abilities in dealing with the material presented.
ART 598  Units: 0
MFA Degree Exhibition
This final exhibition will be the major source of evaluation for the student’s attainment of the MFA and should be regarded as the equivalent of the scholarly thesis of an academic discipline. The degree exhibition will be evaluated by the student’s committee which will submit its decision to the department for approval. Graduating students will speak to their work and answer questions from the examining committee. The committee may ask questions about the cultural, social and theoretical relations apparent in the student’s work. Students are required to provide documentation of their graduating exhibition which will be on file in the department. This documentation will take the form of slides, photographs, videotapes or other forms appropriate to the student’s production.
Grading: INP, COM, N, F

ASTR
Astronomy
Department of Physics and Astronomy
Faculty of Science

ASTR 501  Units: 1.5
Stellar Interiors and Evolution
The physics of stars and stellar explosions. Interior structure and evolution including the origin of the elements. Stellar properties as a function of mass and metallicity. Computational simulations of stars and stellar physics processes, such as mixing, and corresponding observables.

ASTR 503  Units: 1.5
The Interstellar Medium
Spectral line formation and notation. Processes in the interstellar medium including collisional excitation/ionization, line transfer effects (e.g., resonance and fluorescence), continuum and recombination processes. The theory of photoionized regions. Dust and metals - formation, measurement and chemistry. The application of these physical processes to current research topics, including the composition of the Milky Way and Local Group galaxies and the interstellar media of high redshift galaxies.

ASTR 504  Units: 1.5
A Theoretical Perspective on Galaxies
The current theoretical framework for understanding the formation and evolution of galaxies and galaxy systems. Topics may include the origin of the initial density perturbations during inflation, the hierarchical clustering paradigm, the physics driving the evolution of cosmic baryons, and the latest tools used by theorists to study structure formation.

ASTR 505  Units: 1.5
An Observational Perspective on Galaxies
The formation and evolution of galaxies from a modern research perspective. Topics may include the observed properties of galaxies, the growth of galaxies from initial conditions, the development of galactic scaling relations, the relationship between galaxies and large-scale structure and the physical evolution of galaxies.

ASTR 506  Units: 1.5
Stellar Populations
The properties of star clusters and their use in improving our understanding of stellar evolutionary theory. The use of star clusters and theoretical stellar models to study the formation of galaxies in the early Universe in addition to the chemical and dynamical evolution of galactic systems.

ASTR 507  Units: 1.5
Stellar Archaeology
The properties of stars and stellar populations in the Milky Way Galaxy. Topics may include stellar chemistry and the analysis of model atmosphere, stellar and cluster kinematics, astronomical instrumentation, and big data surveys.

ASTR 508  Units: 1.5
Cosmology
Modern research problems in cosmology. Topics may include the measurement of cosmological parameters, universal expansion, large-scale structure, big bang nucleosynthesis and the cosmic microwave background.

ASTR 511  Units: 1.5
Advanced Topics in Astronomy
Advanced topics covering research in the fields of extragalactic and stellar astronomy. Note: May be taken more than once for credit in different topics.

ASTR 512  Units: 1.5
Astronomical Instrumentation
A multi-wavelength overview of astronomical instrumentation. Practical optics and signal processing (e.g., spread functions, resolution, aberrations, sampling, sources of noise, calibrations). Mult wavelength techniques, including interferometry and adaptive optics. Astronomical detectors. Spectroscopy (long and multi-slit, echelle, Fabry-Perot and integral field units). An overview of current and future ground and space facilities, their design and objectives. Application of theory to practice: designing your own observations and writing telescope proposals.

ASTR 516  Units: 0
Colloquium
Weekly physics and astronomy colloquium.
Grading: INP, COM, N, F

ASTR 561  Units: 1.5
Student Seminar (MSc)
Seminar participants take turns hosting the meeting, typically by presenting a paper on recent or ongoing astronomical research. This is a continuing course that is taken throughout the MSc program, but credit is not granted until completion of the program.
Grading: INP, COM, N, F

ASTR 580  Units: 1.0-3.0
Directed Studies
Notes:
• May be taken more than once for credit in different topics.
• Pro Forma required.

ASTR 661  Units: 1.5
Student Seminar (PhD)
Seminar participants take turns hosting the meeting, typically by presenting a paper on recent or ongoing astronomical research. This is a continuing course that is taken throughout the PhD program, but credit is not granted until completion of the program.
Grading: INP, COM, N, F

BCMB
Biochemistry and Microbiology
Department of Biochemistry and Microbiology
Faculty of Science

BCMB 500  Units: 1.5
Critical Thinking in Biochemistry and Microbiology
Allows students to develop their oral presentation and written communication skills and provides students with training in critical analysis of data and peer-reviewed publications.

BCMB 531  Units: 0.5
Scientific Writing for Biomedical Research
Exploration of the techniques and strategies of effective scientific writing for knowledge dissemination, grant submission, and peer-reviewed journals. Class time will be used to discuss examples from the current literature, from the popular press and from fellow students.

BCMB 532  Units: 0.5
Regulation of Eukaryotic Gene Expression
Detailed review of current topics in eukaryotic gene regulation with emphasis on the practical aspects of gene expression and chromatin conformation analysis using molecular biology and biophysical techniques such as DNA arrays, QPCR, ChIP, next generation sequencing, analytical ultracentrifuge, FRAP, FRET. Given in a journal club format with class discussion.

BCMB 533  Units: 0.5
Cell Signalling
Students will develop an understanding of the tools and methods used to dissect eukaryotic signalling pathways, and learn how diverse approaches can be used to determine molecular mechanisms of signalling. Taught from the primary literature.

BCMB 534  Units: 0.5
Fundamentals of Crystallography
An exploration of the connection between x-ray diffraction and electron density, including concepts of unit cell, scattering factor, structure factor, anomalous scattering and fluorescence. Data collection strategies will be discussed, including Bragg angles, the direct and reciprocal lattices, the Ewald sphere, single crystal x-ray diffractometers, area detectors, Laue photography, synchrotron radiation, MAD, SAD and MIR.
BCMB 535  Units: 0.5  Practical Crystallography
Detailed review of the practical aspects of analysis of x-ray diffraction data collected from protein crystals. Includes techniques for growing and mounting crystals, data collection and reduction, and modern software packages for analysis and presentation. Hands-on experience in solving real structures will be given in a workshop atmosphere, and students are encouraged to bring their laptop computers to class.

BCMB 537  Units: 0.5  Experimental Origins of Molecular Biology
Examination of the historical development of the guiding paradigms of modern molecular biology. Classic investigations to be examined include the Luria-Delbruck fluctuation test, the Meselson-Stahl experiment, the fine structure mapping of bacteriophage T4, the Jacob and Monod elucidation of the function of the lac operon, and the deciphering of the genetic code.

BCMB 538  Units: 0.5  Bacterial Pathogen Alteration of Eukaryotic Host Cell Functions
The mechanism of action of bacterial pathogens and their effector molecules in altering biochemical processes in host cells. Various topics will be discussed, including detailed study of the six specialized secretion systems of Gram-negative bacteria and modern biological and biochemical approaches for studying bacterial pathogenesis.

BCMB 539  Units: 0.5  Practical Bioinformatics
Aspects of bioinformatics will be reviewed, including searching for distant homologues of proteins with similarity sequences, use of modern web-based motif searching tools, gene prediction and annotation tools, dot plots of proteins and genomes. Given in a journal club format with class discussion.

BCMB 540  Units: 0.5  Cancer Immunology from Bench to Bedside
Students are exposed to data and concepts of the immune response to cancer and clinical immunotherapy, specifically cancer vaccines and T cell therapy, with a broad perspective from basic research to clinical practice. Includes lectures and student-led presentations of primary literature.

BCMB 541  Units: 0.5  An Introduction to Clinical Oncology for Cancer Researchers
Intended for graduate students with an interest in cancer research. Students are exposed to concepts of modern oncology from a clinical perspective, including pathology, radiation therapy, systemic therapy, and even psychological support. The goal is to provide a “real world” view of the progress and challenges associated with cancer diagnosis and treatment. Includes lectures by practicing physicians and other clinical staff, as well as student-led presentations of primary literature.

BCMB 580  Units: 0  Formerly: BIOL 530
Research Seminar
Requires attendance and participation at all departmental seminars, and the formal presentation of the research that comprises the major portion of the student’s PhD thesis work in biochemistry or microbiology. Prerequisite(s): BCMB 580, BIOL 580, MICR 580, or permission of the department. Grading: INP, COM, N, F

BCMB 589  Units: 0.5-1.5  Special Topics in Biochemistry or Microbiology
Instruction in a specific or highly specialized aspect of biochemistry or microbiology not otherwise offered in the department’s graduate programs. Note: May be taken more than once for credit in different topics to a maximum of 1.5 units.

BCMB 680  Units: 0  Formerly: BIOL 580
Advanced Research Seminar
Requires attendance and participation at all departmental seminars, and the formal presentation of the research that comprises the major portion of the student’s PhD thesis work in biochemistry or microbiology. Prerequisite(s): One of BCMB 580, BIOL 580, MICR 580, or permission of the department. Grading: INP, COM, N, F

BIOL 500  Units: 1.5  History of Biology
The historical development of the major techniques and ideas of biology, including the significance of the important historical contributors to biology. Notes:
- Credit will be granted for only one of BIOL 500, BIOL 400.
- A combined undergraduate and graduate course. Please contact instructor for more information.

BIOL 509B  Units: 1.5  Neurobiology: Molecules to Behaviour
Cellular and molecular biology of excitable cells and mechanisms of intercellular communication. Evolution and functional organization of central nervous systems. Motor systems and mechanisms of coordination. Sensory biology. Interactions of genes, development, and experience in molding nervous systems and behaviour. Notes:
- Credit will be granted for only one of BIOL 509B, BIOL 409A, BIOL 367.
- A combined undergraduate and graduate course. Please contact instructor for more information.

BIOL 553  Units: 1.5  Developmental Biology
Cellular and molecular mechanisms underlying animal development: fertilization, gastrulation, body axis formation and patterning, formation of the eye, nervous system, neural crest, limb, germ cells and gonads. Emphasis on human developmental disorders, experimental design and hypothesis testing. Notes:
- Credit will be granted for only one of BIOL 513, BIOL 309.
- A combined undergraduate and graduate course. Please contact instructor for more information.
### BIOL 516 - BIOL 550E

#### BIOL 516  Units: 1.5  
**Neuroethology**
Examination of the neural basis of behaviour. Insights into the neuronal organization of behaviour through examination of neural solutions that have evolved in animals to solve problems encountered in their particular environments. Examples in individual species will be used to illustrate how neuronal systems integrate information to shape behaviour in a real-world context. Critical evaluation of research papers and seminar presentations based on the primary literature will be emphasized.

**Notes:**
- Credit will be granted for only one of BIOL 516, BIOL 448.
- A combined undergraduate and graduate course. Please contact instructor for more information.

#### BIOL 518  Units: 1.5  
**Electron Microscopy for the Biological Sciences**
An introduction to the principles and basic techniques of biological electron microscopy emphasizing common preparative methods for transmission and scanning electron microscopy of biological samples. A final report illustrated by the student's electron micrographs is required.

**Prerequisite(s):** Permission of the department.

#### BIOL 520  Units: 1.5  
**Techniques in Molecular Biology**
Provides participants with an intensive overview of molecular biological techniques with both theoretical background and "hands-on" experience. Techniques such as restriction endonuclease analysis; agarose, polyacrylamide, and pulsed field gel electrophoresis; molecular cloning; Southern blot analysis; mRNA extraction and Northern blot analysis; expression vectors; and polymerase chain reaction will be performed.

#### BIOL 521  Units: 1.5  
**Advanced Topics in Marine and/or Freshwater Algae**
Phytoplankton eco-physiology, and connections between phytoplankton physiology and broad oceanographic issues, such as the dynamics of nutrient cycling, carbon export, palaeoceanographic proxies, ocean warming and marine ecosystem changes.

#### BIOL 522  Units: 1.5  
**Sensory Biology**
Cellular and molecular mechanisms underlying sensory systems: sensory receptor coding logic, signal transduction, neuronal circuitry, developmental biology, comparative analysis of model organisms, related clinical disorders and therapeutic strategies. Focus placed on recent advances in the primary literature and on promoting skills for developing hypotheses and designing experiments.

**Notes:**
- Credit will be granted for only one of BIOL 522, BIOL 404.
- A combined undergraduate and graduate course. Please contact instructor for more information.

#### BIOL 532  Units: 1.5  
**Molecular Endocrinology**
Basic and molecular aspects of endocrinology. Brain hormones and their precursors, insulin and its receptor, gene-associated peptides, new glycoprotein hormones, growth factors, steroids, the superfamily of steroid and thyroid receptors, pheromones, oncogenes, immunoenocrinology and environmental endocrinology.

**Notes:**
- Credit will be granted for only one of BIOL 532, BIOL 432.
- A combined undergraduate and graduate course. Please contact instructor for more information.

#### BIOL 533  Units: 1.5  
**Topics in Evolutionary Biology**
A lecture and discussion course dealing with the processes of evolution. Topics vary, and may include one or more of the following: microevolutionary and macroevolutionary processes, speciation mechanisms, phylogeny reconstruction, molecular evolution, genetic basis of morphological change. Areas of current controversy will be explored.

**Note:** Credit will be granted for only one of BIOL 533, BIOL 555.

#### BIOL 536  Units: 1.5  
**Human Molecular Genetics**
An advanced study of the supramolecular organization, structures and functions of the human genome, and their implications in genetic diseases, including cancer. Topics will include current advances in genomics, animal models of diseases, molecular pathology and gene therapies.

**Notes:**
- Credit will be granted for only one of BIOL 536, BIOL 436.
- A combined undergraduate and graduate course. Please contact instructor for more information.

#### BIOL 538  Units: 1.5  
**Nutrient Cycling and Prokaryotes**

**Also:** FORB 538

An introduction to prokaryotes (bacteria and archaea) and their role in nutrient cycling in forests, lakes and oceans. Diversity and evolution of populations and communities of prokaryotes and their role in the major biogeochemical cycles: carbon, nitrogen, sulfur. Genetic, biochemical, physiological and ecological aspects of processes such as nitrogen fixation and methanogenesis, design of experimental approaches to assess cycling of elements in forests, lakes and oceans by prokaryotes.

**Notes:**
- Credit will be granted for only one of BIOL 538, BIOL 438, FORB 538.
- A combined undergraduate and graduate course. Please contact instructor for more information.

#### BIOL 540  Units: 1.5  
**Molecular Epidemiology**
Basic principles and applications of molecular epidemiology in epidemiological research on infectious and chronic diseases as well as risk factors in human populations. An overview of terminology and definitions, the use of statistics, and ethical consideration.

**Notes:**
- Credit will be granted for only one of BIOL 540, BIOL 439.
- A combined undergraduate and graduate course. Please contact instructor for more information.

#### BIOL 543  Units: 1.5  
**Critical Evaluation of Emerging Ecological Issues**
Students will review controversial and current topics in ecology. A list of topics will be provided that cover freshwater, marine and terrestrial ecology. Students will be required to select two topics, at least one of which is outside their own area of research. Each student will submit thorough bibliographic searches, make two oral presentations covering the critical analysis of each topic, and actively participate during the oral presentations of the other students.

#### BIOL 550  Units: 1.0-6.0  
**Directed Studies**

**Notes:**
- May be taken more than once for credit in different topics with permission of the department.  
- Pro Forma required.

#### BIOL 550A  Units: 1.0-6.0  
**Evolution**

**Notes:**
- May be taken more than once for credit in different topics with permission of the department.
- Pro Forma required.

#### BIOL 550B  Units: 1.0-6.0  
**Ecology**

**Notes:**
- May be taken more than once for credit in different topics with permission of the department.
- Pro Forma required.

#### BIOL 550C  Units: 1.0-6.0  
**Physiology**

**Notes:**
- May be taken more than once for credit in different topics with permission of the department.
- Pro Forma required.

#### BIOL 550D  Units: 1.0-6.0  
**Cell Biology**

**Notes:**
- May be taken more than once for credit in different topics with permission of the department.
- Pro Forma required.

#### BIOL 550E  Units: 1.0-6.0  
**Molecular Biology**

**Notes:**
- May be taken more than once for credit in different topics with permission of the department.
- Pro Forma required.
BIOL 560  
Units: 1.0
Annual Biology Graduate Symposium
Required of all graduate students every year of their degree program except by permission of the department. Shall be treated, in its grading, as the thesis or the dissertation and shall be given one unit of credit upon completion.
Grading: INP, COM, N, F

BIOL 561  
Units: 1.5  
Hours: 3-0-1
Fisheries Ecology and Management
An examination of the basic principles of fisheries ecology and population dynamics and how they are used as the basis for stock assessment and fisheries management. Topics include: current issues in BC, Canadian and global fisheries; growth, mortality, reproduction and recruitment; stock-recruitment and age-structured fisheries models; fisheries management tactics and strategies.
Prerequisite(s): Permission of the department.

BIOL 563  
Units: 1.5
Also: STAT 563
Topics in Applied Statistics
Survival analysis, generalized linear models, multivariate normal models, resampling methods, nonparametric and robust methods; meta-analysis, miscellaneous techniques.
Note: Joint with STAT 563.

BIOL 564  
Units: 0.5-1.5
Biography Workshop
Advanced workshops providing intensive theoretical and practical training in thematic areas of biology. Workshops are designed to provide the tools for experimental design to address biological questions at all levels from the genome to the whole organism.
Notes:
- May be taken more than once for credit in different topics.
- Pro Forma required.

BIOL 599  
Units: 12.0
Thesis
Grading: INP, COM, N, F

BUS 560  
Units: 1.5
Research Foundations
Builds a strong foundation for PhD studies in the field of international management and organization. Covers what the academic is and the academic’s role in the Academy as well as in the greater societal context, the role of the academic with respect to international business practice, philosophy of science with respect to the management literature, the historical development of the management literature, what constitutes good management research.

BUS 601  
Units: 1.5
International Management and Organization
Peter B. Gustavson School of Business

BUS 603  
Units: 1.5
Strategy
Examines the current state of knowledge in strategic management. Topics may include the sources of competitive advantage, the role of industry evolution and technology, the organization of top management, and managerial decision-making and cognition. Introduces alternative theoretical perspectives and available empirical evidence related to these topics.

BUS 604  
Units: 1.5
Business and Sustainability
Changing societal and ecological dynamics, from global to local levels, are rapidly shaping new landscapes for the management of organizations - affecting their institutional contexts, interactions with an expanding range of stakeholders, strategic priorities and operational realities. Rethinking the role of business in society has added new concepts to organization theory, including corporate social responsibility, ecological sustainability and resilience, triple-bottom line management, natural capital, shared or sustainable value creation and social entrepreneurship.

BUS 605  
Units: 1.5
Comparative Human Resource Management
Focusses on human resource management (HRM) practices and outcomes in international organizations, as well as identifies causal factors accounting for differences across nations in HRM structures, practices and outcomes.

BUS 606  
Units: 1.5
Micro Organizational Behaviour
Focuses on the behaviour of individuals and groups in organizations. Introduces several key topics in the field and aims for a critical analysis of each topic to develop a framework for understanding the breadth and depth of the research done to date in each topic and to identify the gaps in the literature. Covers the major theories and empirical research, including conceptual and methodological issues.

BUS 607  
Units: 1.5
Macro Organizational Theory
Introduces the major schools of thought in organization and management theory. Considers the development of the field, major and foundational works in these schools of thought, and provides a cognitive map with which to evaluate contemporary research and debates. Provides understanding of the strengths and weaknesses of each major perspective.

BUS 640  
Units: 1.5
Research Methods Fundamentals
Builds methodological foundation for organizational research and provides an overview of a broad range of research methodologies for organizational research. Topics include an overview of quantitative and qualitative research methods, theory, building process, reliability and validity, mediation and moderation, survey research design, and a brief introduction to Structural Equation Modeling and Experimental Design.

BUS 641  
Units: 1.5
Mixed-Methods Research Design
Provides a conceptual and practical understanding of combining traditional quantitative research methods with ethnographic, qualitative and other non-traditional research methodologies to advance theory in management research. Develops skills in evaluating the appropriateness of the research design to the research question, the adequacy of the methodology and evidence used to support claims made, and the persuasiveness of the arguments.
Prerequisite(s): BUS 640 or permission of the program.

BUS 650  
Units: 0.5-4.5
Selected Topics in Research Methods and Analysis
Course content will reflect faculty members’ research expertise and current Management research methodological approaches. Topics may include advanced statistical techniques and research methodologies. The content, credit value and method of evaluation must be approved by the PhD Program Director.
Note: May be taken more than once for credit in different topics to a maximum of 9 units.
Grading: INP, COM, N, F

BUS 655  
Units: 1.5
Global Management and Society I
Provides an overview of international business and management with special emphasis on the environmental and societal impact of global organizations over two semesters. Covers a team-taught, integrative survey of selected topics introducing students to a variety of theoretical and disciplinary perspectives laying down a strong foundation for understanding today’s complex global organizational realities.

BUS 656  
Units: 1.5
Global Management and Society II
Further develops topics covered in BUS 655. Prerequisite(s): BUS 655 or permission of the program.

BUS 670  
Units: 3.0
Academic Career Development
Provides a holistic viewpoint on the life and work of a management professor towards a fulfilling academic career. Focuses on professional development skills and understandings, including research, teaching, presenting, and being a positive contributing member of the academy.
Grading: INP, COM, N, F

BUS 687  
Units: 0
Teacher Training
Under guidance of a senior faculty member, PhD students will participate in training as teachers.
Note: Pro Forma required
Grading: INP, COM, N, F

Corequisite(s): BUS 693.
Grading: INP, COM, N, F

Corequisite(s): BIOL 693.
Grading: INP, COM, N, F

Also selects topics introducing students to a variety of selected topics.
Prerequisite(s): BUS 640 or permission of the program.

Prerequisite(s): BUS 640 or permission of the program.

COURSE LISTINGS BUS
BUS 688 - CD 512

BUS 688 Units: 0
International Fellowship Outgoing
Students register in this course while participating in an international residency with a university outside of Canada.
Grading: INP, COM, N, F.

BUS 689 Units: 1.5-4.5
International Fellowship Incoming
Students register in this course while participating in an international residency from a university outside of Canada.
Note: May be taken more than once for credit in different topics.
Grading: INP, COM, N, F.

BUS 690 Units: 1.5-4.5
Directed Studies for Business PhD Program
The content, credit value and method of evaluation must be approved by the PhD Program Director as well as the instructor offering the area of individual study prior to registration.
Notes:
• May be taken more than once for credit in different topics.
• Pro Forma required.

BUS 693 Units: 3.0
Doctoral Candidacy Exam
PhD students write a Candidacy Exam made up of three components including two written content exams on core subject material and a critical review of an empirical research manuscript. These written responses will be combined with an oral examination to assess whether the student has reached a sufficient level of expertise to allow him or her to proceed to the next stage of the program.
Grading: INP, COM, N, F.

BUS 694 Units: 0
Thesis Proposal Defence
Grading: INP, COM, N, F.

BUS 695 Units: 0.5-4.5
Special Topics in Business Administration
The content, credit value and method of evaluation must be approved by the PhD Program Director.
Note: May be taken more than once for credit in different topics to a maximum of 20 units.
Grading: INP, COM, N, F.

BUS 699 Units: 15
PhD Dissertation
Corequisite(s): BUS 693.
Grading: INP, COM, N, F.

CD Community Development
School of Public Administration
Faculty of Human and Social Development

CD 501 Units: 1.5
Anchoring a Change Agenda: Foundations
Grounds students in a solid understanding of the multiple historical, theoretical and conceptual frameworks of the role of civil society and the social economy in advancing progressive economic, political and social change, including the economics of social justice. The powerful intersection of theory and practice will be examined and critically assessed in the context of the capacity of co-operatives, non-profits and community development organizations to respond to key contemporary societal issues, global trends, and to consider implications for the future.
Prerequisite(s):
• Admission to MA program in Community Development;
or
• permission of the program.

CD 504 Units: 1.5
Practices and Perspectives on Forging Change
The ideologies, assumptions, and practices of diverse models of change that engage citizens, organizational and institutional stakeholders for social benefit will be explored. Introduces a range of models, their strengths, limits and applications with particular focus on governance, power, influence and socioeconomic innovation. Challenges students to analyze and assess the relevance and value to their fields of interest, whether community economic development, co-operatives or non-profits. Uses a range of readings, case studies and practice experience drawing upon Canadian and international settings.

CD 505 Units: 1.5
Community-Based Research: Foundations
Explores the values, goals and assumptions of community-based research and its methodologies. Participatory action research methods and lessons learned from best practices will be introduced. Students will experience a variety of approaches and develop the capacity to evaluate appropriate methods and their application for practice settings. This course will help shape the student’s major project.

CD 506 Units: 1.5
Enterprise Development for Community Benefit
Analyzes the strategy, models and processes of planning and decision making for developing enterprises that link social and economic benefit to the community. Students will develop a clear understanding of key concepts within financial, information and community technologies, leadership and community capacity building elements that accompany organizational and community enterprise development. Stream-specific readings and practices will complement the core content.

CD 507 Units: 1.5
Development Finance
A review of the current conventional sources (governments, banks, credit unions, etc.) of capital: how they are accessed, obstacles and opportunities. Considers specialized investment sources that have been created, how to match funds/investments and ideas for new institutional arrangements. The field will be explored from both the point of view of those seeking investment and those who make the investment (e.g. community investment loan funds).

CD 508 Units: 1.5
Co-operatives in Global Perspective
Examines the diversity of co-operative experiences in Canada and around the world focusing on co-operative movements, organizations, and thought, and the development of co-operative economies in historical and contemporary contexts. Students will develop an understanding of how the co-op model is being adapted and reinvented to respond to traditional economic and social issues and as a means of developing an alternative economic paradigm at local, regional, and international levels.

CD 509 Units: 1.5
Developing Capacities to Lead and Manage in the Non-Profit Sector
Focuses on developing the capacities of strategic planning, strategy and program management, resource generation, financial and human resource management, performance, information and communication technology, communications management, and ensuring accountability to multiple stakeholders. Students will develop an in-depth understanding of leading edge management frameworks and examine their relevance to leading and managing in the community sector.

CD 510 Units: 1.5
Leadership, Management and Governance within Organizations
Develops the competencies required to effectively lead and manage organizations from the ‘inside’, focusing on leadership capacities, human resources (staff, boards and volunteers), governance, internal and external stakeholder relations. Through a blend of theory, practice and experiential simulations, students will integrate their learning as well as appreciate the unique dimensions of co-operatives, social enterprises and non-profit organizations.

Prerequisite(s):
• Admission to MA program in Community Development;
or
• permission of the program.

CD 512 Units: 1.5
Program and Project Design, Management and Evaluation
Examines the various perspectives and approaches to program and project design, management and evaluation. Highlights the analytical activities and decisions involved in effective design, planning, implementation, reporting, and evaluation focusing on innovative and practical tools and processes that ensure effective outcomes and accountability. Attention will be paid to managing the complexity of multiple and collaborative projects and programs.
Examines strategic communications, marketing, public/community relations, and techniques of accountability. Also investigates the role of accountability in democratic governance, including forms of participation at multiple levels in different jurisdictions. The meanings of citizenship and its relationship to identity, engagement and participation are explored in the context of rapidly shifting attitudes and belief systems (local to global).

Critical Issues in Co-op Governance and Management
Provides a deeper understanding of governance and management issues that arise throughout the development cycle of co-operatives. Students will examine a number of challenges and their potential solutions within co-operatives and co-op movements, including co-operative governance, stakeholder engagement, marketing strategies, employee relationships, capital formation, sector relationships, legislative frameworks, community responsibilities, and public policy affecting co-operative development.

Government, Business and Non-profit Sector Relations
Examines the historical roots and the social, political, economic and legal framework that set the context for current and future organizational and sectoral influence and capacity. Explores the public policy process and its relation to leadership, management and collaborative ventures in Canada particularly. The evolving role of the private sector and inter-sectoral relations will be examined in the context of rapidly shifting attitudes and belief systems (local to global).

Citizen Participation and Democratic Governance
Introduces students to concepts of citizenship, democracy and governance and addresses different histories and forms of democracy. The meanings of citizenship and its relationship to identity, engagement and participation are discussed. Explores different models of governance and reviews governance practices and structures at multiple levels in different jurisdictions. Also investigates the role of accountability in democratic governance, including forms and techniques of accountability.

Strategic Communications, Engagement and Community Relations
Examines strategic communications, marketing, public/media relations, engagement approaches, the role and use of technology when community-based organizations engage others in the context of community and stakeholder relations.

The Comprehensive Development System
Explores the complexities and trade-offs that must be confronted and resolved in all community economic development activity and strategy. These include analyzing and choosing among different tools for fulfilling key functions, integrating, staffing and managing complex programs, information management, creating multi-sectoral alliances, building community support, and a sustainable funding structure.

Understanding and Mainstreaming Gender
Considers a range of conceptual and practical issues faced in the quest for a gender-just society. Topics include: definition and understanding of gender, gender based violence, gender in institutions as well as the creation of gender-sensitive environments. Course material and online discussions encourage critical analysis of diverse contemporary debates and perspectives. Also includes exercises and questions to stimulate critical thinking and reflection upon gender attitudes and perceptions.

Adult Learning and Education for Change
Aims to build basic understandings of key issues, theories and principles of adult education and its connections to community development and social change. Draws upon intensive and extensive fieldwork enriched by the writings, analysis and research by both scholars and practitioners. Includes historical foundations, philosophical approaches, and theoretical underpinnings.

Leadership and Organizational Development for Communities
Explores leadership beliefs, values, and attitudes, and analyzes perspectives in shaping leadership in civil society, community development and the social economy. Introduces management, assessment, concepts and tools for developing strategic priorities and planning frameworks for organizations and communities. Includes scenario based exercises set in a variety of practice contexts relevant to students’ experience and systems.

The Economics of Social Justice
Provides a conceptual grounding and the analytical tools for a critical understanding of the relation between economic theory and policy and their effects on questions of social justice. Theoretical models and practical applications for the development of more socially equitable economic systems from various sides of the political spectrum will be examined and critiqued.

Understanding and Mainstreaming Gender
Provides a conceptual grounding and the analytical tools for a critical understanding of the relation between economic theory and policy and their effects on questions of social justice. Theoretical models and practical applications for the development of more socially equitable economic systems from various sides of the political spectrum will be examined and critiqued.

Managing Organizations, Systems and Community Transformations
Develops key competencies for personal, group, organizational and community leadership in: teamwork, facilitation, presentation skills, negotiation, conflict resolution, group dynamics and collaboration. Examines systemic factors that encourage and challenge innovation. Analysis of cases that demonstrate successful scaling, practices or particular innovations.

Agenda for Social Change: Moving Forward
Surveys the key leverage points for exercising strategic leadership for addressing key trends at the local and regional level. Exemplary practice and understanding of key policy innovations are drawn from local and international sources. Provides an opportunity for students to engage in generative dialogue to explore learning that strategically advances civil society, social economy and strengthens communities. Understanding local and international key policy innovations are linked with the formulation of recommendations for action for moving forward.

Directed Studies
An international or local exchange, a study tour, self-directed reading, or an innovative personal learning design. Must be applicable to the field of study. Primary consideration will be given to its role and relevance in deepening skills and knowledge to strengthen the capacity of the student to provide leadership in the future.

Selected Topics Course
A study of selected topics drawn from the current literature and practices in the social economy or related fields. May be taken more than once for credit in different topics with permission of the faculty.

Group Project
A substantial analysis of a management, policy or program problem for a client in the community development sector. This group project is prepared in consultation with the client and an academic supervisor drawn from regular university faculty and qualified practitioners and must be both practical and academically rigorous. The group project is defended in an oral examination.

Master’s Project
Expected to be a substantial analysis of a management, policy or program problem for a client in the community development sector. This major project is prepared in consultation with the client and an academic supervisor drawn from regular university faculty and qualified practitioners and must be both practical and academically rigorous. The Master’s Project is defended in an oral examination.
CH Cultural Heritage Management

Department of Art History and Visual Studies and Division of Continuing Studies

Faculty of Fine Arts

All Cultural Heritage Management courses are subject to differential fees; Consult Fees for Graduate Programs.

CH 560 Units: 1.5

Cultural Heritage Stewardship and Sustainability

Explores cultural heritage in all its diverse forms, along with the critical roles it plays in defining, reinforcing and contributing to a sustainable world. Discusses the scope and meaning of cultural heritage in contemporary society, and analyzes how diverse approaches to the conservation, access to and management of cultural heritage are continuing to evolve in response to philosophical changes and social, economic, cultural and environmental needs.

CH 561 Units: 1.5

Social Engagement

Explores the profound social changes that are reshaping the nature and purposes of museums and other cultural heritage organizations in a pluralistic society and considers the implications for all aspects of their specialized functions. It takes a particular focus on how such organizations serve as dynamic social spaces for community engagement and action.

CH 562 Units: 1.5

Curatorial Planning and Practice

Considers how traditional concepts of curatorial practice have shifted significantly in the face of more democratic relations with community, more subjective perspectives of knowledge, and increasing emphasis on the museum’s social and educative roles. Explores the nature and scope of contemporary critical curatorial theory and practice and focuses on the ways in which curators engage with cultural heritage resources, develop sustainable collections, and generate and share associated knowledge to meet the needs of diverse communities.

CH 563 Units: 1.5

Visitor Experiences

Explores the evolving concept and implications of an holistic approach to visitor engagement in museums and other cultural heritage institutions, and focuses on museums’ relationships with their publics, their capacity to serve as social spaces, strategies for audience research, the characteristics of visitors, communications, exhibitions, formal and informal learning activities, and evaluation strategies.

CH 570 Units: 1.5

Heritage Conservation In Context

Addresses the complex range of principles and practices that influence heritage preservation and conservation planning and decision-making. The implications of international and national charters, principles, standards and guidelines, are discussed, along with legal, programmatic and financial incentives and constraints.

Notes:
• Credit will only be granted for one of CH 570, AHVS 489K, HA 489K.
• A combined undergraduate and graduate course.

CH 571 Units: 1.5

Determining Significance of Heritage Resources

Focuses on the definition of the heritage value or significance of a historic place or resource as a key step in the management of cultural heritage resources. It explores the range of historical, aesthetic, social and scientific values that establish the character-defining elements of historic resources, including buildings, structures, historic districts and cultural landscapes. Various methods of inventory and evaluation are discussed along with their roles in guiding subsequent conservation planning and decision-making.

Notes:
• Credit will only be granted for one of CH 571, AHVS 489C, HA 489C.
• A combined undergraduate and graduate course.

CH 572 Units: 1.5

Heritage Conservation Planning

Focuses on approaches to planning and heritage conservation decision-making, and discusses the components of the heritage conservation planning process, including alignment with local and regional planning priorities, community involvement and consultation, the acquisition and integration of technical and regulatory information and professional expertise, and the integration of planning in the long-term management of cultural heritage resources.

Notes:
• Credit will only be granted for one of CH 572, AHVS 489L, HA 489L.
• A combined undergraduate and graduate course.

CH 574 Units: 1.5

Heritage Conservation In Context

Addresses the complex range of principles and practices that influence heritage preservation and conservation planning and decision-making. The implications of international and national charters, principles, standards and guidelines, are discussed, along with legal, programmatic and financial incentives and constraints.

Notes:
• Credit will only be granted for one of CH 570, AHVS 489K, HA 489K.
• A combined undergraduate and graduate course.

CH 580 Units: 1.5

Heritage Conservation In Context

Addresses the complex range of principles and practices that influence heritage preservation and conservation planning and decision-making. The implications of international and national charters, principles, standards and guidelines, are discussed, along with legal, programmatic and financial incentives and constraints.

Notes:
• Credit will only be granted for one of CH 570, AHVS 489K, HA 489K.
• A combined undergraduate and graduate course.

CH 583 Units: 1.5

Planning for Cultural Heritage Management

Addresses strategies for effective planning that provides both a framework and a guide for all aspects of the complex work of cultural heritage organizations. The central roles of planning in organizational and project management are explored, along with a range of planning principles and methods suited to the cultural heritage sector.

CH 584 Units: 1.5

Topics in Cultural Heritage Management

Note: May be taken more than once for credit in different topics.

Prerequisite(s): Permission of the program.

CH 588 Units: 1.5

Special Studies in Museum Studies

May be taken in conjunction with a Cultural Resource Management course in the AHVS 488 series with permission of the Program Adviser.

Note: This course may be taken more than once for credit in different topic areas.

Prerequisite(s): Permission of the program.

CH 589 Units: 1.5

Special Studies in Heritage Conservation

May be taken in conjunction with a Cultural Resource Management course in the AHVS 489 series with permission of the Program Adviser.

Note: This course may be taken more than once for credit in different topic areas.

Prerequisite(s): Permission of the program.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Units</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 555</td>
<td>1.5</td>
<td>Statistical Thermodynamics</td>
</tr>
<tr>
<td>CHEM 556</td>
<td>1.5</td>
<td>Topics in Advanced Physical Chemistry</td>
</tr>
<tr>
<td>CHEM 560</td>
<td>0.5</td>
<td>Research Tools and Special Topics</td>
</tr>
<tr>
<td>CHEM 577</td>
<td>1.5</td>
<td>Computational Chemistry</td>
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<tr>
<td>CHEM 590</td>
<td>0.5-3.0</td>
<td>Directed Studies</td>
</tr>
<tr>
<td>CHEM 599</td>
<td>12.0</td>
<td>MSc Thesis</td>
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<tr>
<td>CHEM 633</td>
<td>1.5</td>
<td>Topics in Advanced Organic Chemistry</td>
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<tr>
<td>CHEM 645</td>
<td>1.5</td>
<td>Advanced Electrochemistry</td>
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<tr>
<td>CHEM 646</td>
<td>1.5</td>
<td>Surface Science</td>
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<tr>
<td>CHEM 647</td>
<td>1.5</td>
<td>Materials Science</td>
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<tr>
<td>CHEM 670</td>
<td>1.5</td>
<td>Property-Directed Synthesis Discussion</td>
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<td>CHEM 676</td>
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<td>Polymer Science</td>
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<td>CHEM 680</td>
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<td>Reactivity, Dynamics and Spectroscopy Discussion</td>
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<tr>
<td>CHEM 693</td>
<td>3.0</td>
<td>PhD Candidacy Examination</td>
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<tr>
<td>CHEM 699</td>
<td>33.0 - 36.0</td>
<td>PhD Dissertation</td>
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<tr>
<td>CSC 505</td>
<td>1.5</td>
<td>Computer Graphics</td>
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<tr>
<td>CSC 510</td>
<td>1.5</td>
<td>Advanced Human-Computer Interaction</td>
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<tr>
<td>CSC 511</td>
<td>1.5</td>
<td>Information Visualization</td>
</tr>
<tr>
<td>CSC 520</td>
<td>1.5</td>
<td>Analysis of Algorithms</td>
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<tr>
<td>CSC 522</td>
<td>1.5</td>
<td>Graph Algorithms</td>
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<tr>
<td>CSC 523</td>
<td>1.5</td>
<td>Randomized Algorithms</td>
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<tr>
<td>CSC 524</td>
<td>1.5</td>
<td>Computational Complexity</td>
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<tr>
<td>CSC 525</td>
<td>1.5</td>
<td>Computational Biology Algorithms</td>
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<tr>
<td>CSC 526</td>
<td>1.5</td>
<td>Computational Geometry</td>
</tr>
<tr>
<td>CSC 528</td>
<td>1.5</td>
<td>Combinatorial Algorithms</td>
</tr>
</tbody>
</table>
CSC 529  
**Cryptography**  
Paradigms and principles of modern cryptography. Topics include: review of classical and information-theoretic cryptography; block ciphers; DES, Cryptanalysis of DES, modes of operation, AES, Cryptographic hash functions and message authentication codes; public key cryptography; RSA, ElGamal and other public key systems, signature schemes; introduction to security protocols; secret sharing schemes and zero knowledge techniques.

CSC 535  
**Compiler Construction**  
An introduction to important topics in the design and implementation of a compiler for a modern programming language such as Java. Topics include parsing, syntax directed translation, intermediate code representation, static single assignment form, dataflow analysis, simple optimizations, and code generation for a simple architecture.

CSC 540  
**Numerical Analysis I**  
Numerical Linear algebra. Topics include: Gaussian elimination and its variants; sparse positive definite linear systems; sensitivity of linear systems; condiation and stability; orthogonal matrices and least squares; eigenvalues and eigenvectors; the QR algorithm; the singular value decomposition.

CSC 545  
**Operations Research I**  
Linear programming and its applications. Topics discussed include the following: the simplex method, the revised simplex method, computer implementation of linear programming, duality, dual simplex and primal dual algorithms, parametric analysis and postoptimality analysis. Applications are selected from: the transportation problem, the assignment problem, blending problems, inventory problems, activity analysis, game theory and network analysis.

CSC 546  
**Operations Research II**  
An introduction to model design using queuing theory and simulation techniques. Topics covered include a brief introduction to queuing theory, basic ideas in simulation, random number generators, sampling, critical event and time slice methods, organization of a simulation study, and basic concepts of simulation programming.

CSC 552  
**Advanced Switching Theory**  
A selection of topics in switching theory and their application to the design of digital systems. The emphasis is on techniques suited to computer aided design (CAD). Topics to be covered are selected from: formal aspects of switching theory, spectral logic, combinational and sequential circuit synthesis; algorithmic state machines; and the software aspects of hardware design such as hardware description languages.

CSC 554  
**Fault Tolerant Computing**  
Issues of fault tolerant computing are discussed, ranging from the choice of fault tolerant architectures, to expert systems for the design and test of integrated circuits. Topics include: design and test of defect free integrated circuits, fault modelling, built in self test, data compression, error correcting codes, simulation software/hardware, fault tolerant system design, CAD tools for design for testability.

CSC 560  
**Design and Analysis of Real-Time Systems**  
Fundamental issues in the design of real-time operating systems and application software. Typical topics include: hard real-time scheduling, interrupt driven systems, process communication and synchronization, language requirements for real-time systems, decomposition of real-time requirements into process model, and case studies. A project involving design, implementation and testing of a real-time executive and real-time application software will also be included.  
*Note: Not open to students registered in or with credit in CSC 460.*

CSC 561  
**Multimedia Systems**  
Introduction to multimedia systems and applications. Topics include multimedia system design issues, representation, processing and retrieval of temporal and non-temporal media types, compression techniques, JPEG and MPEG encoding, multimedia system architecture, operating systems, networking, quality of service and database system issues, object-oriented multimedia programming, user interface, virtual worlds.

CSC 562  
**Distributed Computing**  
Recent developments and advanced research topics in the area of distributed computing. Topics include: distributed operating systems, interprocess communications, remote procedure calls, network transparency, file server, execution location, and failure transparency, fault tolerant distributed systems, networks replication, load balancing, task migration and performance issues, interconnection strategies, network configurations, problem decomposition, distributed updating of multiple copies, global object addressing, centralized and decentralized control mechanisms, reliability and the reconnection problem, and finally case studies of some of the more significant distributed systems.

CSC 564  
**Concurrency**  
Introduction to the foundations of concurrency theory and the issues of specification and verification of concurrent systems. Topics include models of concurrency such as Petri nets, labelled transition systems, and traces; specification of concurrent systems/programs in formalisms including process algebras, statecharts, Petri nets and temporal logics; verification techniques such as bisimulation and model checking; verification using existing research tools. Case studies will be taken from coordination problems, controller design, communication and security protocols, hardware and user interface design.

CSC 565  
**Massive Data Sets, Scalability and Concurrency**  
A cross section of topics from computer science disciplines, including databases, operating systems, architecture, programming languages and theory, and considers challenges associated with concurrency from multiple perspectives. Students will be exposed to research involving programming paradigms and software practices for concurrent systems, algorithmic techniques for new paradigms, low level mechanisms for the implementation of practical primitives, applications including data mining and cloud computing, systems support for multicore computation, and pedagogy for concurrency in modern curriculum.

CSC 567  
**Switching, Network Traffic and Quality of Service**  

CSC 569  
**Wireless and Mobile Networks**  
The recent developments and advanced research topics in wireless and mobile networks. Topics include: radio propagation models, mobility models, location management, protocols particularly tailored for wireless and mobile networks, and analytical performance evaluation of wireless and mobile networks.

CSC 571  
**Advanced Databases**  
Important and recent developments in databases are covered in detail. Topics include: storage technology, data structures adapted to secondary storage, query optimization, advanced transaction management, parallel or distributed databases, databases and grid computing, multidimensional data and indexes, On-Line Analytic Processing (OLAP), information integration, streaming data, XML and semistructured data, fine-grained access control and anonymization techniques.

CSC 575  
**Music Retrieval Techniques**  
A comprehensive advanced overview of the emerging research area of Music Information Retrieval (MIR). Topics include techniques from signal processing, machine learning, information retrieval, human–computer interaction and software engineering that are applied in the design and development of MIR algorithms and systems. Integration of knowledge from different research areas to solve concrete problems.

CSC 578A  
**Topics in Software Applications**  
*Notes:*
- Credit will be granted for only one of CSC 578A, CSC 578 (if taken in the same topic), CSC 578B (if taken in the same topic), CSC 578C (if taken in the same topic), CSC 578D (if taken in the same topic).
- May be taken more than once for credit in different topics.
### COURSE LISTINGS CSC

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Units</th>
<th>Former Code</th>
<th>Former Title</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CSC 578B</strong></td>
<td>1.5</td>
<td>578</td>
<td>Topics in Software Applications</td>
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<tr>
<td><strong>CSC 578C</strong></td>
<td>1.5</td>
<td>578</td>
<td>Topics in Software Applications</td>
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<td><strong>CSC 578D</strong></td>
<td>1.5</td>
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<td>Topics in Software Applications</td>
<td>May be taken more than once for credit in different topics.</td>
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<tr>
<td><strong>CSC 579</strong></td>
<td>1.5</td>
<td></td>
<td>Overlay and Peer-to-Peer Networking</td>
<td>Focuses on the recent developments and advanced research topics in Layer 3 and above and the control plane of the Internet. Topics include overlay network architectures, peer-to-peer application models, end-to-end control mechanisms, inter- and intra-domain routing protocols, service provisioning, network measurement, and related best current practices on the Internet.</td>
</tr>
<tr>
<td><strong>CSC 581A</strong></td>
<td>1.5</td>
<td>581</td>
<td>Topics in Artificial Intelligence</td>
<td>May be taken more than once for credit in different topics with permission of the department.</td>
</tr>
<tr>
<td><strong>CSC 581B</strong></td>
<td>1.5</td>
<td>581</td>
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<tr>
<td><strong>CSC 581C</strong></td>
<td>1.5</td>
<td>581</td>
<td>Topics in Artificial Intelligence</td>
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<tr>
<td><strong>CSC 581D</strong></td>
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<td>581</td>
<td>Topics in Artificial Intelligence</td>
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<tr>
<td><strong>CSC 582A</strong></td>
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<td>582</td>
<td>Topics in Theoretical Computer Science</td>
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<td><strong>CSC 582B</strong></td>
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<td><strong>CSC 582C</strong></td>
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<td>Topics in Theoretical Computer Science</td>
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<td>Topics in Programming Languages</td>
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<td><strong>CSC 583D</strong></td>
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<tr>
<td><strong>CSC 584A</strong></td>
<td>1.5</td>
<td>584</td>
<td>Topics in Numerical Analysis and Operations Research</td>
<td>May be taken more than once for credit in different topics with permission of the department.</td>
</tr>
<tr>
<td><strong>CSC 584B</strong></td>
<td>1.5</td>
<td>584</td>
<td>Topics in Numerical Analysis and Operations Research</td>
<td>May be taken more than once for credit in different topics with permission of the department.</td>
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CSC 584C  Units: 1.5  
Formerly: 584  
Topics in Numerical Analysis and Operations Research  
Notes:  
• Credit will be granted for only one of CSC 584C, CSC 584 (if taken in the same topic), CSC 584A (if taken in the same topic), CSC 584B (if taken in the same topic), CSC 584D (if taken in the same topic).  
• May be taken more than once for credit in different topics with permission of the department.

CSC 584D  Units: 1.5  
Topics in Numerical Analysis and Operations Research  
Notes:  
• Credit will be granted for only one of CSC 584D, CSC 584 (if taken in the same topic), CSC 584A (if taken in the same topic), CSC 584B (if taken in the same topic), CSC 584C (if taken in the same topic).  
• May be taken more than once for credit in different topics with permission of the department.

CSC 585A  Units: 1.5  
Formerly: 585  
Topics in Hardware and Computer Architecture  
Notes:  
• Credit will be granted for only one of CSC 585A, CSC 585 (if taken in the same topic), CSC 585B (if taken in the same topic), CSC 585C (if taken in the same topic), CSC 585D (if taken in the same topic).  
• May be taken more than once for credit in different topics with permission of the department.

CSC 585B  Units: 1.5  
Formerly: 585  
Topics in Hardware and Computer Architecture  
Notes:  
• Credit will be granted for only one of CSC 585B, CSC 585 (if taken in the same topic), CSC 585A (if taken in the same topic), CSC 585C (if taken in the same topic), CSC 585D (if taken in the same topic).  
• May be taken more than once for credit in different topics with permission of the department.

CSC 586A  Units: 1.5  
Formerly: 586  
Topics in Computer Systems and Software  
Notes:  
• Credit will be granted for only one of CSC 586A, CSC 586 (if taken in the same topic), CSC 586B (if taken in the same topic), CSC 586C (if taken in the same topic), CSC 586D (if taken in the same topic), CSC 586E (if taken in the same topic), CSC 586F (if taken in the same topic).  
• May be taken more than once for credit in different topics with permission of the department.

CSC 586B  Units: 1.5  
Topics in Computer Systems and Software  
Notes:  
• Credit will be granted for only one of CSC 586B, CSC 586 (if taken in the same topic), CSC 586A (if taken in the same topic), CSC 586C (if taken in the same topic), CSC 586D (if taken in the same topic), CSC 586E (if taken in the same topic), CSC 586F (if taken in the same topic).  
• May be taken more than once for credit in different topics with permission of the department.

CSC 586C  Units: 1.5  
Formerly: 586  
Topics in Computer Systems and Software  
Notes:  
• Credit will be granted for only one of CSC 586C, CSC 586 (if taken in the same topic), CSC 586A (if taken in the same topic), CSC 586B (if taken in the same topic), CSC 586D (if taken in the same topic), CSC 586E (if taken in the same topic), CSC 586F (if taken in the same topic).  
• May be taken more than once for credit in different topics with permission of the department.

CSC 586D  Units: 1.5  
Topics in Computer Systems and Software  
Notes:  
• Credit will be granted for only one of CSC 586D, CSC 586 (if taken in the same topic), CSC 586A (if taken in the same topic), CSC 586B (if taken in the same topic), CSC 586C (if taken in the same topic), CSC 586E (if taken in the same topic), CSC 586F (if taken in the same topic).  
• May be taken more than once for credit in different topics with permission of the department.

CSC 586E  Units: 1.5  
Formerly: 586  
Topics in Computer Systems and Software  
Notes:  
• Credit will be granted for only one of CSC 586E, CSC 586 (if taken in the same topic), CSC 586A (if taken in the same topic), CSC 586B (if taken in the same topic), CSC 586C (if taken in the same topic), CSC 586D (if taken in the same topic), CSC 586F (if taken in the same topic).  
• May be taken more than once for credit in different topics with permission of the department.

CSC 586F  Units: 1.5  
Topics in Computer Systems and Software  
Notes:  
• Credit will be granted for only one of CSC 586F, CSC 586 (if taken in the same topic), CSC 586A (if taken in the same topic), CSC 586B (if taken in the same topic), CSC 586C (if taken in the same topic), CSC 586D (if taken in the same topic), CSC 586E (if taken in the same topic).  
• May be taken more than once for credit in different topics with permission of the department.

CSC 589A  Units: 1.5  
Formerly: 589  
General Topics in Computer Science  
Notes:  
• Credit will be granted for only one of CSC 589A, CSC 589 (if taken in the same topic), CSC 589B (if taken in the same topic), CSC 589C (if taken in the same topic), CSC 589D (if taken in the same topic).  
• May be taken more than once for credit in different topics with permission of the department.

CSC 589B  Units: 1.5  
Formerly: 589  
General Topics in Computer Science  
Notes:  
• Credit will be granted for only one of CSC 589B, CSC 589 (if taken in the same topic), CSC 589A (if taken in the same topic), CSC 589C (if taken in the same topic), CSC 589D (if taken in the same topic).  
• May be taken more than once for credit in different topics with permission of the department.

CSC 589C  Units: 1.5  
Formerly: 589  
General Topics in Computer Science  
Notes:  
• Credit will be granted for only one of CSC 589C, CSC 589 (if taken in the same topic), CSC 589A (if taken in the same topic), CSC 589B (if taken in the same topic), CSC 589D (if taken in the same topic).  
• May be taken more than once for credit in different topics with permission of the department.

CSC 589D  Units: 1.5  
Formerly: 589  
General Topics in Computer Science  
Notes:  
• Credit will be granted for only one of CSC 589D, CSC 589 (if taken in the same topic), CSC 589A (if taken in the same topic), CSC 589B (if taken in the same topic), CSC 589C (if taken in the same topic).  
• May be taken more than once for credit in different topics with permission of the department.

CSC 591  Units: 1.5  
Directed Studies  
Individual studies under the direct supervision of a faculty member. The content and evaluation must be approved by the department.  
Note: May be taken more than once for credit in different topics.
CSC 595  Units: 1.5
Research Skills
The main objective is to teach critical skills in order to be a successful researcher. This includes: choosing a research method, preparing for and presenting a research seminar talk, preparing a research proposal, doing literature search, and evaluating constructively research papers, proposals and/or presentations.
Prerequisite(s): Registration in a graduate program in Computer Science.
Grading: INP, COM, N, F

CSC 597  Units: 1.5
Industrial Master's Project
Grading: INP, COM, N, F

CSC 598  Units: 3.0
Master's Project
Grading: INP, COM, N, F

CSC 599  Units: 6.0
Master's Thesis
Grading: INP, COM, N, F

CSC 693  Units: 3.0
PhD Candidacy
Grading: INP, COM, N, F

CSC 699  Units: 33.0-34.5
PhD Dissertation
Prerequisite(s): CSC 693.
Grading: INP, COM, N, F

CSPT
Cultural, Social and Political Thought
Department of Political Science
Faculty of Social Sciences

CSPT 500  Units: 1.5
Topics in Cultural, Social and Political Thought
An interdisciplinary seminar on topics such as language and social theory, tradition and modernity, democracy and freedom, global order and disorder, structuralism and post-structuralism, feminism and Marxism.
Notes:
• May be taken more than once for credit in different topics to a maximum of 6 units.
• Content will vary from term to term.
Prerequisite(s):
• Admission to a graduate program in Social Sciences or Humanities; and
• permission of the program.

CSPT 501  Units: 1.5
Contemporary Cultural Social and Political Thought I
An exploration of contemporary themes and issues in cultural, social and political thought. The emphasis will be on relating currents of thought in various disciplines to one another and exploring 20th and 21st century thinkers whose influence has transcended cultural and disciplinary boundaries.

CSPT 590  Units: 1.5 or 3
Directed Readings
Individual study, under the direction of a participating faculty member, of a topic or topics in cultural, social and political thought.
Notes:
• May be taken more than once for credit in different topics.
• A student in the Program may substitute POLI 590 or SOCI 590 for CSPT 590, with permission of the Director of the program.

CSPT 600  Units: 1.5
Advanced Topics in Cultural, Social and Political Thought
An interdisciplinary PhD Seminar on selected topics in Cultural, Social and Political Thought.
Notes:
• May be taken more than once for credit in different topics with permission of the faculty to a maximum of 6 units.
• Content will vary from term to term.
Prerequisite(s):
• Admission to a graduate program in Social Sciences or Humanities; and
• permission of the program.

CSPT 601  Units: 1.5
Contemporary Cultural Social and Political Thought II
A continuation of 501, this seminar is designed for students proceeding to a doctoral candidacy examination in Cultural Social and Political Thought. The focus will be on themes and thinkers important to contemporary cultural social and political thought but as yet unfamiliar to the students participating in the seminar.

CSPT 690  Units: 1.5
Directed Readings
Individual study, under the direction of a participating faculty member, of a topic or topics in cultural, social and political thought.
Notes:
• May be taken more than once for credit in different topics.
• A student in the Program may substitute POLI 690 or SOCI 690 for CSPT 690, with permission of the Director of the program.

CYC
Child and Youth Care
School of Child and Youth Care
Faculty of Human and Social Development

CYC 541  Units: 1.5
Historical and Contemporary Theoretical Perspectives in Child and Youth Care
An exploration of historical and contemporary perspectives in child and youth care, including selected works of international pioneers across a range of child and youth care areas of practice. The theoretical and applied elements of the child and youth care perspective will be examined in relation to direct practice. Significant issues and trends will be investigated. All analyses will include critiques informed by cross-cultural and gender sensitive perspectives.

CYC 543  Units: 1.5
Qualitative Research Methods in Child and Youth Care
An overview of approaches to qualitative research that are applicable to child and youth care practice. Students will explore the underlying theoretical assumptions of qualitative research design, compare and apply a range of methodological and conceptual approaches, and practice techniques for generating, analyzing and engaging with various forms of qualitative data.

CYC 545  Units: 1.5
Quantitative Research Methods in Child and Youth Care
Students will be expected to learn and be able to apply the techniques of quantitative research methodology to the field of child and youth care. Topics will include: research design and problem formulation, sampling, measurement and scaling, research ethics, and data analysis.

CYC 546  Units: 1.5
Human Change Processes: From Theory to Practice
A practice based course that requires students to work with individuals and families in simulated role play scenarios. It begins with the micro contexts of families and moves outward to understand how change occurs in communities and organizations. Human change theory and processes form the foundation of the course in order to explore traditional and contemporary theories of change that highlight gendered and cultural differences and similarities.

CYC 547  Units: 1.5
Professional Leadership in Child and Youth Care
Aspects of professional leadership, including ethical practice, teams and teamwork, change management and transitioning, diversity and cultural competence, transformational learning, learning organizations and environments, strategic thinking and participative management will be explored with special emphasis on the multidisciplinary evolution and transformation of child and youth care settings and programs.

CYC 549  Units: 1.5
Program Design and Development in Child and Youth Care
Learners will engage in exploring a range of issues relevant for program planners and implementers in contemporary human services. Issues such as managing complexity, evidence-based practices, outcome measures, budget restraints, leadership of change and creating organizational cultures will be explored.

CYC 551  Units: 1.5
Ensuring Quality in Child and Youth Care Programs
Explores what we know about creating quality programs for children, youth and their families. Recent advances in defining quality, creating client-centred standards, assessing outcomes, developing self-renewing organizations, and involving families and communities will be examined from a child and youth care practice perspective.
**CYC 552 - Ethics in Practice**

**Units:** 1.5

The primary purpose of this course is to enable students to expand their thinking by critically reflecting on professional and applied ethics from multiple perspectives and traditions. Developing a familiarity with various conceptual resources and ethical decision-making frameworks, discerning the morally relevant features of various ethical dilemmas, appreciating the complexity, plurality and uncertainty of everyday CYC practice, and critically appraising the adequacy of decision-making tools for responding to ethical concerns and challenges are key course objectives.

**Prerequisite(s):**

- 1.5 units of 500-level CYC courses; or
- permission of the school.

**Grading:** INP, COM, N, F

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**CYC 553 - Practicum in Child and Youth Care**

**Units:** 1.5 or 3.0

The supervised field placement is designed to provide CYC students with an opportunity to apply their skills working with children, youth, families and communities in a supervised setting. Placements which involve individual, family and/or group supervision, can only be undertaken with qualified (i.e. Master's level) supervisors, and require a minimum commitment of 300 hours (3.0 units).

*Note:* Those students who have not completed a practicum as part of their undergraduate degree will also be required to enroll in the 3.0 unit course. Regular contact with the course instructor and consultations between the student, placement supervisor and instructor will be required.

Students registered in the 1.5 unit course will be required to complete a minimum of 165 hours. Students registered in the 3.0 course will be required to complete a minimum of 300 hours.

**Prerequisite(s):**

- 10.5 units of 500-level CYC courses; or
- permission of the school.

**Grading:** INP, COM, N, F

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**CYC 554 - Diversity in Practice**

**Units:** 1.5

Explores the complexity of diversities that shape the contexts of professional practice with children, youth and their families who come from different communities, represent a wide range of social networks, familial structures and belief systems. The attitudes and skills necessary to equip professionals to be attentive to the socially and culturally diverse populations that they face will be the focus of this course.

**Prerequisite(s):**

All of program core courses.

**Note:** CYC 553 Practicum in CYC can be taken concurrently.

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**CYC 558 - Applied Research Seminar**

**Units:** 1.5

Engages students in the process of proposal writing in preparation for either their master's research thesis or applied research project. Students focus on developing their own topic area in conjunction with their supervisor and supervisory committee, through writing that includes a consideration of the Human Research Ethics application, specialized information literacy training, and other issues of writing and research. Students are expected to produce a draft of their research or project proposal.

*Note:* CYC 553 Practicum in CYC can be taken concurrently.

**Prerequisite(s):**

All of program core courses.

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**CYC 560 - Child and Adolescent Development in Context**

**Units:** 1.5

This course provides a contextualized perspective of child and adolescent development highlighting the importance of culture, historical, social, economic and political contexts to human development. Topics may vary and students may take the course more than once for credit provided that the topics are different.

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**CYC 561 - Special Topics in Child and Youth Care Theory**

**Units:** 1.5 or 3

Explores specialized areas of theoretical interest in the field of Child and Youth Care.

*Notes:*

- May be taken more than once for credit in different topics.
- Topics will vary.

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**CYC 562 - Special Topics in Child and Youth Care Intervention**

**Units:** 1.5 or 3

Students will study models of intervention in child and youth care which are specific to their area of specialization.

*Notes:*

- May be taken more than once for credit in different topics.
- Topics will vary.

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**CYC 563 - Specialized Practicum in Child and Youth Care**

**Units:** 1.5

In consultation with a faculty advisor, students will select a special setting for advanced work and training. Students will consult regularly with both the practicum supervisor and faculty course instructor. Students may be required to complete a specialized theory or intervention course in their area of focus prior to undertaking the specialized practicum.

Students are required to complete a minimum of 165 hours.

**Prerequisite(s):**

- CYC 553.

**Grading:** INP, COM, N, F

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**CYC 564 - Special Topics in Child and Youth Care Research**

**Units:** 1.5

A variable content course that is focused on research in selected areas of Child and Youth Care. Topics will vary and students may take the course more than once for credit provided that the topics are different.

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**CYC 565 - Child and Adolescent Development in Context**

**Units:** 1.5

This course provides a contextualized perspective of child and adolescent development highlighting the importance of culture, historical, social, economic and political contexts to human development. Texts addressing alternative understandings of human development will constitute a significant part of the course.

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**CYC 566 - Program Evaluation and Policy in Child and Youth Care**

**Units:** 1.5

Drawing on knowledge and skills in program design and development, learners will learn to utilize program and personnel evaluative practices and explore strategies for ensuring transfer from program delivery and outcomes to policy formulation and development.

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**CYC 569 - Human and Organizational Change**

**Units:** 1.5

Explores theories and case studies relating to the nature of change at various levels of personal and organization functioning. Developmental, therapeutic and transformational change will be examined in the contexts of the evolving national and international systems of governmental and non-governmental child, youth and family services. Strategies and dynamics related to selected topics such as the management of change, the use of teams and teamwork, program development, project management and leadership will be addressed.

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**CYC 571 - Youth Substance Use: Perspectives on Theory, Research and Practice**

**Units:** 1.5

Contemporary theoretical perspectives on youth substance use will be critiqued. Students will apply research strategies used to identify prevalence and risk factors associated with youth substance use patterns, and assess effectiveness of prevention and intervention approaches. A critical review of current approaches to prevention and treatment will be undertaken to increase awareness of the limitations and strengths of these interventions and their abilities to address child and youth care needs.

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**CYC 580 - Child and Youth Care in the Context of International Development**

**Units:** 1.5

A historical perspective on the relationship among various constructions and understandings of children and their identified needs, and the policies, initiatives and priorities of various governmental and non-governmental organizations and programs. The characteristics of these initiatives as they have been operationalized within specific regions and countries will be examined. Participants are expected to identify an initiative and a country or region of interest and develop a case study for presentation.

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**CYC 582 - Children's Survival, Health, and Development in Ecocultural Context**

**Units:** 1.5

An exploration of the diversity of settings, goals, opportunities and challenges for children’s survival and development. Expands learners’ knowledge of proximal and distal determinants of children’s health, in local, national and international contexts using a bio-ecocultural model. Learners will explore multiple interacting factors shaping how childhood is conceptualized, how children are cared for, and the importance of working with communities to develop actions to promote child survival and optimal development.

*Note:* Students who have completed advanced child development coursework may request permission to register in the course.

**Prerequisite(s):**

- 3 units of 300- or 400-level CYC courses or 1.5 units of 500- or 600-level CYC courses; or
- permission of the school.
Directed Studies in Child and Youth Care

Individual studies under the direct supervision of one or more faculty members. The content, credit value and method of evaluation must be approved by the instructor and School of Child and Youth Care graduate adviser prior to registering in the course.

Note: May be taken more than once for credit in different topics.

Applied Research Project

The student will undertake an applied research project which could, for example, include: (1) program development, (2) program needs assessment, (3) development of an assessment tool/protocol for clients, (4) evaluation of an existing program, (5) cost/benefit analysis of program models, or (6) secondary analysis of existing agency data. The research project should be developed in consultation with the student’s supervisory committee.

Note: Students who have completed CYC 590 may request permission to register in the course.

Prerequisite(s):
- CYC 558 or
- permission of the school

Grading: INP, COM, N, F

Thesis

Specialized research on a topic chosen in consultation with the student’s supervisory committee. The thesis should be an original piece of research that would be suitable for publication in a professional journal or presentation at a professional meeting.

Note: Students who have completed CYC 590 may request permission to register in the course.

Prerequisite(s):
- CYC 558 or
- permission of the school

Grading: INP, COM, N, F

Generating Knowledge in Child and Youth Care

This doctoral seminar invites students to start “thinking with theory” when considering policy, research and practice in the field of Child and Youth Care. Students will be exposed to a range of contemporary social, political and psychological theories. Throughout the course students will be invited to explore how each theory provides different lenses, tools, and approaches, for taking action in the world.

Qualitative Research in Child and Youth Care

This course examines the theoretical underpinnings and strategies commonly used in qualitative methods, with an emphasis on understanding the relationship between the research question and the methodological decisions involved in choosing approaches for data gathering and analysis. Methodologies that will be considered include but are not restricted to: grounded theory, critical theory, ethnography, phenomenology, and narrative research and their epistemological and ontological similarities and differences.

Note: Students who have completed 3 units of graduate-level research coursework (covering research designs, qualitative data analysis, statistical data analysis and reporting) may request permission to register in the course.

Prerequisite(s): Permission of the school

Quantitative Research in Child and Youth Care

Students explore and apply quantitative methods for studying issues related to child and youth care such as clinical practice and program evaluation. Statistical techniques include approaches for use with small sample sizes as well as parametric and nonparametric statistical techniques.

Note: Students who have completed 3 units of graduate-level research coursework may request permission to register in the course.

Prerequisite(s): Permission of the school

Social and Cultural Contexts of Child and Youth Care

The course places contemporary CYC issues into social, historical and cultural contexts. Each student identifies a key issue in CYC policy, practice, research and/or pedagogy and, first, provides a critical perspective on the issue, before developing a change agenda designed to transform the issue and its implications.

Prerequisite(s): CYC 641

Doctoral Seminar in Child and Youth Care

Builds a collegial environment to support doctoral students in the midst of their inquiry and research process by providing opportunities for participating in collaborative inquiry, for presenting and critiquing work in progress and for engaging in discourse with experienced practitioners engaged in the practice of research. Students will engage in a practice of writing and re-writing to develop their inquiry.

Note: May be taken more than once for credit in different topics to a maximum of 6 units.

Prerequisite(s): Admission to a doctoral program.

Candidacy Exams

Students will be expected to complete two candidacy papers (one focused on the substantive area of interest including related theories, and the other on methodology related to their area and topic of interest) and an oral examination before qualifying to undertake PhD research and a dissertation. Within thirty-six months of registration as a provisional doctoral student and at least six months before the final oral examination, a student must pass a candidacy examination.

Grading: INP, COM, N, F

PhD Dissertation

Prerequisite(s): CYC 693.

Grading: INP, COM, N, F
Digital Humanities
Faculty of Humanities

DHUM 501 Units: 1.5 Hours: 3-0
Introduction to Digital Humanities
Surveys and explores intellectual traditions and emergent concerns associated with computing in the arts and humanities. Topics include digital representation, analysis, communication and creation, and involve theoretical considerations and pragmatic approaches.

Notes:
• Credit will be granted for only one of DHUM 501, ENGL 507.
• Typically offered the week before the Digital Humanities Summer Institute (see www.dhsi.org).

DHUM 502 Units: 1.5 Hours: 3-0
Core Concepts and Skills
Focuses on fundamental concepts and skills in the Digital Humanities, with curriculum offered by the Digital Humanities Summer Institute (see www.dhsi.org) or equivalent topical seminars listed annually by the Faculty of Humanities. Typical offerings include DHSI’s Textual Encoding Fundamentals, Digitisation Fundamentals, Fundamentals of Programming/Coding for Humanists.

Note: Credit will be granted for only one of DHUM 502, ENGL 509 (if taken in the same topic).

DHUM 503 Units: 1.5 Hours: 3-0
Remediation and Curation
Focuses on intellectual traditions, emergent concerns, and applications related to digital remediation and curation, with curriculum offered by the Digital Humanities Summer Institute (see www.dhsi.org) or equivalent topical seminars listed annually by the Faculty of Humanities. Examples include XSLT, Databases, Drupal, Digital Editions, Pre-Digital Book.

Note: Credit will be granted for only one of DHUM 503, ENGL 509 (if taken in the same topic).

DHUM 504 Units: 1.5 Hours: 3-0
Creation, Communication and Dissemination
Focuses on intellectual traditions, emergent concerns, and applications related to creation, communication, and dissemination, with curriculum offered by the Digital Humanities Summer Institute (see www.dhsi.org) or equivalent topical seminars listed annually by the Faculty of Humanities. Examples include Multimedia, Social Media, Mobile Computing, Physical Computing.

Note: Credit will be granted for only one of DHUM 504, ENGL 509 (if taken in the same topic).

DHUM 505 Units: 1.5 Hours: 3-0
Analysis, Teaching, and Administration
Focuses on intellectual traditions, emergent concerns, and applications pertinent to analysis, teaching, and administration, with curriculum offered by the Digital Humanities Summer Institute (see www.dhsi.org) or equivalent topical seminars listed annually by the Faculty of Humanities. Examples include GIS, Text Analysis, Augmented Reality, Computer Gaming, SEASR, Digital Pedagogy, Large Project Planning and Administration.

Note: Credit will be granted for only one of DHUM 505, ENGL 509 (if taken in the same topic).

DHUM 590 Units: 1.5
Directed Reading

DR Dispute Resolution
School of Public Administration
Faculty of Human and Social Development

Students enrolled in the MA in Dispute Resolution program should also see courses listed as PADR.

DR 502 Units: 1.5
Conflict, Culture, and Diversity
Cross-cultural conflicts involve navigating among diverse identities, meanings and ever-changing perceptions. Uses experiential education and dialogue to explore processes, capacities, and tools to bridge cultural conflicts that draw on multiple intelligences. Develops fluency with ways of naming, framing, and taming conflict across cultural contexts; and fluency with culture as it animates and offers creative ways through conflict. Participants will apply theory and research to interpersonal, intercommunal, and international conflicts.

DR 503 Units: 1.5
Also: LAW 372
Public Policy, Law, and Dispute Resolution
Looks at the nature and scale of conflict in civil society and at the primary strategies that society employs to cope with it. Examines a range of contemporary issues of governance. Focuses on the interaction of legislative, judicial, and administrative institutions around two major themes: how programs and public policy are developed and how conflict is managed.

Note: Credit will be granted for only one of DR 503, LAW 372.

DR 506 Units: 1.5
Mediation Processes and Skills
This course couples mediation processes with practice in communication skills needed for effective third party facilitative intervention. Using the paradigm of Attitude, Process and Skills, students learn and practice mediation as a dispute resolution tool, integrated with prior learning in conflict analysis and diagnosis. Through lectures, clinical exercises, demonstrations, coached role play, reflective listening skills practice, and group discussions, students connect skills with theoretical and philosophical foundations of mediation required to satisfactorily conclude mediated agreements.

Note: Credit will be granted for only one of DR 506, DR 510 (if taken in the same topic).

Prerequisite(s): DR 501 or PADR 501.

DR 507 Units: 1.5
Also: LAW 373
International Human Rights and Dispute Resolution
Explores linkages between international human rights law, conflict analysis and dispute resolution. Participants explore literature from several disciplines including international law, history, philosophy, anthropology, political science and conflict studies. United Nations, regional and national human rights instruments and mechanisms are examined for their efficacy in human rights protection. Concerns of individuals, including women and children, non-state groups and indigenous peoples are addressed. Students develop skills in human rights analysis, advocacy and dialogue.

DR 508 Units: 1.5
Dispute Resolution and Indigenous Peoples
Explores the theory and practice of negotiation and mediation within the context of public issues and disputes involving indigenous peoples. Includes a comparative examination of perspectives on negotiation of dominant society and indigenous peoples in Canadian and other settings. A critical approach is taken to the application of dominant society models of negotiation and mediation to conflict situations involving indigenous people, including the examination of historical factors, dynamics of power, and cross-cultural factors.

Prerequisite(s):
• DR 501 or PADR 501; and
• DR 502; or
• Permission of the department

DR 509 Units: 1.5
Dispute Resolution System Design and Public Interest Disputes
Introduction to designing, assembling and implementing systems to prevent, manage and/or resolve a series or stream of disputes arising out of a single organization and/or relationships. Examines models of conflict intervention and the design process within organizations. Introduces the theory and practice of negotiating public interest issues and managing stakeholder conflicts.

Dr 510 Units: 1.5
Special Topics in Dispute Resolution
A study of selected special topics in Dispute Resolution drawn from the current literature and practice.

Note: May be taken more than once for credit in different topics.

Prerequisite(s): Set by department depending upon topic.

DR 511 Units: 1.5
Conflict Specialists as Leaders
A role of a conflict specialist is to support organizations and/or groups to replace traditional public policy decision-making processes with collaborative governance processes. As change agents, both dispute resolution process and leadership competencies are required. Students will build and bridge these competencies by learning communication skills, design analysis, and implementation strategies for deliberation and engagement, as well as leadership skills to support change.

Recommendation(s): All of DR 502, DR 503, DR 506, DR 509 recommended prior to DR 511.
ECON 500 Units: 1.5
Microeconomic Analysis
An introduction to consumer demand, production and market organization. Topics covered will generally include: consumer demand; duality; choice under uncertainty; intertemporal choice; measuring welfare change; the competitive firm; the two sector model; properties of competitive equilibrium; market structure; and externalities.

ECON 501 Units: 1.5
Macroeconomic Analysis
An introduction to macroeconomic analysis. Long-run growth, business cycles, trade, and fiscal policy are analyzed using dynamic general equilibrium models. Classical and Keynesian models are used to examine inflation, unemployment, the open economy, and monetary policy. Limitations and extensions of the models are discussed and developed.

ECON 506 Units: 1.5
Monetary Theory and Policy
The examination of selected contributions to contemporary monetary theory and policy, and their relationship to macroeconomics.

ECON 510 Units: 1.5
Industrial Organization and Public Policy
Provides a framework in which to examine policy issues with respect to industrial competition and regulation. Begins with the firm and its relation to the market, and then examines issues relating to market structure and regulation. Topics may include: durable goods monopoly; price discrimination; product differentiation; product quality; advertising; predatory pricing; mergers; and the natural monopoly.

ECON 515 Units: 1.5
Labour Economics
Introduction to contemporary empirical and applied theoretical research into labour markets. Topics may include: labour supply; labour demand; human capital; discrimination; labour market dynamics; unemployment; and behaviour of the household.

ECON 516 Units: 1.5
Cost-Benefit Analysis
Methods of cost-benefit analysis with applications to public policy. Develops a normative foundation for policy analysis, addressing issues of efficiency and wealth redistribution together with the techniques of cost-benefit analysis. Focuses on contemporary Canadian policy issues.

ECON 520 Units: 1.5
Economic Development
The processes and problems of development in the economies of the Developing World. Topics may include: theories of economic development; poverty and inequality; gender and development; nutrition and food policies; agricultural and rural development; employment and migration.
ECON 547 - Time-Series Econometrics
Units: 1.5
Time-series theory and its application. Topics may include: ARMA modelling; detecting non-stationarity; structural breaks; multiple unit roots; seasonality; countintestVAR models.

ECON 548 - Applied Econometric Modelling
Units: 1.5
Explores a range of practical estimation and testing issues in the context of different types of econometric models. Topics may include: panel models; nonparametrics and semiparametrics; latent variable models; simultaneous equations models; resampling methods, and the methodology—practice gap.

ECON 549 - Computational Methods in Economics and Econometrics
Units: 1.5
An introduction to numerical methods and their application in economics and econometrics. Topics will typically include: iterative fixed point methods, methods for solving problems of nonlinear equations, methods for solving initial value problems and boundary value problems, methods for solving static and dynamic optimization problems, Monte Carlo methods, resampling techniques, and Gibbs sampling.

ECON 550 - Game Theory in Economics
Units: 1.5
 Provides a game theoretic perspective on interactions between economic agents, covering a variety of game-theoretic modelling techniques and their applications. Topics will generally include: normal and extensive form games; Nash equilibrium and refinements; repeated and sequential games; learning and evolution in games; the Nash bargaining solution; and co-operative games.

ECON 556 - Experimental Economics
Units: 1.5
An introduction to the theory and practice of experimental economics using laboratory and field experiments. Topics include: state of the art methods in experimental economics including experimental design, subject sampling, laboratory techniques, and the use of financial incentives. The objectives will be pursued through the development of experiments and a review of the method's application to a number of topics of interest to economists.

ECON 565 - The Econometrics of Cross-Section Data
Units: 1.5
An overview of the models, estimation techniques and tests used when analyzing cross-section data. The methods studied are particularly applicable to labour and health economics and industrial organization. Theory and empirical applications are covered. Topics may include binary and multinomial logit and probit models, limited dependent variable models, count data, and duration analysis.

ECON 566 - Advanced Topics in Industrial Organization
Units: 1.5
A seminar covering contemporary topics in industrial organization.

ECON 570 - Advanced Topics in Labour Economics
Units: 1.5
Applies economic theory to the study of labour market institutions. Topics covered may include: discrimination; human capital theory; the theory of contracts; efficiency wages; internal labour markets, hierarchies, and team production; search and mobility; and unions.

ECON 572 - Advanced Topics in Environmental and Resource Economics
Units: 1.5
A seminar covering contemporary topics in environmental and resource economics and policy.

ECON 573 - Economic Growth
Units: 1.5
An examination of determinants of long-run growth rates and income levels in different economies. Topics will typically include: neoclassical, multisectoral, and endogenous growth theories; tests of these theories; and their policy implications. Other topics may include the effects of social security, endogenous population growth, public education, research and development, resource and environmental issues, and the international flows of capital, labour and knowledge.

ECON 574 - Advanced Topics in Econometrics
Units: 1.5
Advanced topics in econometric theory and practice. Topics may include: recent developments in time-series analysis; estimation and testing with panel data; the use of nonparametric and semiparametric techniques; limited and qualitative dependent variables models; modelling financial data; switching-regimes models; specification analysis and model selection, and applications of Bayesian inference.

ECON 598 - Extended Essay
Units: 3.0
Grading: INP, COM, N, F

ECON 599 - Thesis
Units: 4.5
Grading: INP, COM, N, F

ECON 693 - PhD Candidacy Examinations
Units: 3.0
Grading: INP, COM, N, F

ECON 694 - Scholarship Skills Seminar
Units: 1.5
Focus on developing essential skills such as writing, presenting, developing research proposals, critically reading research, writing a literature review, refereeing papers, writing grant proposals, avoiding plagiarism, and submitting articles for publication.

ECON 699 - Dissertation
Units: 21.0 - 33.0
Grading: INP, COM, N, F

ED-D - Educational Psychology and Leadership Studies Department of Educational Psychology and Leadership Studies Faculty of Education

ED-D 500 - Learning Principles
Units: 1.5
A survey of the literature on commonly stated principles of instrumental and classical conditioning, generalization, transfer and retention.

ED-D 501 - Theory of Measurement
Units: 1.5
A study of the main psychometric theories, concepts and procedures associated with the development and analysis of educational and psychological measurement, and the application of these to the development and use of tests in educational and research situations.

ED-D 503 - Program Development and Evaluation
Units: 1.5
An examination of the issues, practices, and methods of program evaluation at the institutional, organizational, and classroom levels.
**ED-D 505 - ED-D 519L**

### COURSE LISTINGS ED-D

**ED-D 505**  
Units: 1.5  
**Basic Concepts in Human Development**  
An introduction to the science of human development. Reviews and evaluates historically important theories and research methods, and provides an overview of major content areas and developmental periods.

**ED-D 506**  
Units: 1.5  
**Topics in Human Development**  
This rotating series of courses expands on content areas and developmental periods introduced in 505.

**ED-D 506A**  
Units: 1.5  
**Cognitive Development**  
A survey of a work that is currently known about cognitive development in the first two decades of life. Topics may include biological bases of cognition, perception, memory, conceptual thought, social cognition, language, reading, mathematics, scientific thinking and intelligence.

**ED-D 506B**  
Units: 1.5  
**Social and Emotional Development**  
A survey of normative and individual differences in social-emotional development. Topics covered may include biological bases, temperament, attachment, emotion understanding and regulation, theory of mind, and family, peer, school, and cultural influences.

**ED-D 506C**  
Units: 1.5  
**Adolescent Development**  
A survey of current theory, research, and societal issues in pre-adolescence through emerging adulthood. Biological, familial, social, educational, cultural, and historical influences on adolescent development are explored.

**ED-D 506D**  
Units: 1.5  
**Early Childhood and Middle Years Development**  
A survey of current theory, research, on development from birth through the first decade of life. Biological, familial, social, educational, cultural, and historical influences on child development are explored.

**ED-D 509**  
Units: 1.5  
**Psychology of Learning and Instruction**  
An in-depth analysis of selected issues and contemporary research in the application of psychology to instruction including: motivation, problem solving, learning processes and strategies, and instructional interventions.

**ED-D 514**  
Units: 1.5  
**Assessment in Counselling**  
The use of testing, diagnosis, and other aspects of assessment within a counselling perspective for adults, adolescents and children. Topics addressed include: basic concepts in assessment, the relationship between counselling and assessment, ethical issues, diversity, reliability and validity, test selection and administration, test evaluation, a variety of assessments and assessment reports.

Notes:  
- Credit will be granted for only one of ED-D 514, ED-D 591 (if taken in the same topic).
- Students who have Counselling or related background may request permission to register in the course.

Prerequisite(s):  
- Admission to MA program in Counselling Psychology; or  
- permission of the department.

**ED-D 515**  
Units: 1.5  
**Advanced Assessment in Special Education**  
An intensive course specializing in Level 8 assessment techniques and intervention-based academic assessment methods, including curriculum-based measurement, to support the educational programming of students with special needs.

Prerequisite(s):  
- ED-D 420 or ED-D 422, and  
- ED-D 402 or ED-D 415, or  
- permission of the department.

**ED-D 516**  
Units: 1.5  
**Advanced Intervention in Special Education**  
An intensive course specializing in Level B assessment and intervention-based academic assessment methods, including curriculum-based measurement, to support the educational programming of students with special needs.

Prerequisite(s):  
- ED-D 515, or  
- permission of the department.

**ED-D 517**  
Units: 1.5  
**Advanced Seminar in Theories of Counselling Psychology**  
Contemporary theories and approaches to counselling and psychotherapy for individuals, couples, and families across the lifespan.

Prerequisite(s):  
- Admission to MA program in Counselling Psychology; or  
- permission of the department.

**ED-D 518**  
Units: 1.5  
**Advanced Seminar in Counselling Psychology**  
Note: Credit will be granted for only one of the following ED-D 519H, ED-D 591 (if taken in the same topic).

Prerequisite(s):  
- Admission to MA program in Counselling Psychology; or  
- permission of the department.

**ED-D 519H**  
Units: 1.5  
**Career Development and Counselling Across the Lifespan**  
Lifespan and career development as a dynamic and holistic enterprise. Theories and techniques of career development, assessment, and consultation are explored. The practice of career counselling for diverse populations including work-related issues.

Note: Credit will be granted for only one of ED-D 519H, ED-D 591 (if taken in the same topic).

Prerequisite(s):  
- Admission to MA program in Counselling Psychology; or  
- permission of the department.

**ED-D 519L**  
Units: 1.5  
**Group Counselling**  
The conceptualization and practice of group counselling and therapy. Leadership skills will be examined. Particular attention will be given to leadership skills and exploring the foundation and application of experiential learning in groups.

Note: Credit will be granted for only one of ED-D 519L, ED-D 591 (if taken in the same topic).

Prerequisite(s):  
- Admission to MA program in Counselling Psychology; or  
- permission of the department.
ED-D 519N  Units: 1.5  
Diversity, Culture, and Counselling  
Theory and practice of counselling diverse clientele. Specific emphasis on awareness, knowledge and strategies for developing cultural competencies.  
Note: Credit will be granted for only one of ED-D 519N, ED-D 591 (if taken in the same topic).  
Prerequisite(s):  
• Admission to MA program in Counselling Psychology; or 
• permission of the department.  
ED-D 519P  Units: 1.5  
Trauma Counselling  
Theoretical and practical understanding of issues related to treatment of psychological trauma. Topics typically include definitions, safety/stabilization, symptoms, disorders, assessment/diagnosis and outcomes.  
Note: Credit will be granted for only one of ED-D 519P, ED-D 591 (if taken in the same topic).  
Prerequisite(s):  
• Admission to MA program in Counselling Psychology; or 
• permission of the department.  
ED-D 519R  Units: 1.5  
Indigenous Development and Counselling across Generations  
Indigenous concepts and theories of development and growth across the lifespan. Exploration of intergenerational models of development and identity. Topics include child, adolescent and adult growth and change in family, community, and work contexts.  
Note: Credit will be granted for only one of ED-D 519R, ED-D 591 (if taken in the same topic).  
Prerequisite(s):  
• Admission to MA program in Counselling Psychology; or 
• permission of the department.  
ED-D 519S  Units: 1.5  
Addictions Counselling  
A study of addictive behaviour and the change process to understand how addiction develops and how addicted people recover. Topics include concepts and theories of addiction, brain physiology, specific substance and process addictions, controversies, challenges, interventions and treatments for addiction in counselling contexts.  
Note: Credit will be granted for only one of ED-D 519S, ED-D 591 (if taken in the same topic).  
Prerequisite(s):  
• Admission to MA program in Counselling Psychology; or 
• permission of the department.  
ED-D 520  Units: 1.5 or 3.0  
Educational Research Apprenticeship  
An individualized opportunity for students to develop their research skills by assisting with faculty research or engaging in their own research. Students are expected to spend a minimum of 9 hours a week participating in research activities. Includes a range of potential activities, including but not limited to: data collection, coding, and entering; management of computerized databases; completion of ethics applications; analysis of data; literature search and review; and preparation of materials for publication.  
Note: May be taken more than once for credit in different topics; however, only the first occasion contributes to the required elective credits.  
Grading: COM, N, F  
ED-D 521  Units: 1.5  
Theory and Practice in Family Counselling  
Theoretical approaches and intervention strategies related to family counselling with diverse clientele. Through discussion, experiential activities, and role playing, students will become familiar with current concepts and techniques.  
Prerequisite(s):  
• ED-D 522 or permission of the department; and 
• admission to MA program in Counselling Psychology; or 
• permission of the department.  
ED-D 522  Units: Variable  
Skills and Practice for Counselling  
Provides basic counselling interventions with an emphasis on the therapeutic relationship. Extensive opportunity to role play and to self-reflect on role as counsellor and issues related to boundaries and power. Sequenced skill training, with extensive counselling simulation and supervision of practice in a field setting. Includes direct client contact under the supervision of a qualified professional with diverse client populations.  
Note: May be taken more than once until practicum hourly requirements are met.  
Prerequisite(s):  
• Admission to MA program in Counselling Psychology; or 
• permission of the department.  
Corequisite(s): Either ED-D 518 and ED-D 519N, or ED-D 519S, and ED-D 519R.  
Grading: INP, COM, N, F  
ED-D 523  Units: Variable  
Internship in Counselling  
Provides intensive practice in advanced counselling techniques and approaches under the supervision of a professional counsellor in community settings. Lectures focus on case presentations, models of consultation, supervisor-supervisee relationship, roles and responsibilities of health professionals, counsellor identity, professional organizations, record keeping. Two term course.  
Notes:  
• May be taken more than once until practicum hourly requirements are met.  
• Enrolment is limited due to availability of placements.  
Prerequisite(s):  
• ED-D 522; and 
• admission to MA program in Counselling Psychology; or 
• permission of the department.  
Grading: INP, COM, N, F  
ED-D 524  Units: 1.5  
Facilitation of Counselling Practicum  
Preparation for future work as trainer, facilitator, or instructor through practice in facilitating 414 or 417 under the supervision of course instructor. Integration of theory and practice of helping, development of skills through modelling, observing, and coaching, enhancement of relationship and group processes.  
Notes:  
• May be taken more than once to include facilitation practicum with both a ED-D 414 and ED-D 417 instructor normally to a maximum of 3 units.  
• Cannot be used to fulfill elective requirements for program.  
Prerequisite(s): Admission to MA program in Counselling Psychology.  
Grading: COM, N, F  
ED-D 525  Units: 1.5  
Indigenous Healing and Spirituality  
Indigenous values, worldviews, and spirituality as the foundation for helping and healing. Topics include traditional knowledge, holistic healing, role of elders, and Indigenous spiritual practices.  
Prerequisite(s):  
• Admission to a master’s program in Indigenous Communities Counselling; or 
• permission of the department.  
Grading: COM, N, F  
ED-D 531  Units: 1.5 or 3.0  
Formerly: ED-B 531  
Concepts and Theory of Organization  
Critical examination of the classical, modern, and emerging literature of administrative studies in the organizational context, with emphasis on philosophy of leadership, decision making processes, power and authority, leadership studies, and contemporary issues and perspectives.  
Note: Credit will be granted for only one of ED-D 531, ED-B 531.  
ED-D 532A  Units: 1.5  
Formerly: part of 532  
Educational Program Leadership  
Models for program design and review range from external, objective-based processes to participatory action research. Examines issues of implementation, collaboration, accountability, inclusiveness and responsiveness to community. Offers practical experiences in a range of evaluative methods.  
Note: Credit will be granted for only one of ED-D 532A, ED-D 532, ED-B 532.  
ED-D 533  Units: 1.5  
Concepts and Theories of Leadership in Learning Contexts  
Note: May be taken once for credit in each of the areas listed below.  
ED-D 533A  Units: 1.5  
Politics in Organizations  
An examination of politics in educational and related organizations: concepts of influence, authority, power, and control; frameworks for analyzing and understanding politics and policy; actors and agendas; interest and pressure groups; conflict and conflict resolution; the interface of leadership and politics; implications for governance and administrative practice.  
Note: Credit will be granted for only one of ED-D 533A, ED-B 533A.  
ED-D 533B  Units: 1.5  
Decision-Making and the Law  
Develops awareness of the legal considerations and principles which apply to decision-making in school and other workplaces. Contains introductions to the interface between law, legislation and policy, statutes and the delegation of powers to decide, and the common law principles which govern decision-making by those with statutory authority. An array of case studies is used.  
Note: Credit will be granted for only one of ED-D 533B, ED-B 533B.
ED-D 533C  Units: 1.5
**Servant Leadership**
An inquiry into the philosophy of servant-leadership as a vehicle for the development of moral literacy in democratic, caring, serving institutions with an investment in the common good.

*Note:* Credit will be granted for only one of ED-D 533C, ED-D 591 (if taken in the same topic).

ED-D 533D  Units: 1.5
**Leadership**
An examination of general leadership concepts, and practices as they apply to educational institutions, other workplaces, organizations and the community.

*Note:* Credit will be granted for only one of ED-D 533D, ED-B 537A, ED-B 537C.

ED-D 534  Units: 1.5 or 3.0
Formerly: ED-B 534
**Leadership for School Improvement**
Surveys contemporary thinking about professional learning communities and learning teams, emphasizing how leaders can build and support collaborative and inclusive learning environments in order to effect positive school change.

*Note:* Credit will be granted for only one of ED-D 534, ED-B 534.

ED-D 535  Units: 1.5
Formerly: 535A and 535B
**Global Comparative Perspectives on Leadership and Education**
Explorations of diverse leadership and education theories and practices in school, institutions, workplaces, and/or community across Canada and around the world.

*Note:* Credit will be granted for only one of ED-D 535, ED-D 535A, ED-D 535B.

ED-D 536  Units: 1.5 or 3.0
Formerly: ED-B 536
**Philosophy of Leadership**
An examination of the relevant interaction of philosophy and leadership, with a view to clarifying philosophical concepts and theories and their application to the analysis, by individuals in leadership positions, of their own and others’ actions.

*Note:* Credit will be granted for only one of ED-D 536, ED-B 536.

ED-D 537  Units: 1.5 or 3.0
Formerly: ED-B 537
**Functions and Processes of Leadership**
*Note:* May be taken once for credit in each of the areas listed below.

ED-D 537A  Units: 1.5 or 3.0
Formerly: ED-B 537A
**Educational Change**
An analysis of change theory and the processes associated with change in education, with a view to assisting school leaders to facilitate reforms.

*Note:* Credit will be granted for only one of ED-D 537A, ED-B 537A.

ED-D 537D  Units: 1.5 or 3.0
Formerly: ED-B 537D
**Instructional Supervision**
Through an analysis of literature in leadership, communication, change and activation, as well as through an analysis of classroom observation techniques, the development of rational organizational patterns of supervision for educational administrators.

*Note:* Credit will be granted for only one of ED-D 537D, ED-D 591 (if taken in the same topic).

ED-D 537G  Units: 1.5 or 3.0
Formerly: ED-B 537G
**Leadership in Educational Administration**
Analysis of the roles and functions of the school principal, with emphasis upon educational leadership, understanding the breadth and diversity of the position, legal status, designated administrative and managerial responsibilities, and contemporary challenges.

*Note:* Credit will be granted for only one of ED-D 537G, ED-D 591 (if taken in the same topic).

ED-D 538A  Units: 1.5
Formerly: 538
**Community Leadership and Adult Learning**
Focuses on leadership and learning strategies in communities and schools that work towards educational, social, environmental, and cultural change. Topics include: inter-interconnections between school and community; relations of power and social inequity; just learning societies; concepts of democracy, citizenship and governance; critical pedagogy/theory; feminist theory and leadership; aboriginal perspectives on leadership; cross-cultural and anti-racist dialogues; ethics and values in leadership; social learning, collectivity and collaboration.

*Note:* Credit will be granted for only one of ED-D 538A, ED-D 538, ED-D 591 (if taken in the same topic).

ED-D 538B  Units: 1.5
**Cultural Leadership and Social Learning through the Arts**
An exploration of the historical and contemporary contributions of arts-based education activities to cultural leadership, activism, and social justice and change across Canada and world-wide.

*Note:* Credit will be granted for only one of ED-D 538B, ED-D 538, ED-D 591 (if taken in the same topic).

ED-D 539A  Units: 1.5
Formerly: 539
**Leadership, Learning and Social Justice**
Concepts of social justice and their relationship to leadership in schools, institutions and organizations and community. Focuses on issues of race/ethnicity, gender, class, sexual orientation and ability as enacted in everyday practice. Conceptions of democracy, privilege, power, and citizenship are central. Discussions extend to ecological and global issues of social justice.

ED-D 539B  Units: 1.5
**Leadership, Education and Diversity**
An exploration of the social, cultural, and political complexity of contemporary education in a pluralistic society. Focuses on issues of racism, homophobia, sexism, ableism and how they affect schools, workplaces, and/or communities and society as a whole.

*Note:* Credit will be granted for only one of ED-D 539B, ED-D 591 (if taken in the same topic).

ED-D 540  Units: 1.5
**Women, Learning and Leadership**
Explores women’s leadership in diverse contexts such as the women’s movement(s), the voluntary sector, community organizations and government.

*Note:* Credit will be granted for only one of ED-D 540, ED-D 591 (if taken in the same topic).

ED-D 541  Units: 1.5
**Leadership in Rural Education**
An examination of the historical contexts, unique issues, and recent developments surrounding leadership in rural and remote education, globally, nationally, and provincially, including First Nations. Focus is on issues of equitable education opportunities, recruitment and retention of educators, multi-grade classes, professional isolation, and demands of community-based lifestyle and the benefits of technology. The dearth of rural education research is explored.

*Note:* Credit will be granted for only one of ED-D 541, ED-D 591 (if taken in the same topic).

ED-D 542  Units: 3.0
**A Comprehensive Investigation of Servant Leadership**
An inquiry, identification and application of the servant leadership-followship philosophy in all formal educational and community organizations. Servant Leadership-followship is a vehicle for the development of moral literacy in democratic, caring institutions and an investment toward the common good.

*Note:* Credit will be granted for only one of ED-D 542, ED-D 533C, ED-D 591 (if taken in the same topic).

ED-D 560  Units: 1.5
**Statistical Methods in Education**
An introduction to descriptive and inferential statistics to provide the understanding and competence to read and interpret the statistics reported in relevant research and to be able to conduct analyses on educational research data.

ED-D 561A  Units: 1.5
Formerly: 561
**Methods in Educational Research**
An introduction to quantitative and qualitative research designs, the research process, the selection and design of data collection instruments and methods, writing and reporting findings, and systematically evaluating and critiquing the quality of research studies. Useful for students preparing to conduct thesis research as well as students who wish to become better readers and consumers of research.

*Note:* Credit will be granted for only one of ED-D 561A, ED-D 561.
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<td>ED-D 605</td>
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</tbody>
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### ED-D 561B - Research Methods in Leadership

**Units: 1.5**

**Corequisite(s):** Formerly: 566B

**Prerequisite(s):** 566A; or permission of the department.

### ED-D 562 - Advanced Statistical Methods in Education

**Units: 1.5**

**Corequisite(s):** ED-D 561B and ED-D 598.

### ED-D 563 - Qualitative Research Methods

**Units: 1.5**

**Prerequisite(s):** ED-D 560, or permission of the department.

### ED-D 564 - Indigenous Research and Program Evaluation

**Units: 1.5**

**Prerequisite(s):** Admission to a master’s program in Indigenous Communities Counselling; or permission of the department.

### ED-D 568 - Inclusive Education in the 21st Century

**Formerly: 566A**

**Units: 1.5**

**Corequisite(s):** ED-D 568, or permission of the department.

### ED-D 569 - Developmental Psychopathology and Disorders

**Formerly: 566B**

**Units: 1.5**

**Prerequisite(s):** ED-D 561B and ED-D 598.

### ED-D 570 - Instruction and Technologies to Promote Self-Regulated Learning and Strategy Use

**Units: 1.5**

**Prerequisite(s):** ED-D 560, or permission of the department.

### ED-D 571 - Advanced Assistive Technology in the Inclusive Classroom

**Units: 1.5**

**Prerequisite(s):** ED-D 560, or permission of the department.

### ED-D 590 - Directed Studies in Educational Psychology and Leadership Studies

**Units: to be determined**

**Prerequisite(s):** ADMD 500.

### ED-D 591A - Selected Topics in Learning and Development

**Units: 1.5**

**Prerequisite(s):** ED-D 560 or EDCI 560.

### ED-D 591B - Selected Topics in Special Education

**Units: 1.5**

### ED-D 591E - Selected Topics in Leadership Studies

**Units: 1.5**

### ED-D 597 - Comprehensive Examination - Educational Psychology and Leadership Studies

**Units: 1.5**

### ED-D 598 - Project - Educational Psychology and Leadership Studies

**Units: 3.0**

### ED-D 599 - Thesis - Educational Psychology and Leadership Studies

**Units: 6.0**

### ED-D 600 - Learning and Teaching in Higher Education

**Units: 1.5**

### ED-D 605 - Educational Psychology: Apprenticeship in Teaching in Higher Education

**Units: 3.0**

**Prerequisite(s):** Admission to Graduate Certificate in Learning and Teaching in Higher Education (LATHE).
ED-D 610 Units: 1.5
Contemporary Issues in Higher Education
Critically examines the problems and issues that dominate current thought and discussion in higher education in Canada and internationally. Topics considered will include globalization and internationalization, university governance, teaching and learning, the nature of academic work, corporatization of postsecondary institutions, credentialism, and relations between higher education and the state.
Prerequisite(s): Permission of the department.

ED-D 614 Units: 1.5
University Teaching
An extensive review of research and instructional practices at the post-secondary level. Topics include models of instruction, teaching strategies, course development principles, and assessment practices.
Prerequisite(s): Admission to a graduate program.

ED-D 615 Units: 1.5 or 3.0
Individual Apprenticeship in University Teaching
Students undertake an individualized apprenticeship experience with a sponsoring faculty member. The broad aim of the apprenticeship is to offer students guided practice in university instruction.
Note: May be taken more than once for credit in different topics with approval of the student's supervisory committee.
Prerequisite(s): Admission to a graduate program.
Grading: COM, N, F

ED-D 620 Units: 1.5
Educational Psychology: Doctoral Apprenticeship in Research
Individualized opportunity for doctoral students to develop advanced research skills by apprenticing in faculty research or extra-to dissertation research. Students are expected to spend approximately 9-10 hours a week participating in research activities. The apprenticeship typically involves a range of activities including organization and training of research assistants, submission of an ethics application, management of research databases, data analysis, and preparation and submission of materials for publication and/or presentation.
Note: May be taken more than once; however, only the first 1.5 units of credit can count toward the required elective credits.
Prerequisite(s): Permission of the department.
Grading: COM, N, F

ED-D 660 Units: 1.5
Doctoral Seminar in Contemporary Issues in Educational Psychology
A seminar for doctoral students examining contemporary issues in educational psychology. Attention is also given to guidelines for scholarly and professional practice.

ED-D 690 Units: to be determined
Advanced Directed Studies in Educational Psychology
These individual reading and study courses are designed by students in collaboration with an instructor to provide intensive study in an area of interest to the student.
Note: May be taken more than once for credit in different topics with permission of the department to a maximum of 4.5 units; however, no more than 3 units from the same instructor will be accepted except under exceptional circumstances.

ED-D 691 Units: 1.5 or 3.0
Advanced Special Topics in Educational Psychology
The content of these courses varies depending upon student interests and faculty areas of expertise. Courses often focus on timely issues and topics in the field.
Note: May be taken more than once for credit in different topics.

ED-D 693 Units: 3.0
Doctoral Candidacy Exam in Educational Psychology
PhD students write candidacy examinations in research methodology and in their area of focus within educational psychology. The format will consist of two written papers followed by an oral examination. In the oral examination, the candidate will be examined in both research methodology and his/her area of focus.
Normally, within thirty six months of registration as a provisional doctoral student and at least six months before the final oral examination, a student must pass the candidacy examination.
Grading: INP, COM, N, F

ED-D 699 Units: to be determined
PhD Dissertation
Prerequisite(s): ED-D 693.
Grading: INP, COM, N, F

EDCI
Curriculum and Instruction Studies
Department of Curriculum and Instruction
Faculty of Education

EDCI 509 Formerly: ED-A 558A Units: 1.5
Development and Implementation of the Curriculum in Art
Application of relevant theories and models to the design and development of school curricula in art.
Note: Credit will be granted for only one of EDCI 509, ED-A 558A.

EDCI 510 Formerly: ED-A 570 Units: 3.0 Hours: 3-0
Research Issues and Studio Development in Art
Review of contemporary art education research issues; development of a teaching creed and proposal; studio exploration linked to current instructional practice.
Note: Credit will be granted for only one of EDCI 510, ED-A 570.

EDCI 511 Formerly: ED-A 571 Units: 1.5 Hours: 3-0
Research in Drawing and Studio Development
Review of literature on the development of drawing; analysis of theory and current teaching practices; an investigation of ideas and approaches through actual engagement in drawing.
Note: Credit will be granted for only one of EDCI 511, ED-A 571.

EDCI 512A Formerly: half of 512 Units: 1.5
Digital Arts
An extensive exploration of digital studio processes focusing on visual expression, graphics, and fine art. Working in the digital studio, students will learn to generate creative ideas, collect resources, produce artwork, and integrate digital and traditional processes using industry-standard software packages. Emphasis on the production and teaching of digital arts for creative, educational and studio environments. No previous computer experience is required.
Note: Credit will be granted for only one of EDCI 512A, EDCI 512.

EDCI 512B Formerly: half of 512 Units: 1.5
Digital Presentation
An extensive exploration of the tools and processes used in presenting studio media in digital formats. Students will learn how to organize existing studio materials, processes, ideas, and resources into dynamic presentation structures using still/motion visuals, text and audio. A strong focus will be given to the production formats required for final graduate presentations.
Note: Credit will be granted for only one of EDCI 512B, EDCI 512.

EDCI 513 Units: 3.0
Community Art Education
Issues related to community art programs that play a role in sociocultural development and raising awareness about aesthetics.

EDCI 514 Units: 1.5
Educational Discourses
An opportunity for engagement in the research community, advancing the development of student’s own capacity for research, and a critical examination of contemporary literature on functional educational concepts, research issues and implications for curriculum and instruction.

EDCI 515 Formerly: ED-B 515 Units: 1.5
e-Research: Harnessing and Understanding Technology in Research
A blended multi-media/research course that focuses on relevant issues involved in using information and communication technologies (ICT) and the Internet for research purposes. In addition to developing some foundational skills, students will learn about methods, techniques, as well as ethical and practical issues.
Note: Credit will be granted for only one of EDCI 515, ED-B 515.

EDCI 516 Formerly: 542B, 542, half of ED-B 542 Units: 1.5
Reading Processes in the School Curriculum: Methods and Materials
Examines and analyzes research on methods, strategies, and materials in the teaching and learning of reading which inform current classroom practice.
Note: Credit will be granted for only one of EDCI 516, EDCI 542, EDCI 542B, ED-B 542.
<table>
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<tr>
<th>Course Code</th>
<th>Units</th>
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<th>Description</th>
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| EDCI 517    | 1.5   | EDCI 542A, 542 | Reading Processes in the School Curriculum: Research and Processes
Examines and analyzes research and models of reading, and the processes of reading and reading development.
**Note:** Credit will be granted for only one of EDCI 517, EDCI 542A, EDCI 542, ED-B 542.

| EDCI 518    | 1.5   | EDCI 540A, 540 | Research in Language and Literacy: Curriculum Development
A critical analysis of theories and research related to curriculum development and implementation in language and literacy.
**Note:** Credit will be granted for only one of EDCI 518, EDCI 540, EDCI 540A, ED-B 540.

| EDCI 519    | 1.5   | EDCI 540B, 540 | Research in Language and Literacy: Theory into Practice
Review of key theorists and landmark research that have informed instructional practices in language and literacy.
**Note:** Credit will be granted for only one of EDCI 519, EDCI 540, EDCI 540B, ED-B 540.

| EDCI 520    | 1.5 or 3.0 | ED-B 520 | Seminar in Contemporary Educational Issues in Philosophical Perspective
A survey of issues selected from leading contemporary thinkers and how they relate to the basic values, purposes and problems of education.
**Note:** Credit will be granted for only one of EDCI 520, ED-B 520.

| EDCI 521    | 1.5   | EDCI 521A and 521B | Contemporary Educational Issues in Historical Perspective
Historical examination of significant educational writings, the social context in which they were written, and their influence on contemporary educational issues. Special emphasis is placed on writings that illuminate themes of educational change and that illustrate the relationship between the character of a society and the nature of its educational institutions.
**Note:** Credit will be granted for only one of EDCI 521, EDCI 521A, EDCI 521B, ED-B 521A, ED-B 521B.

| EDCI 522    | 1.5   | ED-B 522 | Philosophy of Education Through Film and Other Media
An exploration through film of various issues in the Philosophy of Education and how they relate to current educational practices and policies. Some of the issues that may be explored include: the moral dimensions of teaching; ethical problems in education; epistemology and critical thinking; aims and goals of education in a pluralistic society.
**Note:** Credit will be granted for only one of EDCI 522, ED-B 522.

| EDCI 523    | 1.5   | | Diverse Voices and Visions in Education
An examination of diverse educational and cultural perspectives in education and ways of knowing not usually encompassed in other courses. Students will explore how these diverse perspectives shape, challenge, and enrich established educational methodologies.

| EDCI 525    | 1.5   | | Planning for Effective Schools
Today’s schools require effective team-based approaches to school accountability initiatives. Surveys the growing body of school effectiveness literature and assists school professionals to prepare and implement school effectiveness projects.

| EDCI 531    | 1.5   | EDCI 531A and 531B | Introduction to Curriculum as Discourse
An overview of the field of curriculum studies from the early 20th century forward. Invites students to reflect on implications of curriculum as discourse within their own educational concepts and practices and to imagine new possibilities.
**Note:** Credit will be granted for only one of EDCI 531, EDCI 531A, EDCI 531B, ED-B 555A, ED-B 555B.

| EDCI 532    | 1.5   | | Emerging Trends and Topics in Curriculum Studies
An examination of recent publications, presentations and conference proceedings to identify and discuss emerging trends and topics in the field of curriculum studies.

| EDCI 533    | 1.5   | ED-B 556 and ED-B 557 | Theory and Practice in Curriculum Design and Change
Description of traditional and alternative approaches to curriculum planning and implementation in terms of origins, underlying assumptions, utility in various settings and effects. Invites students to identify and characterize their own approaches to curriculum planning and implementation.
**Note:** Credit will be granted for only one of EDCI 533, ED-B 556, ED-B 557.

| EDCI 536    | 1.5   | EDCI 543, half of ED-B 543 | Language Processes in the School Curriculum: Oracy
An examination of processes through which competence in listening and speaking is developed. Includes analysis of research, methods and materials relevant to oracy.
**Note:** Credit will be granted for only one of EDCI 536, EDCI 543, EDCI 543A, ED-B 543.

| EDCI 541    | 3.0   | ED-B 541 | Research in Curriculum and Instruction - Secondary English
Review of the literature; critical analysis of significant research; planning curriculum research at the secondary level.
**Note:** Credit will be granted for only one of EDCI 541, ED-B 541.

| EDCI 544    | 3.0   | ED-B 544 | Advanced Course in Remedial Reading
Theoretical and practical issues in the causation, diagnosis, and remediation of reading difficulties as encountered in the school setting. Seminar discussions will centre on the research literature relevant to reading difficulties; the practical component will involve students in working in a clinical setting with children with reading problems.
**Note:** Credit will be granted for only one of EDCI 544, ED-B 544.

| EDCI 545    | 1.5   | ED-B 545 | The Reading Curriculum in the Secondary School: Theory and Practice
Issues in the definition, development and function of secondary school developmental, corrective, and remedial reading programs. Considers the role of the reading consultant in program implementation.
**Note:** Credit will be granted for only one of EDCI 545, ED-B 545.

| EDCI 546    | 1.5   | ED-B 546 | Interpretation and Analysis of Language Arts Research
A critical review of research methodologies used in the general area of language arts. Consideration of the appropriateness of specific methodologies to research in classroom problems.
**Note:** Credit will be granted for only one of EDCI 546, ED-B 546.

| EDCI 547    | 3.0   | ED-B 547 | Issues in English Education in the Secondary Grades
The extensive critical examination of issues in the learning and teaching of English in the secondary grades.
**Note:** Credit will be granted for only one of EDCI 547, ED-B 547.

| EDCI 548    | 1.5   | ED-B 558 | Development and Implementation of the Curriculum
Application of relevant theories and models to the design and development of school curricula in a specific area.
**Note:** Credit will be granted for only one of EDCI 548, EDCI 548A, EDCI 548B, EDCI 548C, ED-B 558.

| EDCI 549    | 1.5   | | Gender and Pedagogy
Draws upon historical and contemporary perspectives to provide lenses for analyzing various research issues and concerns in relation to educational policy and classroom practice. Inclusion and transformation are critical elements of the concepts developed in this course. Issues of gender influencing educational policy and practices will be examined, including areas such as curriculum development, teaching strategies, selection of curricular materials, professional interactions, and selection of teaching specialty areas.
**Note:** Credit will be granted for only one of EDCI 549, EDCI 591 (if taken in the same topic).
### EDCI 550 - Units: 1.5
Formerly: ED-B 550
**Seminar: Research in Early Childhood Education**
Analysis, interpretation, and evaluation of selected research in early childhood education through study of its conceptual and methodological bases.
**Note:** Credit will be granted for only one of EDCI 550, ED-B 550.
**Prerequisite(s):**
- 1.5 units of EDCI course numbered 500 or higher; or
- permission of the department.

### EDCI 551 - Units: 1.5
Formerly: ED-B 551
**The Young Child in Today's Society**
An exploration of topics related to young children (birth through age 9) and their education in the context of Canadian society. Addresses several major questions, including: Who are today's young children? What are the issues and challenges facing Canadian children and families? How can early childhood programs address these challenges?
**Note:** Credit will be granted for only one of EDCI 551, ED-B 551.

### EDCI 552 - Units: 1.5
Formerly: ED-B 552
**Contemporary Trends in Early Childhood Education**
An examination of program innovations and adaptations designed to make early childhood education relevant and responsive to the expectations, challenges and needs of today's children and families. Typical topics include early intervention and outreach programs; parent involvement; multiculturalism and anti-bias curricula; the impact of technology and media; professionalism and advocacy.
**Note:** Credit will be granted for only one of EDCI 552, ED-B 552.

### EDCI 553 - Units: 1.5
Formerly: ED-B 553
**International Early Childhood Education: Comparing Commonalities and Differences**
Different countries approach the issues in educating young children in a rich variety of ways. Examines, from a comparative perspective, common themes and recurrent issues affecting preschool, kindergarten, and primary-aged children in selected countries, with emphasis on the Pacific Rim.
**Note:** Credit will be granted for only one of EDCI 553, ED-B 553.

### EDCI 554 - Units: 1.5
Formerly: ED-B 549
**Comparative Early Childhood Education: Curriculum, Context and Culture**
Analysis and evaluation of approaches to curriculum, administration, and assessment in programs for preschool, kindergarten, and primary-aged children in cross-cultural contexts.
**Note:** Credit will be granted for only one of EDCI 554, ED-B 549.

### EDCI 555 - Units: 1.5
Formerly: ED-B 548
**Program Development for Early Childhood**
Current issues in planning, implementing, and evaluating early childhood programs for children 0-9 years. Topics will include examination of the implications of current conceptions of developmentally appropriate practice, child-centred and play-based curricula, and efforts at inclusion.
**Note:** Credit will be granted for only one of EDCI 555, ED-B 548.

### EDCI 556 - Units: 1.5
Formerly: 543B, 543, half of ED-B 543
**Language Processes in the School Curriculum: Writing and Representing**
An examination of processes through which skills and competence in composition are developed. Includes analysis and evaluation of research, methods and materials relevant to instruction in composition.
**Note:** Credit will be granted for only one of EDCI 556, EDCI 543, EDCI 543B, ED-B 543.

### EDCI 558 - Units: 1.5
**Differentiated Instruction: Needs of Diverse Learners**
Examines research and practice of differentiated instruction across the curriculum, with an emphasis on literacy at all levels. Investigates the philosophy and theory behind differentiated instruction and exemplary practices. Focuses on flexibility in how curriculum content, processes and representations of knowledge are designed within a differentiated model. Discussion of differentiated instructional models in relation to current trends in Canadian curriculum.
**Note:** Credit will be granted for only one of EDCI 558, EDCI 591 (if taken in the same topic).

### EDCI 559 - Units: 3.0
Formerly: ED-B 559
**Adult Learning in the Organizational Setting**
Assists individuals and organizations to conduct and utilize research in the design, development and delivery of educational programs and services for adult learners. Contributes directly to the preparation and writing of graduate theses and projects that reflect research questions in adult education.
**Note:** Credit will be granted for only one of EDCI 559, ED-B 559.

### EDCI 565 - Units: 1.5
**Research and Practice of Learning Design**
An in-depth look at the research and practice of learning design and its application to technology-enabled interactive learning environments. Students will critically examine theories and principles of learning design; explore how they can maximize the effectiveness, efficiency and appeal of learning experiences for learners; and teach for understanding.

### EDCI 566 - Units: 1.5
**EduCoaching for Technology Integration**
An exploration of principles and models of educational change through professional development coaching within the context of technology adaption theories. Students will actively coach or be coached during this course.

### EDCI 567 - Units: 1.5
**Interactive and Multimedia Learning Theories**
An in-depth analysis of theories and applications of multimedia learning in interactive learning environments. Students will explore the latest research, compare, and critique current practices and emerging technologies such as touch input devices, for creating rich educational experiences.

### EDCI 568 - Units: 1.5
**Discourse on Social Media for Connected and Personalized Learning**
Exploration of current research on communities of learning to situate discussion on connected practices for both personalized and professional learning. Critical discourse will focus on the balance of opportunities afforded by connected learning as well as issues such as cyber bullying, safety, and privacy in online environments.

### EDCI 569 - Units: 1.5
**The Distributed, Blended and Open Classroom**
An examination of current research and models of distributed learning and the theories that drive successful learning experiences in a variety of configurations such as online, blended, multi-access, and open learning.

### EDCI 570 - Units: 1.5
Formerly: ED-E 540
**Research in Curriculum and Instruction in the Elementary Grades**
Review of the critical issues; analysis of significant research on curriculum development at the elementary school level.
**Note:** Credit will be granted for only one of EDCI 570, EDCI 570A, EDCI 570B, EDCI 570C, EDCI 570D, ED-E 540.

### EDCI 571 - Units: 1.5
Formerly: ED-E 541
**Research in Curriculum and Instruction in the Secondary Grades**
Review of the critical issues; analysis of significant research on curriculum development at the secondary level.
**Note:** Credit will be granted for only one of EDCI 571, EDCI 571A, EDCI 571B, EDCI 571C, EDCI 571D, EDCI 571E, EDCI 571F, ED-E 541.

### EDCI 572 - Units: 1.5
Formerly: ED-E 558
**Development and Implementation of the Curriculum**
Application of relevant theories and models to the design and development of school curricula in a specified area.
**Note:** Credit will be granted for only one of EDCI 572, EDCI 572A, EDCI 572B, EDCI 572A, EDCI 572C, EDCI 572D, EDCI 572E, EDCI 572F, ED-E 558.

### EDCI 574 - Units: 1.5
Formerly: ED-E 574
**Environmental Education Perspectives**
A multi-disciplinary approach to exploring goals for environmental and outdoor education; cultural differences in perceptions of community-environment relationships; the traditional ecological knowledge and wisdom of First Nations Peoples; current issues and trends; the research related to students’ environmental knowledge, attitudes and values; teaching strategies; and assessment techniques. Selected field trips.
**Note:** Credit will be granted for only one of EDCI 574, ED-E 574.
EDCI 575 Units: 1.5
Global Education
Explores critical global issues through the strands of environment, development, peace and human rights. Pedagogical concerns vary with student interests and include values education, teaching controversial issues, and dealing with children’s despair about the future.
Note: Credit will be granted for only one of EDCI 575, ED-E 546.

EDCI 576 Units: 1.5
Ecology, Pedagogy, and Practice
Theoretical examination of discourses that may include: the Deep Ecology Movement, Systems Theory, Eco-justice, and Cognitive Science to identify and discuss key issues in a variety of disciplinary areas as these relate to pedagogy and practice.
Note: Credit will be granted for only one of EDCI 576, EDCI 591.

EDCI 577 Units: 1.5
Language in Learning Mathematics Technology and Science
The small but growing literacy research base in science, mathematics and social studies clearly indicates that language is both a means and an end to contemporary content literacy. Contemporary literacy comprises the habits and abilities of mind to construct understanding, the big ideas of the disciplines, and the communications to inform and persuade other people about these big ideas. Print-based language components of science literacy, numerical literacy and the reading-learning-writing connections will be explored.

EDCI 578 Units: 1.5
Science, Technology, Society and the Environment: Implications for Teaching
An exploration of the nature and relationships between science, technology, environment and society towards helping learners find possibilities that ensure a continuing future for humankind. Topics include a critical examination of contemporary issues of science and technology, social responsibility and environmental stewardship, how science is experienced in the schools, and expanding the notions of science, technology, environment and society towards helping students find possibilities that ensure a continuing future for humankind.

EDCI 579 Units: 1.5
Knowing and Learning in Everyday Contexts
Designed to look into the nature of knowing and learning in school and everyday settings and from a variety of perspectives. These perspectives include traditional information processing, Heideggerian cognitive science and artificial intelligence, anthropology, cognitive anthropology, sociology of scientific knowledge, ethnomethodology, and historical and philosophical approaches to the study of human knowing and learning. Reflects recent developments in the understanding of knowing and learning in real-world (non-laboratory) settings.
Note: Credit will be granted for only one of EDCI 579, ED-E 545.

EDCI 580 Units: 1.5
Formerly: EDCI 580
Qualitative Research Methods
Provides a survey of a variety of qualitative methods, and opportunities for learners to develop competencies in research practices common to qualitative inquiry.
Note: Credit will be granted for only one of EDCI 580, ED-E 580.

EDCI 581 Units: 1.5
Research Methodologies in Education
An opportunity for students to become familiar with various approaches to research, especially those relevant to their inquiries with special emphasis on the intellectual, social, and cultural contexts and ethics of research.

EDCI 582 Units: 1.5
Formerly: EDCI 582
Writing as Research
Writing as a mode of inquiry, with particular emphasis on the practice of writing. Includes all forms of interpretive inquiry, especially narrative, phenomenological, hermeneutic and autobiographical inquiry.
Note: Credit will be granted for only one of EDCI 582, EDCI 582.

EDCI 583 Units: 1.5
Researching with Aboriginal Peoples: Aboriginalizing Research
Research from a First Nations positioning. Aboriginal methodologies, practices and protocols are discussed to illustrate the importance to Aboriginal Peoples and their communities of having control over every aspect of research projects involving them. Students are encouraged to reflect on their own research projects so that their work is ethical, reciprocal and culturally respectful.

EDCI 584 Units: 1.5
Analysis of Quantitative and Mixed Methods Research
An introduction to the understanding, critical analysis, and evaluation of the theoretical and practical issues related to published quantitative or mixed methods research in the field of education.

EDCI 585 Units: to be determined
Formerly: EDCI 590
Directed Study - Curriculum and Instruction
Notes: May be taken more than once for credit in different topics.
Prerequisite(s): Permission of the faculty.

EDCI 591 Units: 1.5 or 3.0
Formerly: EDCI 591
Selected Topics in Curriculum and Instruction
A variable content course. Normally restricted to course offerings and not individual study.
Note: May be taken more than once for credit in different topics.

EDCI 597 Units: 1.5
Formerly: ED-A, ED-B and ED-E 597
Comprehensive Examination
A written and/or oral comprehensive examination, which must be passed as required for individual Master of Education programs.
Note: Credit will be granted for only one of EDCI 597, ED-A 597, ED-B 597, ED-E 597.

Grading: INP, COM, N, F

EDCI 598 Units: 3.0
Formerly: ED-A, ED-B and ED-E 598
Project - Curriculum and Instruction
Grading: INP, COM, N, F

EDCI 598A Units: 1.5
Project Proposal and Literature Review
Encourages discussion of alternate approaches to project topics as well as examine the components of a project proposal, especially the features of an effective literature review. The proposal and literature review for the MEd project must be accepted by the 598A course instructor and the student’s program supervisor.
Note: Students who do not complete the course requirements may register a second time for the course. Incomplete course requirements in the second term will result in withdrawal from the program. There are appeal procedures for extenuating circumstances.
Prerequisite(s): Admission to a Community-based MEd program.
Grading: COM, INP, N, F

EDCI 598B Units: 1.5
Project
The project proposal approved in 598A is to be completed and will include the approved literature review, an analytic and professional reflection on the contributions of the project. A project may be presented in any appropriate form - prose, performance, multimedia, or exhibition for example - but must include a written submission of moderate length. The successful completion of the project requires the approval of the course instructor and the student’s program supervisor.
Note: Students who have completed equivalent prerequisites may request permission to register in the course.
Students who do not complete the course requirements may register a second time for the course. Incomplete course requirements in the second term will result in withdrawal from the program. There are appeal procedures for extenuating circumstances.
Prerequisite(s):
• EDCI 598A, or
• admission to a Community-based MEd program.
Grading: COM, INP.

EDCI 599 Units: 7.5
Formerly: ED-A, ED-B and ED-E 599
Thesis - Curriculum and Instruction
Grading: INP, COM, N, F
EDCI 601 Units: 1.5
Interdisciplinary Doctoral Seminar
The purpose of Doctoral Seminar is to create a community of scholars in which faculty and graduate students share and support each other’s current research projects.
Note: May be taken more than once for credit in different topics to a maximum of 6 units.
Prerequisite(s): Admission to a doctoral program.

EDCI 602 Units: 1.5
Doctoral Seminar in Arts Education
Philosophical and sociological examinations of contemporary issues in arts education.

EDCI 603 Units: 1.5
Doctoral Seminar in Curriculum Studies
The purpose of this seminar is to immerse students in a variety of discourses found in the field of Curriculum Studies, such as political, cultural, feminist, post structural, historical, spiritual, philosophical, and aesthetic discourses, with attention to their constitutive effects. Topics may include issues of social justice and eco justice, multiple ways of knowing, expanded notions of technology, social relations of cultural reproduction in education, among others.

EDCI 614 Units: 1.5
Discourses in Educational Studies
An opportunity for engagement in the research community, advancing the development of student’s own capacity for research, and a critical examination of contemporary literature on functional educational concepts, research issues and implications for curriculum and instruction.
Note: Credit will be granted for only one of EDCI 614, EDCI 600.

EDCI 616 Units: 1.5
Formerly: 600
Advanced Reading Processes: Methods and Materials
Examines and analyzes research on methods, strategies and materials in the teaching and learning of reading which inform current classroom practice.
Note: Credit will be granted for only one of EDCI 616, EDCI 642, EDCI 642B, ED-B 642.

EDCI 617 Units: 1.5
Formerly: 642A, 642, half of ED-B 642
Advanced Reading Processes: Research and Process
Examines and analyzes research and models of reading, and the processes of reading and reading development.
Notes:
• Credit will be granted for only one of EDCI 642, EDCI 642A, ED-B 642.
• Students who have completed equivalent prerequisites may request permission to register in the course.
Prerequisite(s): EDCI 542 or ED-B 542.

EDCI 632 Units: 1.5
Critique of Emerging Trends and Topics in Curriculum Studies
An examination and theoretical critique of emerging trends and topics in the field of curriculum studies as they appear in recent publications, presentations, and conference proceedings.
Note: Credit will be granted for only one of EDCI 632, EDCI 532.

EDCI 633 Units: 1.5
Critical Discourses in Curriculum Design and Change
Identification, analysis and critique of current discourses of curriculum development, implementation, and change found in educational practice and in theoretical literature.
Note: Credit will be granted for only one of EDCI 633, EDCI 533.

EDCI 636 Units: 1.5
Formerly: 643A, 643, half of ED-B 643
Advanced Language Processes: Oracy
An examination of processes through which competence is developed in listening and speaking. Course will include analysis of research, methods and materials relevant to oracy.
Note: Credit will be granted for only one of EDCI 636, EDCI 643, EDCI 643A, ED-B 643.

EDCI 644 Units: 3.0
Formerly: ED-B 644
Research Foundations for Remedial Reading
Critical review and analysis of research in diagnosis, correction and remediation of reading difficulties; criteria for appraising research findings; educational implications.
Note: Credit will be granted for only one of EDCI 644, ED-B 644.

EDCI 647 Units: 3.0
Formerly: ED-B 647
Advanced Course in Secondary English Education
Advanced study of the processes of learning English language and literature in the secondary grades.
Note: Credit will be granted for only one of EDCI 647, ED-B 647.

EDCI 649 Units: 1.5
Formerly: ED-B 649
Doctoral Seminar in Language and Literacy
A seminar at the doctoral level to consider special problems in education and educational research. Seminars are organized around educational theory and practice in Language and Literacy.
Note: Credit will be granted for only one of EDCI 649, ED-B 649.

EDCI 650 Units: 1.5
Formerly: ED-B 650
Doctoral Seminar in Early Childhood Education
Doctoral seminar to consider analysis, interpretation, and evaluation of selected research in early childhood education; study of conceptual and methodological bases.

EDCI 656 Units: 1.5
Formerly: 643B, 643, half of ED-B 643
Advanced Language Processes: Writing and Representing
An examination of processes through which representational skills and competence in writing are developed. Course will include analysis of research, methods and materials relevant to instruction in composition.
Note: Credit will be granted for only one of EDCI 656, EDCI 643B, EDCI 643, ED-B 643.

EDCI 672 Units: 1.5
History and Philosophy of Math, Science, Educational Technology
Selected moments in the history of science, mathematics and technology, and aspects of the writings of philosophers such as Bacon, Pascal, Descartes, Popper, Kuhn, Franklin, Harding, Matthews, Maturana, and Varela provide a context for understanding current issues and possibilities for reform in school science, mathematics, and educational technology.

EDCI 673 Units: 1.5
Information and Communication Technologies in Environmental Education, Mathematics, and Science Instruction
Explores the changing information and communication technologies (ICT) have made on learning and instruction in environmental, mathematics and science education. Theoretical, classroom instruction, and research implications will be considered.

EDCI 681 Units: 1.5
Advanced Research Design
Explores research methodologies appropriate to specific research problems, questions, and contexts. An examination of the purposes of research, the role of literature review, educational theories, and design of a research question considering the relationship between question and research method.
Note: Students who have completed a master's level research methods course may request permission to register in the course.
Prerequisite(s): Permission of the faculty.

EDCI 690 Units: 1.5 or 3.0
Formerly: ED-B 690
Directed Studies - Curriculum and Instruction
Under the direction of program supervisors, topics in the area of research interests of doctoral students will be examined, leading to the development of background material for a PhD dissertation.
Notes:
• May be taken more than once for credit in different topics.
• Pro Forma required.
Prerequisite(s): Set by department depending upon topic.

EDCI 691 Units: 1.5 or 3.0
Formerly: ED-B 691
Selected Topics in Curriculum and Instruction
Issues pertaining to students' research interests and faculty expertise will be examined.
Notes:
• May be taken more than once for credit in different topics.
• Pro Forma required.
Prerequisite(s): Set by department depending upon topic.

EDCI 693 Units: 3.0
Candidacy Examination - Curriculum and Instruction
Candidacy Examinations which must be passed as required for individual Doctor of Philosophy Programs within the Faculty of Education. Exams will be reviewed and graded by all members of the individual’s Doctoral Committee.
Grading: INP, COM, N, F.

COURSE LISTINGS EDCI
### ELEC 503 Engineering Design by Optimization I
**Units:** 1.5

The steepest descent and Newton methods for unconstrained optimization. Golden section, quadratic, cubic and inexact line searches. Conjugate and Quasi-Newton methods. The Fletcher-Reeves algorithm. Application to the design of circuits, control systems, filters, and mechanical systems using optimization techniques. Introduction to constrained optimization. Students are required to complete one project that applies some of the optimization techniques to be studied in the course to an engineering analysis or design problem.

**Note:** Credit will be granted for only one of ELEC 503, ELEC 403.

### ELEC 504 Random Signals
**Units:** 1.5

Review of random variables, moments and characteristic functions; random processes, noise models, stationarity, ergodicity, correlation and power spectrum, spectrum measurements; response of linear systems to random inputs, cross-spectral densities, narrow band noise; introduction to discrete time and space processes. Students are required to complete a project.

**Note:** Credit will be granted for only one of ELEC 504, ELEC 400.

### ELEC 509 Seminar
**Units:** 1.0

Expose Master's students to different areas of research through seminar participation and provide a forum for the presentation of graduate student research. Required for all Master's students every year of their program as an addition to the normal program except by departmental permission. One unit of credit shall be given upon completion.

**Grading:** INP, COM, N

### ELEC 511 Error Control Coding
**Units:** 1.5

The channel coding problem; coding approaches and characteristics; linear block codes; bounds on codes; finite fields; cyclic, BCH and Reed-Solomon codes; convolutional codes and the Viterbi algorithm; error control in data storage and transmission systems. Students are required to complete a project.

**Note:** Credit will be granted for only one of ELEC 405, ELEC 511.

### ELEC 512 Digital Communications
**Units:** 1.5

Source and channel descriptions. Source digitization, entropy and the rate distortion tradeoff, lossless source codes (Huffman and run length codes), optimal and adaptive quantization. Digital modulation techniques, optimal coherent receivers, performance evaluation, the incoherent case. Special topics - case studies, fiber optics, satellite systems, mobile radio systems. Students are required to complete a project.

**Note:** Credit will be granted for only one of ELEC 512, ELEC 450.

### ELEC 514 Design and Analysis of Computer Communication Networks
**Units:** 1.5


**Note:** Credit will be granted for only one of ELEC 514, CENG 461.

### ELEC 515 Information Theory
**Units:** 1.5

Information theory and its relationship to probability, statistics, and data compression; entropy, relative entropy and mutual information; Huffman coding, arithmetic coding and Lempel-Ziv coding; channel capacity; group codes; generator and parity check matrices; Hamming codes and bound; bounds on the dimension of a linear code; random coding bounds; code construction.

### ELEC 516 Advanced Wireless Communications
**Units:** 1.5

Statistical fading channel models, digital communications over fading channels, diversity techniques for fading mitigation, channel adaptive transmission, multicarrier modulation/OFDM, spread spectrum techniques/CDMA, MIMO systems and space-time coding.

**Note:** Credit will be granted for only one of ELEC 516, ELEC 519A (if taken in the same topic).

### ELEC 517 Software Defined Radio
**Units:** 1.5

Software defined radio architectures. Receiver design: radio frequency, digital signal processing, software. Application to analog and digital communications, cognitive radio, dynamic spectrum access. Implementation of software radio algorithms using GNU Radio, Simulink or other platforms. Students are required to complete a project.

**Note:** Credit will be granted for only one of ELEC 517, ELEC 417, ELEC 539A (if taken in the same topic).

### ELEC 519B Selected Topics in Computer Communications
**Units:** 1.5

Formerly: 619B

**Selected Topics in Computer Communications**

**Notes:**
- May be taken more than once for credit in different topics to a maximum of 3 units.
- Variable content course.

### ELEC 519C Selected Topics in Secure Communications
**Units:** 1.5

Formerly: 619C

**Selected Topics in Secure Communications**

**Notes:**
- May be taken more than once for credit in different topics to a maximum of 3 units.
- Variable content course.

### ELEC 522 Antennas and Propagation
**Units:** 1.5

Antenna and propagation fundamentals, Friis transmission formula, radar equation, Maxwell’s equations for radiation problems, antenna parameters, simple radiators, array theory, mutual coupling, wire and broadband antennas, aperture radiators, scattering and diffraction, multipath propagation and fading, antenna measurement techniques, surface-wave and ionospheric propagation, microwave and millimeter wave propagation. Students are required to complete a project.

**Note:** Credit will be granted for only one of ELEC 522, ELEC 453.

### ELEC 524 Theory and Design of Waveguide Components
**Units:** 1.5

Formerly: 624

**Theory and Design of Waveguide Components**

Modern integrated waveguide technologies, numerical analysis aspects and design strategies; mode-matching techniques; commonly used waveguides; transformers and transformer prototypes; phase shifters; power dividers; directional couplers; waveguide filters; multiplexers; polarizers; orthomode transducers; mode converters; angle diversity systems.

**Note:** Credit will be granted for only one of ELEC 524, ELEC 624.

### ELEC 525 Advanced Photonics
**Units:** 1.5

**Advanced Photonics**

Methods to understand optical devices. Following a basic review of electromagnetics, methods for analyzing photonic devices will be provided. Among other applications, these methods will be applied to the analysis of sensors (surface plasmon resonance), high-reflectivity and anti-reflection coatings, Bragg gratings, and semiconductor lasers.

### ELEC 526 Advanced Optical Systems
**Units:** 1.5

Formerly: 623

**Advanced Optical Systems**

Overview of the basic technologies and system design principles for modern optical communications. Component fundamentals, including optical fiber, lasers, transmitters, photodetectors, receivers, passive components, optical amplifiers. Optical modulation, demodulation, wavelength multiplexing techniques. Applications to wide-area and access networks, microwave photonics. System impairments related to noise, fiber dispersion, nonlinearity. Students work in groups to design a national-scale broadband system, combining primary coarse elements and commercial software.

**Note:** Credit will be granted for only one of ELEC 526, ELEC 623.
### ELEC 529A - Units: 1.5
Formerly: 629

**Selected Topics in Microwaves, Millimeter Waves and Optical Engineering**

**Notes:**
- May be taken more than once for credit in different topics to a maximum of 3 units.
- Variable content course.

### ELEC 531 - Units: 1.5

**Digital Filters I**


**Note:** Credit will be granted for only one of ELEC 531, ELEC 407, ELEC 458.

### ELEC 534 - Units: 1.5

**Applications of Digital Signal Processing Techniques**


**Note:** Credit will be granted for only one of ELEC 534, ELEC 459.

### ELEC 535 - Units: 1.5

**Data Analysis and Pattern Recognition**

Statistical data analysis and random processes, ergodicity and stationarity. Bayesian decisions procedures, feature extraction and selection, parametric and non-parametric pattern classification and clustering techniques. Applications to big data, data science, and computer security problems. Students are required to complete a project.

**Note:** Credit will be granted for only one of ELEC 535, ELEC 485.

### ELEC 536 - Units: 1.5

**Computer Vision**

Overview of the main concepts and methods in computer vision; geometry and physics of imaging, as related to image formation and image acquisition; low-level methods of image analysis, such as filtering, edge detection, feature detection, and segmentation; methods for extracting and representing three-dimensional scene information; motion analysis and algorithms for video understanding. Students are required to complete a project.

**Note:** Credit will be granted for only one of ELEC 536, CENG 421.

### ELEC 539A - Units: 1.5
Formerly: 639A

**Selected Topics in Digital Signal Processing**

**Notes:**
- May be taken more than once for credit in different topics to a maximum of 3 units.
- Variable content course.

### ELEC 539B - Units: 1.5

**Selected Topics in Image Processing**

**Notes:**
- May be taken more than once for credit in different topics to a maximum of 3 units.
- Variable content course.

### ELEC 539C - Units: 1.5

**Selected Topics in Underwater Acoustic Systems**

**Notes:**
- May be taken more than once for credit in different topics to a maximum of 3 units.
- Variable content course.

### ELEC 543 - Units: 1.5

**Design of Digital and VLSI Systems**

Advanced combinatorial and sequential logic design. Optimization of finite state machines; timing methodologies and synchronization issues. Hardware description languages (HDL): structural and behavioural descriptions, simulations and testbenches, coding styles, design with HDL and FPGA implementation. Design for test: testing concepts, scan-based design and built-in self-test (BIST). Design for high speed: timing analysis, pipelining and retiming. Design for low power: sources of power dissipation, design transformations. Students will be required to complete a project.

**Note:** Credit will be granted for only one of ELEC 543, CENG 441.

### ELEC 545 - Units: 1.5

**Nanotechnology**

Nanoscale materials and devices. Techniques and tools of nanostructure fabrication and characterization. Properties of low-dimensional materials. Semiconductor nanostuctures, metallic nanoparticles, carbon nanotubes, organic molecules, quantum dots. Applications including nanoelectronics and molecular devices, biotechnology, nanoscale computation, nanomechanical devices and nanophotonics. Students are required to complete a project.

**Note:** Credit will be granted for only one of ELEC 545, ELEC 420.

### ELEC 546 - Units: 1.5
Formerly: 642

**Mapping DSP Algorithms onto Processor Arrays**


**Note:** Credit will be granted for only one of ELEC 546, ELEC 642.

### ELEC 547 - Units: 1.5

**Electronic Devices**

Study of the operation of bipolar and field-effect devices in VLSI design. Study of photonic and opto-electronic devices used in transmission, modulation, demodulation and receivers. Principles, construction and design of lasers and their applications. Study of display devices, thin-film devices, imaging devices, transducers and micromachines and their interfacing. Sensor arrays and related system design. Students are required to complete a project.

**Note:** Credit will be granted for only one of ELEC 547, ELEC 412.

### ELEC 548 - Units: 1.5

**Hardware Security**

Introduction to abstract algebra and finite field arithmetic. Hardware attacks and mitigation techniques. Hardware trojans and hardware trojan detection techniques. Trusted design in FPGAs. Security in embedded systems. Design for hardware trust. Security and testing. Students will be required to complete a project.

**Note:** Credit will be granted for only one of ELEC 548, CENG 448.

### ELEC 549A - Units: 1.5
Formerly: 688

**Selected Topics in Electronics**

**Notes:**
- May be taken more than once for credit in different topics to a maximum of 3 units.
- Variable content course.

### ELEC 549B - Units: 1.5
Formerly: 649B

**Selected Topics in VLSI Design**

**Notes:**
- May be taken more than once for credit in different topics to a maximum of 3 units.
- Variable content course.

### ELEC 551 - Units: 1.5
Formerly: 631

**Digital Filters II**


**Notes:**
- Credit will be granted for only one of ELEC 551, ELEC 631.
- Students who have completed equivalent prerequisites may request permission to register in the course.

**Prerequisite(s):**
- ELEC 407 or ELEC 531; or
- permission of the department.
ELEC 553  Units: 1.5  Introduction to Parallel and Cluster Computing
Overview of massively parallel and cluster computers. Processing models (shared memory versus message passing). Processes and threads. Standard algorithms utilizing parallelism. Matrix and vector operations. N-body problems, collective communications. Parallel application environments MPI and OpenMP. Includes significant exposure to parallel applications including developing and coding of parallel codes. Students are required to complete a project.
Note: Credit will be granted for only one of ELEC 553, CENG 453.

ELEC 559A  Units: 1.5  Formerly: 659A  Selected Topics in Robotics
Notes:
- May be taken more than once for credit in different topics to a maximum of 3 units.
- Variable content course.

ELEC 559B  Units: 1.5  Formerly: 659B  Selected Topics in Automatic Control
Notes:
- May be taken more than once for credit in different topics to a maximum of 3 units.
- Variable content course.

ELEC 562  Units: 1.5  Formerly: 661  Introduction to Parallel Computer Systems
Note: Credit will be granted for only one of ELEC 562, ELEC 466.

ELEC 564  Units: 1.5  Neural Networks and Their Implementation
Biological inspiration, historical background, learning in neural nets (backpropagation, hebbian, etc.), single- and multi-layer networks, associative memories, classification and clustering models, recurrent networks. Neural network technology, implementation software and hardware technologies, algorithm definitions, computational requirements, solution methods, parallel processing hardware. VLSI and optical implementations of neural networks.

ELEC 565  Units: 1.5  Digital Integrated Circuits
Silicon logic: logic design with MOSFET, CMOS, and BiCMOS; physical structure, physical design, fabrication. Logic-electronic interface: characteristics of MOSFETs, CMOS analysis and design. VLSI design: CAD tools, system components, arithmetic circuits, memory and programmable logic, system-level physical design, clocking and testing. Students are required to complete a project.
Note: Credit will be granted for only one of ELEC 565, CENG 442.

ELEC 567  Units: 1.5  Advanced Network Security
Presents, from a practical perspective, underlying principles and techniques of network security. Students will be exposed to ethical hacking, and penetration testing. Various protection methods, used in practice to detect and respond to malicious network attacks, will be presented. Students will also learn how to implement successful security policies and defense mechanisms and strategies, with a particular focus on firewalls, intrusion detection and response, virtual private networks, and biometrics technologies.

ELEC 568  Units: 1.5  Hours: 3-1.5  System-on-Chip Engineering for Signal Processing
Design and System-on-Chip (SOC) implementation for signal processing applications. SOC design and testing methodologies, Platform-based design, Intellectual Property (IP) reuse, and built-in self-test. Controlling power consumption in SOC implementations. SOC multi-technology integration of analog and digital electronics, sensors and MEMS. Students are required to complete a project.
Note: Credit will be granted for only one of ELEC 568, ELEC 466.

ELEC 569A  Units: 1.5  Formerly: 669  Selected Topics in Computer Engineering
Notes:
- May be taken more than once for credit in different topics to a maximum of 3 units.
- Variable content course.

ELEC 570  Units: 1.5  Computer Forensics Methodologies
Digital forensics notions and techniques used in the investigation of cybercrimes. Legal awareness of computer security and forensics, evidentiary process techniques, computer forensics methodologies with an emphasis on computer incident response and Information Technology (IT) systems’ protection. Ethics, rules of evidence, effective communications, search and seizure relative to privacy legislation. Threats, how they can be detected, and controls to reduce the likelihood of their occurrence.
Prerequisite(s): ELEC 567.

ELEC 571  Units: 1.5  Underwater Acoustic Systems

ELEC 572  Units: 1.5  Security, Privacy, and Data Analytics
Explores the underlying theoretical foundations of information security and privacy issues from an engineering perspective. Applications of information-theoretic concepts, techniques, and methods to the problem of quantifying achieved levels of security and privacy in larger-scale systems in the presence of adversaries. Students are required to complete a project.
Prerequisite(s): ELEC 567.

ELEC 573  Units: 1.5  Formerly: 603  Engineering Design by Optimization II
Notes:
- Credit will be granted for only one of ELEC 573, ELEC 603.
- Students who have completed equivalent prerequisites may request permission to register in the course.
Prerequisite(s):
- ELEC 403 or ELEC 503; or
- permission of the department.

ELEC 574  Units: 1.5  Practice of Information Security and Privacy
Aims to present a holistic view of various security engineering topics through practical case studies. Topics include enterprise security architecture, security threat and risk assessment, education and awareness, monitoring, investigation and forensics, application security, media handling and intellectual property, privacy, physical and environmental security, and business continuity planning. Also introduces information security-related certification and relevant professional associations. Students are required to complete a project.
Note: Credit will be granted for only one of ELEC 574, SENG 460.

ELEC 581  Units: 1.5  Power Electronics
Characteristics of power semiconductor switching devices, e.g., silicon controlled rectifiers, bipolar and MOS power transistors, insulated gate bipolar transistors, gate-tum-off thyristors. Basic principles of phase controlled converters, dc to dc choppers, dc to ac inverters (square wave and pulse width modulated), switching power supplies, resonant converters. Applications to communication and computer power supplies, electric drives, induction heating, etc.

ELEC 583  Units: 1.5  Digital Video Processing
Note: Credit will be granted for only one of ELEC 583, ELEC 483.
**ELEC 584** Units: 1.5  
Dynamics and Control of Switched Mode Power Supplies  
Introduction to switch mode power supplies. Detailed analysis of non-isolated converters (Buck, Boost, Buck-boost, Cuk, etc) and isolated converters (Flyback, Forward, Push-pull, Half bridge, Full bridge, Current Source converters, etc). State space averaging technique to model converters. Design of multi-loop controllers (inner current loop and outer voltage loop). Introduction to PWM switch model as an alternative to state space averaging technique. Students will need to complete a project.  
**Note:** Credit will be granted for only one of ELEC 584, ELEC 461, ELEC 689 (if taken in the same topic).  

**ELEC 585** Units: 1.5  
Motor Drive Dynamics  
**Note:** Credit will be granted for only one of ELEC 585, ELEC 462, ELEC 689 (if taken in the same topic).  

**ELEC 586** Units: 1.5  
Multiresolution Signal and Geometry Processing With C++  
Multirate signal processing, upsampling, downsampling, sampling rate conversion, polyphase techniques, multirate filter banks, multiresolution signal representations, wavelets, digital geometry processing, polygon meshes, subdivision surfaces/wavelets, efficient multiresolution signal processing. Applications in data compression, computer graphics/animation, geometric modeling, communications, and signal processing. C++ programming language, libraries such as OpenGL and CGAL. Students are required to complete a project.  
**Note:** Credit will be granted for only one of ELEC 586, ELEC 486.  

**ELEC 589A** Units: 1.5  
Formerly: 689  
Selected Topics in Power Electronics  
**Notes:**  
- May be taken more than once for credit in different topics to a maximum of 3 units.  
- Variable content course.  
**Prerequisite(s):** Permission of the department.  

**ELEC 590** Units: 1.5  
Directed Study  
Graduate course in the Electrical Engineering program administered by the Faculty of Graduate Studies. A wide range of topics will be available.  
**Notes:**  
- May be taken more than once for credit in different topics.  
- Pro Forma required.  

**ELEC 591** Units: 0.5  
Professional Practice  
**Note:** This course will be offered by the Engineering, Computer Science/Math Co-op and Career Services.  
**Prerequisite(s):** Admission to MENG program in Telecommunications and Information Security.  

**ELEC 592** Units: 1.0  
Career Development  
Introduction of professional standards and ethics for engineers. Presentation of conflict resolution strategies and development of critical thinking. Development of presentation and technical writing skills. Introduction of project management and risk management methods and tools. The impact of entrepreneurship and the function of the entrepreneur in new venture creation.  
**Prerequisite(s):** Admission to MENG program in Telecommunications and Information Security.  

**ELEC 598** Units: 2.0  
MEng Project  
**Grading:** INP, COM, N, F  

**ELEC 599** Units: 12.0  
MSc Thesis  
**Grading:** INP, COM, N, F  

**ELEC 609** Units: 1.0  
Seminar  
Expose PhD students to different areas of research through seminar participation and provide a forum for the presentation of graduate student research. Required for all Doctoral students every year of their program as an addition to the normal program except by departmental permission. One unit of credit shall be given upon completion.  
**Grading:** INP, COM, N, F  

**ELEC 621** Units: 1.5  
Numerical Techniques in Electromagnetics  
**Note:** Students who have completed equivalent prerequisites may request permission to register in the course.  
**Prerequisite(s):**  
- One of ELEC 521, ELEC 522, ELEC 524, ELEC 525; or  
- permission of the department.  

**ELEC 693** Units: 3.0  
PhD Candidacy Examination  
The PhD Candidacy Examination consists of an oral examination. This examination should be taken and passed not later than three years from initial PhD registration. Required of all PhD students every term of their program until the oral examination is passed.  
**Note:** ELEC 693 is a corequisite: all registrations in ELEC 699 must be accompanied by registration in ELEC 693 until ELEC 693 is passed.  
**Grading:** INP, COM, N, F  

**ELEC 699** Units: 30.0-36.0  
PhD Dissertation  
**Corequisite(s):** ELEC 693.  
**Grading:** INP, COM, N, F  

**ENGL**  
**English**  
**Department of English**  
**Faculty of Humanities**  

**ENGL 500** Units: 1.5  
Textual Studies and Methods of Research  
Advanced training in research skills, textual studies, disciplinary issues, and professional life. Covers bibliography (analytical, descriptive, and enumerative), methods of research, appropriate forms of citation and documentation, and the dissemination of research.  
**Note:** Compulsory for all graduate students, except those who can show equivalent previous credit.  

**ENGL 502** Units: 1.5  
Teaching Literature and Composition  
A preparation for teaching English literature and composition at universities and colleges. Includes: 1) a seminar and 2) a practicum in which students acquire practical experience in classrooms both at the University of Victoria and Camosun College. Covers a range of theoretical issues relating to teaching and learning as cultural activities such as: class, race and gender in the classroom; the politics, power dynamics and ethics of pedagogy; the influence of theory on pedagogical practice.  
**Note:** Evaluated on a pass/fail basis. Seminar and practicum time are given equal weight; however, their proportion may vary from week to week and from term to term.  
**Grading:** INP, COM, N, F
ENGL 503  Units: 1.5
Special Studies I

ENGL 505  Units: 1.5
Studies in Literary Theory: Area Course

ENGL 506  Units: 1.5
Studies in Literary Theory: Special Topic

ENGL 507  Units: 1.5
Digital Literary Studies: History and Principles
Surveys and explores intellectual traditions and emergent concerns associated with computing in literary studies. Topics may include material relating to literary digital representation, analysis, communication, and creation, and involve theoretical considerations and pragmatic approaches.

Note: Credit will be granted for only one of ENGL 507, ENGL 508 (if taken in the same topic).

ENGL 508  Units: 1.5
Digital Literary Studies: Special Topic

ENGL 509  Units: 1.5
Digital Literary Studies: DHSI Proseminar
A directed studies course in an area of the digital humanities, to be combined with curriculum offered by the Digital Humanities Summer Institute as with HUMA 491 (see www.dhsi.org).

Note: May be taken more than once for credit in different topics.

ENGL 510  Units: 1.5
Studies in Old English Literature: Special Topic

ENGL 515  Units: 1.5
Studies in Middle English Literature: Area Course

ENGL 516  Units: 1.5
Studies in Middle English Literature: Special Topic

ENGL 520  Units: 1.5
Studies in Renaissance Literature: Area Course

ENGL 521  Units: 1.5
Studies in Renaissance Literature: Special Topic

ENGL 530  Units: 1.5
Studies in the Literature of the 17th Century: Area Course

ENGL 531  Units: 1.5
Studies in the Literature of the 17th Century: Special Topic

ENGL 540  Units: 1.5
Studies in the Literature of the 18th Century: Area Course

ENGL 541  Units: 1.5
Studies in the Literature of the 18th Century: Special Topic

ENGL 550  Units: 1.5
Studies in the Literature of the 19th Century: Area Course

ENGL 551  Units: 1.5
Studies in the Literature of the 19th Century: Special Topic

ENGL 560  Units: 1.5
Studies in 20th-Century British and Irish Literature: Area Course

ENGL 561  Units: 1.5
Studies in 20th-Century British and Irish Literature: Special Topic

ENGL 570  Units: 1.5
Studies in American Literature Pre-1914: Area Course

ENGL 571  Units: 1.5
Studies in American Literature 1914 to the Present: Area Course

ENGL 572  Units: 1.5
Studies in American Literature: Special Topic

ENGL 580  Units: 1.5
Studies in Commonwealth and Postcolonial Literatures: Area Course

ENGL 581  Units: 1.5
Studies in Commonwealth and Postcolonial Literatures: Special Topic

ENGL 582  Units: 1.5
Core Seminar in Literatures of the West Coast
An introduction to interdisciplinary study in the literatures of the West Coast. Primary areas of investigation include: Borders and Regions; Historiographies; Pacific Diasporas; Migrations, and Nations; Identity and Place. Compulsory for students in the Literatures of the West Coast Concentration.

ENGL 583A  Units: 1.5
BC Literature
A survey of important BC writers from the early 20th century to the present. Regionalism; the environment, travel and nature writing; representation of First Nations in literature; Vancouver and modernism in Canada; radical politics and literary experimentation. Authors may include Carr, Grainger, and Haig-Brown; the modernists Wilson, Watson, and Lowry; self-conscious regionalists such as Jack Hodgins; and postmodernists Marlett, Bowering and Lai. Poetry selections may include Bimey, Livesay, Bowering, and Bah!

ENGL 583B  Units: 1.5
The West Coast Line by Line
Contemporary poetry and construction of the West Coast. Analysis of individual poems in relation to broader theoretical questions related to the relationship between text and place. Markers of place in poetry and their relationship to markers of place in fiction and Barthes’ “reality effect.”

ENGL 583C  Units: 1.5
The Tish group
The works and influence of George Bowering, Fred Wah, Pauline Butling, Daphne Marlett, and Frank Davey, along with their students and followers, poets associated with “Tish” magazine in the 1960s. The Tish group’s rejection of the tradition of Canadian writing in favour of their focus on locality, iconoclastic politics, and exuberant formal experimentation. Their influence as academics and publishers as well as writers.

ENGL 583D  Units: 1.5
Life and Death in BC Animals and Hunting in West Coast Literatures
The representation of animals and hunting in literary works, films, environmental discourses and law. The boundary between animal and human species; animal rights; the construction of animal subjectivity historically considered; its purposes; the role of hunting in the construction of masculinity, humanity, and aboriginality; the history of laws governing hunting, discussed in relation to major literary and artistic texts in West Coast culture.

ENGL 583E  Units: 1.5
Indigenous Laws and Literatures of the West Coast
Indigenous literature and life writing in relation to historical and legal texts. Consideration of the issues of indigenous difference/sameness, equality/inequality explored by examining the concern for historical and social differences between Native and non-Native communities in British Columbia in relation to questions of place and identity.

ENGL 583F  Units: 1.5
Forest Fetish: Reading the Nature of the West Coast
Literary, cultural, and material politics of West Coast nature, with an emphasis on the fetishistic currency of “the forest.” Hegemonic and counterhegemonic representations of Pacific Northwest forests as “totic” “untouched,” “vanishing” or “diseased.” Pitfalls of environmental essentialism. Efforts of writers, theorists, and artists to inscribe material histories of race, gender, and labour back into images of West Coast nature, including Eden Robinson, Brian Jungen, Jin-me Yoon, Barry McKinnon, Lawrence Paul Yuxweluptun, and Bruce Braun.
ENGL 583G

Poetry Nature Knowledge Gender

Contemporary west-coast poets such as Robert Bringhurst, Kenneth Rexroth, and Gary Snyder, whose work attempts to extend the capacities of poetry as a mode of perceiving, knowing, and being in the natural (non-human) world, contrasted with Jeannette Armstrong, George Bowerring, Daphne Marlatt, and Fred Wah, whose poems reveal the blindnesses and the insights of Romantic literary tradition. Issues to be explored include poetic form and forms of attention (poetry as ecological consciousness), language, being, nature, myth, knowledge (especially local knowledge), science, culture, and economics, all of which are linked to questions of gender and race.

ENGL 583H

American Literature on the Pacific

The American West Coast as an occasion for writers to think about migration, race, culture, nation, and the limits of politics and identity. Topics include the Frontier Hypothesis; Jesup Expedition, Pacific Survey; Japanese American Internment; Native American Relocation; Manifest Destiny; Pacific Rim imperialism; space becoming cyberspace. Authors may include Okada, Kingston, Chin, Momaday, Alexie, Anzaldúa, Valdez, Reed, Pynchon, McCarthy, Powers, Gibson, Dick, Palahniuk, Eggers.

ENGL 583I

Literary Anthropology and Anthropological Literature on the Pacific Coast

Comparative introduction to anthropological writings about Indigenous peoples of the West Coast and literary works that draw on anthropological knowledge. Genres to be studied include poetry, stories, life-writing, essays, anthropological theory and studies; theoretical issues include formal intersections of ethnography and literature, politics of representation, cultural appropriation, ethics of translation, tensions between oral and written traditions. Authors include Barbeau, Boas, Bringhurst, Cameron, Cruikshank, Levi-Strauss, Musgrave, Reid, Shadbolt, Skelton, Snyder, Swanton, Turner and Wilson.

ENGL 585

Studies in Canadian Literature: Area Course

ENGL 586

Studies in Canadian Literature: Special Topic

ENGL 590

Directed Reading

ENGL 598

Master’s Essay or Project

Students are required to complete a Master’s Essay or Project and a final oral examination based on that essay or project. It should not exceed 10,000 words (or the equivalent in digital, editorial, or bibliographical components), plus notes and bibliography. This essay or project will normally be a revised and extended version of a paper or project prepared for one of the student’s courses.

Note: Students entering the program effective September 2009, and students doing concentration in Literatures of the West Coast, will complete a Master’s Essay or Project (not to exceed 10,000 words) worth 4.5 units. All other students who entered the program prior to September 2009 will complete a Master’s Essay (not to exceed 6,500 words) worth 3 units.

Grading: INP, COM, N, F

ENGL 599

MA Traditional or Alternative Thesis

Grading: INP, COM, N, F

ENGL 693

Formerly: 698 Candidacy Examination

Notes:
- Credit will be granted for only one of ENGL 693, ENGL 698.
- Students are required to pass two exams (Major Field and Focused Field) within 24 months of registration as a doctoral candidate, and before registering in the Dissertation (ENGL 699).

Grading: INP, COM, N, F

ENGL 699

PhD Dissertation

Prerequisite(s): ENGL 693.

Grading: INP, COM, N, F

ENTC 520

Entrepreneurship Planning and Financing

Develops the student’s ability to tell the “story” of a new venture idea with just enough facts and details to convey to investors that the business is viable. Topics for the course include strategies for commercialization, entrepreneurial finance and securing and protecting resources. Students will study how to raise money strategically and how to work with various potential investors and asset classes.

Prerequisite(s): Admission to Graduate Certificate program in Entrepreneurship.

Pre- or Corequisite(s): ENTC 510.

ENTC 530

Entrepreneurship Set-up and Launch

Focuses on systems and models that enable the entrepreneur to maximize the business operating environment. Operations analysis tools and methodology are presented to assist in designing, planning, and controlling operations. Topics for the course include securing commitment, entrepreneurial marketing and communications, entrepreneurial systems and exit strategies; gain strategic and tactical skills to launch and operate a new company with a limited budget for the first twelve to eighteen months of a company’s life.

Prerequisite(s): Admission to Graduate Certificate program in Entrepreneurship.

Pre- or Corequisite(s): ENTC 520.

ENTC 540

Entrepreneurship Growth and Context Expertise

Enables students to grow their own entrepreneurial companies by emphasizing innovation and value capture in a dynamic environment. Topics for the course include managing growth and change and entrepreneurs as global citizens. Students will choose one of the following four special topics of focus for the final third of the course: (1) Technology-based ventures, (2) service-based ventures, (3) internet-based ventures, or (4) doing business in China.

Prerequisite(s): Admission to Graduate Certificate program in Entrepreneurship.

Pre- or Corequisite(s): ENTC 530.

ENTD 590

Entrepreneurship Diploma

Peter B. Gustavson School of Business

Provides a practical opportunity to apply all student entrepreneurial knowledge and skills from the four courses that constitute the Graduate Certificate in Entrepreneurship. Students will implement a business plan for a new venture or an existing company. Through journals, reports, both personal and situational analysis in the entrepreneurial environment in which they launch and operate their new business or new value creation project.

Prerequisite(s):
- All of ENTC 510, ENTC 520, ENTC 530, ENTC 540; and
- admission to Graduate Diploma program in Entrepreneurship.
Earth and Ocean Sciences
School of Earth and Ocean Sciences
Faculty of Science

EOS 503 Units: 1.5
Global Biogeochemical Cycles
Tracks the fate of organic matter from its formation (primary production) through its transformation and destruction during transport, depositional, and diagenetic remineralization processes. Global carbon, nitrogen, phosphorus, and sulphur cycles are discussed. Emphasis is placed on describing the fluxes of nutrients and other major compounds within soils, and the sedimentary and water columns, and across their interface.

EOS 504 or 3.0
Selected Topics in Geochemistry
Topics will be selected from the fields of solid earth, organic, marine, atmospheric and planetary geochemistry and biogeochemistry. Examples include geochemical traces in oceanography and climate, ocean biogeochemical processes, environmental geochemistry, trace element and isotope geochemistry, hydrosphere-lithosphere interactions and high-temperature geochemistry.
Note: May repeat with a different content (offered as S04A, S04B, S04C, S04D).

EOS 508 Units: 1.5
Marine Geology
A seminar course covering modern processes of marine geology, including depositional processes and diagenesis of marine sediments. Examines a range of depositional environments: fjord and coastal, shelf, slope, and oceanic; with consideration of the data obtained from DSDP and ODP drilling.

EOS 510 Units: 1.5
Plate Tectonics: the Geological Record
An examination of the processes of plate tectonics as revealed by the geological record, including Precambrian evolution of cratons; rifts and passive margins; convergent margins and orogens; plate motions through time.

EOS 511 Units: 1.5
Plate Tectonic Processes
An overview of plate tectonic regimes with emphasis on physical processes and geophysical aspects related to the evolution of the Earth’s plate system. Organized primarily as seminars and discussions, supplemented by special lectures by faculty and adjuncts.

EOS 513 Units: 1.5
Advanced Igneous and Metamorphic Petrology
A seminar style course focusing on advanced topics in igneous and metamorphic petrology and how the tools of petrology can be used for geodynamic reconstructions.

EOS 516 Units: 1.5
Formerly: EOS 516A
Ocean Acoustics
An introduction to the ocean as an acoustic medium, sound sources in the ocean, sound propagation in deep and shallow water, reflection and transmission processes at ocean boundaries, and ambient noise. Particular focuses can include acoustic signal processing, numerical propagation modelling, source localization, and ocean acoustic inversion.
Note: Credit will be granted for only one of EOS 516, EOS 516A.

EOS 518 Units: 1.5 or 3.0
Selected Topics in Earth, Ocean and Atmospheric Sciences
This course examines selected research topic(s) from the fields of geology, oceanography, and/or atmospheric science. Course content will vary depending on faculty availability and interests.
Note: May repeat with a different content (offered as S18A, S18B, S18C, S18D).

EOS 519 Units: 1.5
Selected Topics in Geophysics
Examples of topics include: geodynamics or continuum mechanics with geological applications; time series analysis with geophysical applications; seismic data processing, well log analysis, environmental and engineering geophysics, and geophysics of the continental crust.
Note: May repeat with a different content (offered as S19A, S19B, S19C and S19D).

EOS 523 Units: 1.5
Seismology
Theoretical and practical aspects of seismic wave propagation, earthquake seismology, and processing and interpretation of reflection and refraction data.

EOS 525 Units: 1.5
Research Frontiers in Earth and Ocean Science
This interdisciplinary Earth and Ocean Sciences course examines, in detail, global topics that are current, significant and which require input and integration across diverse disciplines. The specific topics change annually and the subject is team-taught by several SEOS/UVic faculty members.

EOS 526 Units: 1.5
Inverse Theory in Earth and Ocean Sciences
Inverse theory and its applications in Earth and Ocean Sciences. Topics include non-uniqueness, general linear least-squares, singular-value decomposition, regularization, linearization, global inversion, Bayesian inversion, and Markov-chain Monte Carlo methods. Applications will be drawn from the research literature and include topics such as inversion of seismic, acoustic and geo-electromagnetic data, tomography and matched-field inversion.

EOS 531 Units: 1.5
Physical Oceanography
Physical properties of sea water, equation of state, gravitational stability, large-scale ocean currents, meridional distribution of salinity and temperature, surface heat budgets, water masses, estuary flows.

EOS 538 Units: 1.5
Aqueous Geochemistry and the Environment
Major aspects of the global water cycle, sources, sinks of chemical elements present in aquatic systems, weathering reactions, solution geochemistry of oxic and anoxic environments in natural aquatic systems (rainwaters, ground waters, rivers, lakes, estuaries and oceans). Other topics include the application of natural and anthropogenic tracers to geochemical problems with aquatic systems.
Note: Credit will be granted for only one of EOS 538, EOS 425.

EOS 550 Units: 1.5
The Climate System
Studies of the Earth’s climate require an understanding of the intimate links between the hydrosphere, atmosphere, cryosphere and biosphere. Basic theories of the dynamics of ocean and atmosphere. The physics and biogeochemistry of coupled models are examined with emphasis on simple intuition-building mathematical models as well as discussion of large computer models.

EOS 551 Units: 1.5
Introductory Dynamic Meteorology
An introduction to the dynamics and thermodynamics of rotating atmospheres. Topics include: equations of motion, circulation theorems, geostrophy and quasigeostrophy, boundary layer dynamics, waves in the atmosphere, barotropic and baroclinic instabilities, and the general circulation of the atmosphere.

EOS 562 Units: 1.5
Mathematical Tools for Earth, Ocean and Atmospheric Sciences
Selected topics to provide training in mathematical techniques and tools used in ocean and earth systems data analysis and numerical modeling. Examples of topics are time-series analysis, statistical prediction and analysis, and numerical finite-difference, finite-element and spectral modeling techniques.
Note: May repeated with different content (offered as S62A, S62B, S62C, S62D).

EOS 580 Units: 1.0 to 3.0
Directed Studies
Designed to enable students to pursue individual interests.
Note: May be taken more than once for credit in different topics.

EOS 599 Units: to be determined*
MSc Thesis
The thesis or dissertation requirement for advanced degrees applies to all students in the School. Students must enrol in 599 in their first term and remain enrolled until their thesis requirements have been completed.
* Normally 9 units.
Grading: INP, COM, N, F

EOS 693 Units: 3.0
PhD Candidacy Examination
Students must enrol in EOS 693 in their first term and remain enrolled until their candidacy requirements have been completed, normally within the first two years of a PhD program. A pre-candidacy committee meeting must precede the formal candidacy exam.
Corequisite(s): EOS 699.
Grading: INP, COM, N, F
EPHE
Exercise Science, Physical and Health Education
School of Exercise Science, Physical and Health Education
Faculty of Education

EPHE 500 Units: 0
Research Seminar
An examination of contemporary research, theoretical, and practical issues in Exercise Science Physical and Health Education.
Grading: INP, COM, N, F

EPHE 561 Units: 1.5
Formerly: PE 561
Current Issues in Leisure Services
Addresses the problems, challenges and opportunities facing the recreation-leisure service professional. Focus on concepts, theories and historical framework of leisure; nature and scope of the profession.
Note: Credit will be granted for only one of EPHE 561, PE 561.

EPHE 562 Units: 1.5
Formerly: PE 562
Administrative Planning Process
Examination of the planning process as it exists within federal, provincial, regional and municipal government recreation departments as well as not-for-profit and private sector leisure delivery organizations. Role of the recreation manager-administrator as leader, team member and facilitator.
Note: Credit will be granted for only one of EPHE 562, PE 562.

EPHE 563 Units: 1.5
Formerly: PE 563
Community Leisure Service Development
Exploration of the nature and function of leisure service development as a community based function. Focus on the development and use of other social service organizational models.
Note: Credit will be granted for only one of EPHE 563, PE 563.

EPHE 570 Units: 1.5
Formerly: PE 570
Skill Acquisition in Physical Education and Sport
A review of learning theories and principles as they pertain to the acquisition and retention of motor skills; the neural mechanisms involved in the learning and control of motor patterns; information processing in human performance; detailed study of research on memory, attention, retrieval systems, and movement control.
Note: Credit will be granted for only one of EPHE 570, PE 570.

EPHE 572 Units: 1.5
Formerly: PE 572
Physiology in Physical Education and Sport
The study of physiological basis for sport performance and fitness. The assessment of physiological status and the rationale for the prescription of exercise programs.
Note: Credit will be granted for only one of EPHE 572, PE 572.

EPHE 573 Units: 3.0
Formerly: PE 573
Research Methods
An overview of the qualitative and quantitative research approaches specific to the various disciplinary areas in the School of Exercise Science, Physical and Health Education. Underlying assumptions of both qualitative and quantitative research are discussed and the respective research processes are reviewed. Other topics include: the role of the researcher, selecting and developing a research problem; reviewing the literature; developing research hypotheses; issues in measurement; data collection issues, writing research proposals, research ethics, and communicating the results of research.
Note: Credit will be granted for only one of EPHE 573, PE 573.

EPHE 574 Units: 1.5
Formerly: PE 574
Administration of Physical Education, Recreation and Sport
After presenting a theoretical base for administrative and organizational theories, a link will be made to specific situations in the fields of physical education, recreation and sport.
Note: Credit will be granted for only one of EPHE 574, PE 574.

EPHE 575 Units: 1.5
Formerly: PE 575
Applied Sport Psychology
Provides students with a further understanding of concepts and principles underlying the field of sport psychology. Provides a basis for the use of mental training techniques such as imagery, self-talk, feedback, and focusing to improve sport performance and experiences.
Note: Credit will be granted for only one of EPHE 575, PE 575.

EPHE 576 Units: 1.5
Formerly: PE 576
Teaching and Coaching Effectiveness in Physical Education and Sport
A review of current models of effective teaching and coaching; observation and coaching systems; analysis of teaching and coaching behaviours; a review of current research.
Note: Credit will be granted for only one of EPHE 576, PE 576.

EPHE 577 Units: 1.5
Formerly: PE 577A or PE 577
Research Methods and Techniques in Coaching Studies
The development of research skills required to interpret the literature related to coaching and sport performance and develop a project proposal as part of the requirements for the degree.
Notes:
• Credit will be granted for only one of EPHE 577, PE 577, PE 577A.
• Taught in summer only.
Prerequisite(s): Admission to MEd program in Coaching Studies.

EPHE 578 Units: 1.5
Formerly: PE 578
Biomechanics
Note: Not open to students with credit in PE 578.

EPHE 579 Units: 1.5
Formerly: PE 579B or PE 579
Current Issues in Coaching Studies
Identification and selection of issues in coaching and sport for presentation, discussion and resolution. As leaders in sport, students will consider issues from both a content perspective and in the context of beliefs and values.
Note: Credit will be granted for only one of EPHE 579, PE 579B, PE 579.

EPHE 580 Units: 1.5
Formerly: PE 580
Physiological Issues in Physical Activity and Health
Selected issues and research examining the physiological responses and adaptations to exercise, especially as they relate to performance and/or health.
Note: Credit will be granted for only one of EPHE 580, PE 580.

EPHE 581 Units: 1.5
Psychological Issues in Physical Activity and Health
Examines selected current psychological issues affecting individual and group involvement in the different forms of physical activity and how these interact with performance and health from childhood to the senior years. Research in the field will be examined to assist the understanding of current beliefs and practices.
Note: Credit will be granted for only one of EPHE 581, PE 581.

EPHE 582 Units: 1.5
Formerly: PE 582
Neuroscience in Physical Activity and Health
A seminar on issues and research in neuroscience related to motor control across the lifespan and in typical and atypical populations.
Note: Credit will be granted for only one of EPHE 582, PE 582.
EPHE 583 Units: 1.5
Formerly: PE 583
Issues in Health Promotion and Wellness
Issues, research and values in health promotion and wellness related to physical activity. Topics may include community-based research in education, health, recreation and allied social service settings; social determinants of health and physical activity; and theory and practice of programs and policies affecting health, wellness and physical activity.
Note: Credit will be granted for only one of EPHE 583, PE 583.

EPHE 584 Units: 1.5
Formerly: PE 584
Pedagogical Issues in Physical Activity and Health
Current pedagogical research that influences national and provincial physical activity policies, school-based physical education programs and community-based physical activity programs.
Note: Credit will be granted for only one of EPHE 584, PE 584.

EPHE 585 Units: 1.5
Formerly: PE 585
Qualitative Research Genres Applied to Education, Health and Society
Examines issues surrounding the development of research representations that inform issues in education, health and society. A core component of the course will be to develop, gather data and report on a community-based inquiry project. Qualitative genres based on different modes of inquiry will be explored and applied in a student-developed inquiry project.
Note: Credit will be granted for only one of EPHE 585, PE 585.

EPHE 590 Units: to be determined
Formerly: PE 590
Directed Study
Notes:
• May be taken more than once for credit in different topics.
• Pro Forma required.
Prerequisite(s): Permission of the school.

EPHE 591 Units: 1.5 or 3.0
Formerly: PE 591
Selected Topics in Exercise Science, Physical and Health Education
A variable content course.
Notes:
• May be taken more than once for credit in different topics.
• Pro Forma required.

EPHE 597 Units: 1.5
Formerly: PE 597
Comprehensive Examination - Exercise Science, Physical and Health Education
Comprehensive examination which must be passed as required for individual Master of Education programs within the Faculty of Education.
Note: Credit will be granted for only one of EPHE 597, PE 597.
Grading: INP, COM, N, F

EPHE 598 Units: 3.0 - 4.5
Formerly: PE 598
Project - Exercise Science, Physical and Health Education
Note: Not open to students with credit in PE 598.
Grading: INP, COM, N, F

EPHE 599 Units: to be determined
Formerly: PE 599
Thesis - Exercise Science, Physical and Health Education
Note: Not open to students with credit in PE 599.
Grading: INP, COM, N, F

EPHE 673 Units: 3.0
Doctoral Seminar
Doctoral students will become engaged in the research community, advance the development of their own capacity for research, and gain a deeper understanding and appreciation of multiple approaches to the study of physical activity. Topics include: current research in Exercise Science, Physical & Health Education, critical issues in research, the need for knowledge translation and dissemination, and the critical examination of students’ emerging research questions.

EPHE 690 Units: 1.5 or 3.0
Directed Studies
Research topics will be pursued at the doctoral level under the direction of one or more faculty members.
Notes:
• May be taken more than once for credit in different topics to a maximum of 6 units.
• Pro Forma required.

EPHE 693 Units: 3.0
Candidacy Exam - Kinesiology
Grading: INP, COM, N, F

EPHE 699 Units: 18.0
PhD Dissertation - Kinesiology
Prerequisite(s): EPHE 693.
Grading: INP, COM, N, F

ES Environmental Studies
School of Environmental Studies
Faculty of Social Sciences

ES 500 Units: 1.5
Perspectives on Environmental Theories, Methods and Skills I
An examination of contemporary theories, methods and skills that support environmental studies research. Weekly seminars will be preceded by a 3-day field camp in late August/early September (additional cost for field camp).
Note: Required core course.
Prerequisite(s): Admission to a graduate program in Environmental Studies.

ES 501 Units: 1.5
Perspectives on Environmental Theories, Methods and Skills II
Builds on the foundation laid in ES 500, and continues to explore theories, methods and skills appropriate to each student’s research program. A retreat is typically scheduled in mid-March (additional cost for field retreat).
Note: Required core course.
Prerequisite(s): Admission to a graduate program in Environmental Studies.

ES 503 Units: 3.0
M/Msc Research Colloquium
The Graduate Colloquium meets weekly from September to April. Papers are presented by graduate students, faculty, and visiting scholars. The colloquium exposes students to a wide range of conceptual and substantive issues that reflect the breadth and depth of environmental research. Attendance and participation in the colloquium is strongly encouraged throughout the degree program. Students receive 3 units of pass/failed credit during their first year.
Note: Required core course.
Grading: INP, COM, N, F

ES 570 Units: 1.5
Field Study
Supervised research or organized projects related to environmental problems, supplemented by directed individual study. A formal report is required.

ES 580 Units: 1.5
Seminar in Political Ecology
Flexible topics course offered in a seminar format.
Note: May be taken more than once for credit in different topics to a maximum of 3 units.

ES 581 Units: 1.5
Seminar in Ethnoecology
Flexible topics course offered in a seminar format.
Note: May be taken more than once for credit in different topics to a maximum of 3 units.

ES 582 Units: 1.5
Seminar in Ecological Restoration
Flexible topics course offered in a seminar format.
Note: May be taken more than once for credit in different topics to a maximum of 3 units.

ES 590 Units: 1.5
Directed Studies
Individual studies under the direct supervision of a faculty member. The content and evaluation must be approved by the School.

ES 593 Units: 1.5
Thesis Proposal Preparation
Students will work individually with their supervisor (or co-supervisors) and supervisory committee to develop a thesis proposal. An oral defense of the proposal shall take place no later than September 30th of the student’s second year of full-time study or third year of part-time study. An annual research showcase will provide an opportunity for students to present their work in a formal setting. Credit shall be granted upon acceptance of the proposal with revisions (as necessary).
Note: Required core course.
Grading: INP, COM, N, F
ES 599  Units: 7.5
MA, MSc Thesis
Grading: INP, COM, N, F

ES 600  Units: 1.5
Advanced Perspectives on Environmental Theories, Methods and Skills I
An advanced examination of contemporary theory and research methods at the forefront of environmental studies research. Emphasis will be given to the intersection of scientific, humanistic, and traditional knowledge. A 3-day field camp will precede weekly seminars in late August/early September (additional cost for field camp).
Note: Required course. Students with credit in ES 500 may be required to substitute ES 600 with another appropriate graduate course at the discretion of the student's PhD committee and graduate advisor.

ES 601  Units: 1.5
Advanced Perspectives on Environmental Theories, Methods and Skills II
Takes a deep approach to different research methods, including qualitative and quantitative approaches, their strengths and weaknesses, rationales for their application, and how they can be combined in interdisciplinary research at the highest levels. PhD students will develop effective written, oral and graphical communication skills and an understanding of the range of ways for gaining reliable knowledge.
Note: Required core course.
Students with credit in ES 501 may be required to substitute ES 601 with another appropriate graduate course at the discretion of the student's PhD committee and graduate advisor.

ES 603  Units: 3.0
PhD Research Colloquium
The Graduate Colloquium meets weekly from September to April. Papers are presented by graduate students, faculty, and visiting scholars. The colloquium exposes students to a wide range of conceptual and substantive issues that reflect the breadth and depth of environmental research. Attendance and participation in the colloquium is strongly encouraged throughout the degree program. Students receive 3 units of pass/fail credit during their first year.
Students will be required to make presentations of their own research.
Note: Required core course.
Grading: INP, COM, N, F

ES 670  Units: 1.5
Field Study
Supervised field research or organized projects related to environmental problems, supplemented by directed individual study. A formal report is required.

ES 680  Units: 1.5
Seminar in Political Ecology
Note: May be taken more than once for credit in different topics to a maximum of 3 units.

ES 681  Units: 1.5
Seminar in Ethnecology
Note: May be taken more than once for credit in different topics to a maximum of 3 units.

FORB

FORB 515  Units: 1.5
Advanced Experimental Mycology

FORB 527  Units: 1.5
Advanced Plant Biochemistry and Biochemical Ecology
See BIOL 458. An additional research paper or presentation is required.

FORB 538  Units: 1.5
Nutrient Cycling and Prokaryotes
An introduction to prokaryotes (bacteria and archaea) and their role in nutrient cycling in forests, lakes and oceans. Diversity and evolution of populations and communities of prokaryotes and their role in the major biogeochemical cycles: carbon, nitrogen, sulfur. Genetic, biochemical, physiological and ecological aspects of processes such as nitrogen fixation and methanogenesis; design of experimental approaches to assess cycling of elements in forests, lakes and oceans by prokaryotes.
Notes:
- Credit will be granted for only one of FORB 538, BIOL 438, BIOL 538.
- A combined undergraduate and graduate course. Please contact instructor for more information.

FORB 549  Units: 1.5
Individual Study in Forest Biology
Notes:
- Credit will be granted for only NUM of FORB 549, FORB 549A, FORB 549B, FORB 549C, FORB 549D, FORB 549E, FORB 549F.
- Pro Forma required.

FORB 549A  Units: 1.5
Tree Physiology
Notes:
- Credit will be granted for only NUM of FORB 549A, FORB 549, FORB 549B, FORB 549C, FORB 549D, FORB 549E, FORB 549F.
- Pro Forma required.

FORB 549B  Units: 1.5
Tree Molecular Biology
Notes:
- Credit will be granted for only NUM of FORB 549B, FORB 549, FORB 549A, FORB 549C, FORB 549D, FORB 549E, FORB 549F.
- Pro Forma required.

FORB 549C  Units: 1.5
Trees and Fungi
Notes:
- Credit will be granted for only NUM of FORB 549C, FORB 549, FORB 549A, FORB 549B, FORB 549D, FORB 549E, FORB 549F.
- Pro Forma required.

FORB 549D  Units: 1.5
Forest Soils
Notes:
- Credit will be granted for only NUM of FORB 549D, FORB 549, FORB 549A, FORB 549B, FORB 549C, FORB 549E, FORB 549F.
- Pro Forma required.

FORB 549E  Units: 1.5
Forest Ecology
Notes:
- Credit will be granted for only NUM of FORB 549E, FORB 549, FORB 549A, FORB 549B, FORB 549C, FORB 549D, FORB 549F.
- Pro Forma required.

FORB 549F  Units: 1.5
Forest Genetics
Notes:
- Credit will be granted for only NUM of FORB 549F, FORB 549, FORB 549A, FORB 549B, FORB 549C, FORB 549D, FORB 549E, FORB 549F.
- Pro Forma required.

FORB 560  Units: 1.5
Forest Biology Seminar
Student and guest seminars on selected topics in forest biology and forest biotechnology and regeneration.
Required of all graduate students in forest biology every year of their degree program (except by departmental permission) but will not count as part of their minimum graduate course requirement.
Grading: INP, COM, N, F

FORB 570  Units: 1.5
Advanced Topics in Forest Biology
A series of lectures and seminars examining subjects of current interest that focus on the adaptations of trees and their interaction with the forest environment.
Notes:
- May be taken more than once for credit in different topics.
- Pro Forma required.
FORB 571 Units: 0.5 - 3.0
Forest Biology Workshop
A series of advanced workshops providing intensive theoretical and practical training in three thematic areas: plant and microbial molecular biology, forest ecology, physiology and genetics, and bioinformatics and biostatistics. Workshops are designed to provide the tools for experimental design to address biological questions at all levels from the genome to the whole organism.

Notes:
• May be taken more than once for credit in different topics.
• Pro Forma required.

FRAN
French
Department of French
Faculty of Humanities
FRAN 500 Units: 1.5
Formerly: FREN 500
Introduction to Bibliography and Research Methods
A review of the use of bibliographical tools, forms of citation and documentation. Instruction in the preparation of materials for publication. Weekly presentations by various faculty members demonstrating the application of varied research methodologies.

Notes:
• Credit will be granted for only one of FRAN 500, FREN 500.
• Compulsory for all first-year graduate students.

FRAN 501 Units: 1.0
Portfolio
The construction of a critically-framed, social, course-related set of activities students engage in while they fulfill the requirements of the M.A.

Note: Content Will vary according to the student's area of research concentration.

Compulsory for all M.A. students.

Prerequisite(s): FRAN 500.
Grading: INP, COM, N, F

FRAN 502 Units: 1.5
Formerly: FREN 502
Studies in Applied Linguistics

Notes:
• Credit will be granted for only one of FRAN 502, FREN 502 (if taken in the same topic).
• May be taken more than once for credit in different topics.
• Variable content course.

FRAN 503 Units: 1.5
Formerly: FREN 503
Studies in French Linguistics

Notes:
• Credit will be granted for only one of FRAN 503, FREN 503 (if taken in the same topic).
• May be taken more than once for credit in different topics.
• Variable content course.

FRAN 504 Units: 1.5
Formerly: FREN 504
Studies in Culture and Society

Notes:
• Credit will be granted for only one of FRAN 504, FREN 504 (if taken in the same topic).
• May be taken more than once for credit in different topics.
• Variable content course.

FRAN 505 Units: 1.5
Formerly: FREN 505
Studies in Literary Theory and Criticism

Notes:
• Credit will be granted for only one of FRAN 505, FREN 505 (if taken in the same topic).
• May be taken more than once for credit in different topics.
• Variable content course.

FRAN 506 Units: 1.5
Studies in French Literature and Culture

Notes:
• May be taken more than once for credit in different topics.
• Variable content course.

FRAN 507 Units: 1.5
Formerly: FREN 507
Studies in Francophone African or Caribbean Literatures

Notes:
• Credit will be granted for only one of FRAN 507, FREN 507, FREN 515 (if taken in the same topic).
• May be taken more than once for credit in different topics.
• Variable content course.

FRAN 509 Units: 1.5
Formerly: FREN 509
Studies in Quebec or French-Canadian Literatures

Notes:
• Credit will be granted for only one of FRAN 509, FREN 509 (if taken in the same topic).
• May be taken more than once for credit in different topics.
• Pro Forma required.

FRAN 510 Units: 1.5
Formerly: FREN 510
Studies in Post-colonial Literatures

Notes:
• Credit will be granted for only one of FRAN 510, FREN 510 (if taken in the same topic).
• May be taken more than once for credit in different topics.
• Variable content course.

FRAN 511 Units: 1.5
Formerly: FREN 511
Studies in Francophone African or Caribbean Literatures

Notes:
• Credit will be granted for only one of FRAN 511, FREN 511, FREN 507 (if taken in the same topic).
• May be taken more than once for credit in different topics.
• Variable content course.

FRAN 514 Units: 1.5
Formerly: FREN 514
Studies in Francophone African or Caribbean Literatures

Notes:
• Credit will be granted for only one of FRAN 514, FREN 514 (if taken in the same topic).
• May be taken more than once for credit in different topics.
• Variable content course.

FRAN 515 Units: 1.5
Formerly: FREN 515
Studies in Quebec or French-Canadian Literatures

Notes:
• Credit will be granted for only one of FRAN 515, FREN 515 (if taken in the same topic).
• May be taken more than once for credit in different topics.
• Variable content course.

FRAN 517 Units: 1.5
Formerly: FREN 517
Studies in Francophone African or Caribbean Literatures

Notes:
• Credit will be granted for only one of FRAN 517, FREN 517, FREN 507 (if taken in the same topic).
• May be taken more than once for credit in different topics.
• Variable content course.

FRAN 518 Units: 1.5
Formerly: FREN 518
Studies in Quebec or French-Canadian Literatures

Notes:
• Credit will be granted for only one of FRAN 518, FREN 518 (if taken in the same topic).
• May be taken more than once for credit in different topics.
• Variable content course.

FRAN 519 Units: 1.5
Formerly: FREN 519
Studies in Francophone African or Caribbean Literatures

Notes:
• Credit will be granted for only one of FRAN 519, FREN 519 (if taken in the same topic).
• May be taken more than once for credit in different topics.
• Variable content course.

FRAN 520 Units: 1.5
Formerly: FREN 520
Special Topics
An examination of topics in an emerging field or one not covered in regular offerings.

Notes:
• Credit will be granted for only one of FRAN 520, FREN 520 (if taken in the same topic).
• May be taken more than once for credit in different topics.

FRAN 523 Units: 1.5
Formerly: FREN 523
Directed Studies
A course designed to enable students to pursue individual interests.

Notes:
• Credit will be granted for only one of FRAN 523, FREN 523 (if taken in the same topic).
• May be taken more than once for credit in different topics.
• Pro Forma required.

FRAN 524 Units: 1.5
Formerly: FREN 524
Studies in Transmediation

Notes:
• Credit will be granted for only one of FRAN 524, FREN 524 (if taken in the same topic).
• May be taken more than once for credit in different topics.
• Variable content course.

FRAN 525 Units: 1.5
Formerly: FREN 525
Studies in Translation

Notes:
• Credit will be granted for only one of FRAN 525, FREN 525 (if taken in the same topic).
• May be taken more than once for credit in different topics.
• Variable content course.

FRAN 526 Units: 1.5
Formerly: FREN 526
Studies in Translation

Notes:
• Credit will be granted for only one of FRAN 526, FREN 526 (if taken in the same topic).
• May be taken more than once for credit in different topics.
• Variable content course.

FRAN 527 Units: 1.5
Formerly: FREN 527
Studies in Translation

Notes:
• Credit will be granted for only one of FRAN 527, FREN 527 (if taken in the same topic).
• May be taken more than once for credit in different topics.
• Variable content course.

FRAN 528 Units: 1.5
Formerly: FREN 528
Directed Studies
A course designed to enable students to pursue individual interests.

Notes:
• Credit will be granted for only one of FRAN 528, FREN 528 (if taken in the same topic).
• May be taken more than once for credit in different topics.
• Pro Forma required.

FRAN 529 Units: 1.5
Formerly: FREN 529
Directed Studies
A course designed to enable students to pursue individual interests.

Notes:
• Credit will be granted for only one of FRAN 529, FREN 529 (if taken in the same topic).
• May be taken more than once for credit in different topics.
• Pro Forma required.

FRAN 550 Units: 1.5
Formerly: FREN 550
Directed Studies
A course designed to enable students to pursue individual interests.

Notes:
• Credit will be granted for only one of FRAN 550, FREN 550 (if taken in the same topic).
• May be taken more than once for credit in different topics.
• Pro Forma required.

FRAN 551 Units: 1.5
Formerly: FREN 551
Directed Studies
A course designed to enable students to pursue individual interests.

Notes:
• Credit will be granted for only one of FRAN 551, FREN 551 (if taken in the same topic).
• May be taken more than once for credit in different topics.
• Pro Forma required.

FRAN 590 Units: 1.5 or 3.0
Directed Studies
A course designed to enable students to pursue individual interests.

Notes:
• Credit will be granted for only one of FRAN 590, FREN 590 (if taken in the same topic).
• May be taken more than once for credit in different topics.
• Pro Forma required.

FRAN 598 Units: 3.0
Formerly: FREN 598
Reading List/Oral
A reading list compiled in consultation with advisers, a short critical paper, and an oral exam.

Note: Credit will be granted for only one of FRAN 598, FREN 598.

Grading: INP, COM, N, F

FRAN 599 Units: 6.0
Formerly: FREN 599
Thesis/Oral
Thesis (topic to be selected in consultation with Graduate Committee as the development of coursework) and oral examination.

Notes:
• Credit will be granted for only one of FRAN 599, FREN 599.
• Thesis option is by invitation of the Graduate Committee only.

Grading: INP, COM, N, F

GEOG
Geography
Department of Geography
Faculty of Social Sciences
GEOG 500A Units: 1.5
Formerly part of 500
Geographical Research Approaches
Examines the diverse approaches to geographical research. Students will participate in weekly seminar discussions and develop a context paper that reviews the geographical literature in their research area. Students are also expected to attend the departmental lecture series as part of their course participation.

Notes:
• Credit will be granted for only one of GEOG 500A, GEOG 500.
• Required core course for all students.

Grading: INP, COM, N, F
GEOG 500B Units: 1.5  
**Research Design in Geography**  
Examines key strategies of research design and professional development in Geography. Students will participate in weekly seminar discussions and develop a master’s research proposal or doctoral scoping document that advances their primary research concentration. Students are also expected to attend the departmental lecture series as part of their course participation.  
Notes:  
- Credit will be granted for only one of GEOG 500B, GEOG 500.  
- Required core course for all students  
Grading: INP, COM, N, F  

GEOG 518 Units: 1.5  
**Advanced Spatial Analysis and Spatial Statistics**  
An opportunity to gain theoretical and applied experience in spatial statistics and advanced geographical analysis. Topics include: point pattern analysis, areal data analysis and spatial autocorrelation, and geostatistics (i.e., variograms and kriging). Labs and a final project are designed to provide students with hands on experience applying theory to a range of data sets and to a data set selected by the student.  
Note: Students who have equivalent GIS experience may request permission to register in the course. Master’s Program students are required to take one of GEOG 518, GEOG 523, GEOG 524.  
Prerequisite(s):  
- GEOG 328 and GEOG 329; or  
- Permission of the department  

GEOG 520 Units: 1.5  
**Introductory GIS for Graduate Research**  
Provides Geographic Information Systems (GIS) training for graduate students using GIS as a research tool. Topics include: GIS data types and representation, map projections, importing and exporting spatial data, data integration, attribute and spatial queries. Students completing this course will acquire the skills needed to conduct their own research using GIS.  

GEOG 523 Units: 1.5  
**Qualitative Methods in Human Geography**  
This course will explore a range of theoretical and methodological approaches in qualitative analysis as it applies to human geography. Students expect to gain expertise in understanding epistemological orientations of objectivism, constructionism and interpretivism. Identification of a range of traditional and innovative methodologies that students may consider for research projects such as: ethnography, phenomenology, discourse analysis, etc. Common interview strategies and data collection and analysis methods and approaches will be explored.  
Note: Masters students are required to take one of GEOG 518, GEOG 523, GEOG 524 or another methods based course on recommendation of the supervisory committee as approved by the Graduate Adviser.  

GEOG 524 Units: 1.5  
**Advanced Quantitative Methods**  
Examines the use and interpretation of selected multivariate statistics.  
Note: Master’s Program students are required to take one of GEOG 518, GEOG 523, GEOG 524.  
Prerequisite(s): 1.5 units of 200-level STAT course.  

GEOG 536 Units: 1.5  
**Advanced Seminar in Human Geography**  
An advanced overview of theoretical approaches and major research paradigms in contemporary human geography.  

GEOG 537 Units: 1.5  
**Advanced Seminar in Physical Geography**  
Selected research topics in biogeography, climatology, hydrology, geomorphology and soil science. Course content will vary annually, depending on graduate and faculty research interests. Seminars, faculty and guest lecturers and individual research projects will be utilized.  
Note: Credit will be granted for only one of GEOG 537, GEOG 525.  

GEOG 538 Units: 1.5  
**Advanced Seminar in Geomatics**  
Identifies and reviews knowledge and influential thought that have shaped and advanced the science of geomatics and associated technology through time. Students are introduced to the contemporary knowledge in geomatics, areas of application, unresolved questions and the present and future research agenda. Includes presentations by guest lecturers, readings and literature reviews.  

GEOG 539 Units: 1.5  
**Advanced Seminar in Resource Management**  
A seminar dealing with resources management areas currently (or recently) being researched by members of the department. Topics will include: problem formulation, conceptual/literature background, fieldwork/data issues, analytical approaches and results/interpretation.  
Note: Credit will be granted for only one of GEOG 539, GEOG 525.  

GEOG 546 Units: 1.5  
**Advanced Topics in Human Geography**  
A special topics seminar in human and social geography. Topics vary by instructor.  
Notes:  
- May be taken more than once for credit in different topics.  
- Not offered on a regular basis.  

GEOG 547 Units: 1.5  
**Advanced Topics in Physical Geography**  
An examination of contemporary theoretical and/or applied research subjects in physical geography.  
Notes:  
- May be taken more than once for credit in different topics.  
- Not offered on a regular basis.  

GEOG 548 Units: 1.5  
**Advanced Topics in Geomatics**  
An examination of contemporary theoretical and/or applied research subjects in geomatics.  
Notes:  
- May be taken more than once for credit in different topics.  
- Not offered on a regular basis.  

GEOG 549 Units: 1.5  
**Advanced Topics in Resource Management**  
A seminar dealing with conceptual and research design issues involved with a project or problem area in resource management of interest to a faculty member.  
Notes:  
- May be taken more than once for credit in different topics.  
- Not offered on a regular basis.  

GEOG 590 Units: 1.5  
**Directed Studies in Geography**  
Note: MA, MSc and PhD students may only take one GEOG 590 course as part of their minimum program requirements. If they wish to take additional GEOG 590 courses these can be added to their minimum course load. Individual titles will be assigned to each numbered section of the course arranged by supervisory committees.  

GEOG 591 Units: 1.5  
**Advanced Topics in Geography**  
Various advanced special topics courses spanning the discipline of Geography.  
Note: Master’s and Doctoral students may take only one GEOG 591 toward their minimum course requirements but may take additional courses in different topics beyond their minimum load on the advice of their supervisory committee.  

GEOG 599 Units: to be determined  
**MA, MSc Thesis**  
Grading: INP, COM, N, F  

GEOG 693 Units: 3.0  
**Candidacy Examination**  
By eighteen months of registration as a provisional doctoral student, a student must register for and eventually pass a candidacy examination. The candidacy exam format includes two take home essays (max. 30 pages each) and an oral exam (max. 2 hours). Essay 1 will focus on the development of thought in the candidate’s area of Geography (e.g., Physical, Human, Geomatics, or Resources) with an emphasis on linkages to the broader discipline. Essay 2 will focus on the candidate’s research area. An oral examination will follow within 2 to 3 weeks after the completion of Essay 2.  
Grading: INP, COM, N, F  

GEOG 699 Units: to be determined  
**PhD Dissertation**  
Prerequisite(s): GEOG 693.  
Grading: INP, COM, N, F
## GMST

**Germanic Studies**

Department of Germanic and Slavic Studies  
Faculty of Humanities

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Units</th>
<th>Hours</th>
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<tbody>
<tr>
<td>GMST 501</td>
<td>Units: 1.5</td>
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<tr>
<td></td>
<td>Also: SLST 501</td>
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<td></td>
<td>Formerly: GER 501</td>
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<tr>
<td>GMST 502</td>
<td>Theory and Practice</td>
<td>1.5</td>
<td>3-0</td>
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<td></td>
<td>Also: SLST 502</td>
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<tr>
<td>GMST 503</td>
<td>Teaching in the Disciplines of Germanic and Slavic Studies</td>
<td>1.5</td>
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<tr>
<td></td>
<td>Also: SLST 503</td>
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<tr>
<td>GMST 505</td>
<td>Advanced German Language Study</td>
<td>1.5</td>
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<tr>
<td>GMST 510</td>
<td>Studies in Medieval Literature</td>
<td>1.5</td>
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<td>Formerly: GER 510</td>
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<tr>
<td>GMST 511</td>
<td>Studies in Film</td>
<td>1.5</td>
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<tr>
<td>GMST 520</td>
<td>Units: 1.5</td>
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<td>Also: GER 520</td>
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<tr>
<td>GMST 521</td>
<td>Units: 1.5</td>
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<td>GMST 530</td>
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<tr>
<td>GMST 531</td>
<td>Studies in Germanic Cultural History</td>
<td>1.5</td>
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<tr>
<td>GMST 540</td>
<td>Units: 1.5</td>
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<td>Formerly: GER 540</td>
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<td>GMST 550</td>
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<td>Formerly: GER 550</td>
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<td>GMST 551</td>
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<tr>
<td>GMST 561</td>
<td>Transnational Cultural Studies</td>
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<td>GMST 565</td>
<td>Units: 1.5</td>
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<tr>
<td></td>
<td>Adorno, Benjamin and Frankfurt School Critical Theory</td>
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<td>GMST 570</td>
<td>Units: 1.5</td>
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<td></td>
<td>Also: SLST 570</td>
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<td>GMST 580</td>
<td>Units: 1.5</td>
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<tr>
<td></td>
<td>Introduction to Holocaust Studies</td>
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<td>GMST 583</td>
<td>Units: 1.5</td>
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<tr>
<td></td>
<td>Teaching About the Holocaust</td>
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<td>GMST 585</td>
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<tr>
<td></td>
<td>Holocaust and Memory Studies</td>
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<td>GMST 587</td>
<td>Units: 1.5</td>
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<tr>
<td></td>
<td>Practicum in Holocaust Studies</td>
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<tr>
<td>GMST 589</td>
<td>Units: 3.0</td>
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<tr>
<td></td>
<td>I-witness Field School</td>
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<tr>
<td>GMST 590</td>
<td>Units: 1.5</td>
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<tr>
<td></td>
<td>Directed Studies I</td>
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<tr>
<td>GMST 591</td>
<td>Units: 1.5 or 3.0</td>
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<td>Directed Studies II</td>
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<tr>
<td>GMST 599</td>
<td>Units: 6.0-9.0</td>
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<tr>
<td></td>
<td>Thesis</td>
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### Notes:
- Credit will be granted for only one of GMST 501, GER 501, SLST 501.
- Credit will be granted for only one of GMST 502, SLST 502.
- Credit will be granted for only one of GMST 503, SLST 503.
- Credit will be granted for only one of GMST 510, GER 510.
- Credit will be granted for only one of GMST 511, GER 510.
- Credit will be granted for only one of GMST 520, GER 520.
- Credit will be granted for only one of GMST 521, GER 520.
- Pro Forma required.
- Pro Forma required.
- Pro Forma required.
- Pro Forma required.

### Grading:
- INP, COM, N, F
**GRS**

**Greek and Roman Studies**
Department of Greek and Roman Studies
Faculty of Humanities

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**GRS 500** Units: 1.5
Pro-seminar in Research Methods and Practices
Advanced research methods and issues including on-line research and other resources. Dissemination of research and preparation for publication, including communication skills, presentation of research results either orally or in print, critical analysis, and response to scholarly questions. Best procedures for writing and preparing applications for grants, fellowships, and employment. Approaches to professional academic life including practices of the discipline.
Grading: INP, COM, N, F

**GRS 501** Units: 3.0
Greek Literature

**GRS 502** Units: 3.0
Formerly: 541
Greek History

**GRS 503** Units: 3.0
Latin Literature

**GRS 504** Units: 3.0
Formerly: 542
Roman History

**GRS 505** Units: 3.0
Formerly: 543
Ancient Art and Archaeology

**GRS 506** Units: 3.0
Ancient Philosophy

**GRS 590** Units: 1.5-3.0
Formerly: CLAS 590
Directed Individual Study
Notes:
- May be taken more than once for credit in different topics to a maximum of 4.5 units.
- Pro Forma required

**GRS 599** Units: 6.0-9.0
Formerly: CLAS 599
MA Thesis
Note: Before beginning the thesis the candidate must arrange with the supervisory committee and the Graduate Adviser the number of units to be assigned.
Grading: INP, COM, N, F

**GRS 601A** Units: 1.5
Readings in Classical Literature (Greek)
Grading: INP, COM, N, F

**GRS 601B** Units: 1.5
Readings in Classical Literature (Latin)
Grading: INP, COM, N, F

**GRS 602A** Units: 1.5
Readings in Ancient History (Greek)
Grading: INP, COM, N, F

**GRS 602B** Units: 1.5
Readings in Ancient History (Latin)
Grading: INP, COM, N, F

**GRS 603** Units: 1.5
Reading in Classical Archaeology
Grading: INP, COM, N, F

**GRS 605** Units: 1.5
Archaeological Methods & Theory

**GRS 611** Units: 3.0
Seminar in Classical Literature

**GRS 612** Units: 3.0
Seminar in Ancient History

**GRS 613** Units: 3.0
Seminar in Classical Archaeology

**GRS 621** Units: 3.0
Topical Field in Classical Literature
An intensive study of a particular field (author, genre, time period) in Greek or Roman literature.

**GRS 622** Units: 3.0
Topical Field in Ancient History
An intensive study of a particular field (time period, historical event, historical figure, historical topic) in Greek or Roman history.

**GRS 623** Units: 3.0
Topical Field in Classical Archaeology
An intensive study of a particular field (time period, archaeological event, archaeological topic) in Greek or Roman archaeology.

**GRS 693** Units: 3.0
Candidacy Exam
Students enroll in 693 after completing their topical fields requirements (GRS 621, 622, or 623).
Grading: INP, COM, N, F

**GRS 699** Units: 18.0
PhD Dissertation
Grading: INP, COM, N, F

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**GS**

**Graduate Studies by Special Arrangement**
Faculty of Graduate Studies

**GS 500** Units: 1.5 or 3.0
Special Topics
Notes:
- May be taken more than once for credit in different topics.
- Students must seek prior approval from their supervisory committee and graduate adviser for inclusion of this course in their graduate program, although they will be permitted to register in it as “extra” to their program.
Proposals for these courses must include approval by the funding academic unit(s) before being submitted to the Dean of Graduate Studies for final approval.
Proposal forms and detailed instructions are available through the Faculty of Graduate Studies.

**GS 501** Units: 1.5 or 3.0
Interdisciplinary Topics
Courses may be offered between academic departments through the Faculty of Graduate Studies.
Notes:
- May be taken more than once for credit in different topics.
- At least one of the offering departments must have a regular graduate program.
Students must seek prior approval from their supervisory committee and graduate adviser for inclusion of this course in their graduate program, although they will be permitted to register in it as “extra” to their program.
Proposals for these courses must include approval by the funding academic unit(s) before being submitted to the Dean of Graduate Studies for final approval.
Proposal forms and detailed instructions are available through the Faculty of Graduate Studies.

**GS 503** Units: 3.0
Canadian Visiting Research Internship
Research Internship for students in research activities under the supervision of University of Victoria faculty as part of a regular graduate degree program at their home university.
Prerequisite(s): Permission of the faculty.
Grading: INP, COM, N, F

**GS 504** Units: 3.0
International Visiting Research Internship
Research Internship for students in research activities under the supervision of University of Victoria faculty as part of a regular graduate degree program at their home university.
Prerequisite(s): Permission of the faculty.
Grading: INP, COM, N, F

**GS 505** Units: 1.5
Multi-Disciplinary Research Internship
Courses may be offered between academic units through the Faculty of Graduate Studies.
This multi-disciplinary course provides supervised opportunities for students to work on applied research projects in collaboration with community organizations.
Research questions and project topics posed by the community partners allow students to make a difference by addressing issues of concern in our society.
Students will meet weekly as a group with the course instructor to discuss topics in civically-engaged research.
Students will also meet individually with a supervisor from the community partner to plan and conduct a research project.
Notes:
- May be taken more than once for credit in different topics.
- Students must seek prior approval from their supervisory committee and graduate adviser for inclusion of this course in their graduate program, although they will be permitted to register in it as “extra” to their program.
Proposals for these courses must include approval by the funding academic unit(s) before being submitted to the Dean of Graduate Studies for final approval.
Proposal forms and detailed instructions are available through the Faculty of Graduate Studies.
GS 601 Units: 0.0
Jointly Supervised Individual PhD (Study At Partner Institution)
Jointly Supervised Individual PhD (JSIP) students attending courses at approved partner institution(s) may be registered in this course to maintain their UVIC registration status.
Prerequisite(s): Admission to Jointly Supervised Individual PhD program.
Grading: INP, COM, N, F

HINF
Health Information Science
School of Health Information Science
Faculty of Human and Social Development

HINF 501 Units: 1.5
Database Design
Addresses the issues facing a database designer in the development of database applications appropriate for health data of various kinds. The content includes the elements of conceptual, implementation and physical database design to support health information systems.
Note: Credit will be granted for only one of HINF 501, HINF 591 (if taken in the same topic).

HINF 503 Units: 1.5
Research Methods in Health Informatics
Examines a variety of study designs used in health informatics and outcomes research. These include experimental designs, observational and predictive studies, and qualitative inquiries. For each study design, appropriate analytical approaches and use of related software will be covered.

HINF 510 Units: 1.5
Information Management and Technology
Critically examines the application of state-of-the-art IM&T principles and methods in the private sector and the degree to which they apply to Canadian health care organizations. Identifies the issues which chief information officers face in their attempts to provide the right information to the right people at the right time for the right price.

HINF 511 Units: 1.5
Clinical Decision Support and Information Systems
Examines clinical information systems (CIS), and clinical decision support (CDS) tools that will help them make informed decisions within their organization and participate in strategic planning activities. Includes: description and evaluation of CIS and CDS, effectiveness of CIS and CDS interventions, policies affecting CIS and CDS deployments, and health information standards pertinent to CDS initiatives.

HINF 516 Units: 1.5
Telehealth, m-Health and Pervasive Health Technology
Reviews historical context of telehealth, m-health and pervasive health technologies and current use. Explores current applications and innovations in telehealth, m-health and pervasive health technologies with an emphasis on program evaluation.

HINF 520 Units: 1.5
Public Health Informatics
Provides a discussion of new trends and applications in public health informatics. Topics include: data requirements, public health surveillance systems and regional and national health information reporting systems. Linking public health information through electronic health records will be considered. Design of information systems used by consumers and Internet-based public health information systems will be discussed. Future directions and the roles of health professionals and health informaticians in public health informatics will be presented.

HINF 530 Units: 1.5
Evidence-Based Health Informatics
Understanding evidence in health informatics is critical to advancing the field. Students will be introduced to varying methods of examining research evidence in health informatics. More specifically, students will learn about differing methods for analyzing, understanding and summarizing evidence such as systematic reviews, meta analyses, meta-narrative reviews, ethnographic reviews, scoping reviews and other methods. Students may wish to explore differing topics within the context of their research interests.
Note: Credit will be granted for only one of HINF 530, HINF 591 (if taken in the same topic).

HINF 531 Units: 1.5
Healthcare Information Security and Privacy
An advanced review of security, privacy and confidentiality of healthcare information systems. Students will learn about healthcare information regulation, information risk decision making, cybersecurity and privacy management and methods for protecting digital health information. The course will include policy related, technical and legal aspects of healthcare information security and privacy.

HINF 535 Units: 1.5
Health Information Standards
The study of health information standards being deployed and used in Canada and elsewhere. The standards to be examined include data, messaging and terminology standards such as meta-data schemas, HL7v2.X, HL7v3, HL7-CDA, CCR, CCD, DICOM, ICD10, LOINC, SNOMED CT, archetypes and nursing terminologies. Topics include: the nature of standards, their historical evolution and lifecycles for standards from development and distribution to maintenance. Emphasis will be on both the strategic relevance of and practical skills in working with standards.
Note: Credit will be granted for only one of HINF 535, HINF 591 (if taken in the same topic).

HINF 536 Units: 1.5
Controlled Terminology Standards
Examines the adoption and management of controlled terminologies in health care organizations. In terminology adoption it covers the planning, design, implementation, use, support and evaluation of terminologies in health IT applications. Terminology management covers the development, publishing, distribution and maintenance of terminology content, services and tools as organizational assets. Examples of terminologies to be covered include SNOMED CT, ICD-10-CA/CCI, LOINC, NDC/PDP/ATC/DDoS, RxNorm and nursing terminologies.
Prerequisite(s): HINF 535.

HINF 537 Units: 1.5
Health Information Exchange Standards
Explores the appropriate use of controlled terminologies in the adoption of health information exchange (HIE) standards in health care organizations. Covers the entire standards lifecycle in planning, development, implementation, use, maintenance and evaluation of HIE standards, resources and tools. Examples of HIE standards to be covered include HL7, CDA, FHIR, DICOM, templates, IHE integration profiles, clinical information models and openEHR.
Prerequisite(s): HINF 535.

HINF 550 Units: 1.5
Health Information Systems Design

HINF 551 Units: 1.5
Electronic Health Record
Describes the EHR initiatives underway in Canada and around the world. Assesses the compatibility of selected provincial initiatives with the federal level EHR intentions. Contrasts Canadian EHR experiences with those in the United States and other parts of the world. Identifies the issues and challenges to the wide spread introduction of EHRs across the Canadian health care system.

HINF 552 Units: 1.5
Evaluation of e-Health
Practical insights and understanding of an evaluation process for e-health initiatives. Includes assessing the effectiveness of e-health programs, evaluation design, data collection and analysis, as well as recommendations to assist decision-makers.

HINF 560 Units: 1.5
Patient Safety and Quality in Health Informatics
Presents how health information technologies, methods, approaches and techniques can improve the quality and safety of citizen care from hospital through to the home and community. Covers how health technologies and the processes used to design, develop, implement and maintain them ensure ongoing systems safety. Challenges and issues in developing healthcare information systems that reduce errors and do not inadvertently introduce new errors will be discussed.
Note: Credit will be granted for only one of HINF 560, HINF 591 (if taken in the same topic).

HINF 561 Units: 1.5
Project Management in Health Informatics
An introduction to the essentials of project management and the project life cycle. Students will also cover information technology management and change management knowledge areas as related to healthcare information technology project management. Course topics include project lifecycle management, and all project processes including: project charter, network diagramming, scope management, cost management, risk management, issue management, change management, scheduling and schedule management.
HINF 562  
Units: 1.5  
Procurement in Health Informatics  
An introduction to the procurement process in health informatics. Covers key decision making aspects in the analysis and selection of health information systems. An important goal is to have students appreciate the dynamics and compromises which take place when a health care authority/faculty selects information technology to primarily support its work practices.

HINF 570  
Units: 1.5  
Epidemiology in Health Services Management  
An examination of the principles and methods of managerial epidemiology. Focuses on the design, implementation and evaluation of epidemiological studies as applied to management in the health and social services, including the role of epidemiology in health services planning and policy formulation, health status indicators, outcome measurement and utilization analysis.

HINF 571  
Units: 1.5  
Health Systems Data Analysis  
Examines the major health system databases and how, with record linkage, they can be analyzed to create pictures of system components for strategic planning, ongoing program management, monitoring and evaluation. By working with real data and real problems, students will learn basic tools and methods of health system data analysis.

HINF 572  
Units: 1.5  
Health Informatics: An Overview  
An overview of current developments, issues and challenges in the emerging field of health informatics. Historical development of the field will be covered. Addresses basic foundations of health informatics, including the field’s theoretical and methodological underpinnings. Considers a range of emerging applications in health informatics as well as approaches to understanding and evaluating these innovations.

HINF 573  
Units: 1.5  
Applied Biostatistics  
A computer laboratory course primarily designed to provide practical experience in running SPSS software, interpreting output and presenting findings in Figures and Tables, suitable for publications or dissertations. Topics include: understanding statistics, data management and cleaning, recode and compute statements, scale development (Cronbach’s alpha), t-tests, chi-square analyses, correlation and logistic regression. The skills learned are those commonly used in quantitative research for health and social sciences.

HINF 574  
Units: 1.5  
Modelling and Simulation in Healthcare  
Examines a range of systems modeling tools and methodologies for dealing with complex health care systems. Uses systems thinking as a means of tackling health care domain problems where it involves interaction of many professionals across large complex organization structure. Includes qualitative and quantitative model building.

Note: Credit will be granted for only one of HINF 574, HINF 591 (if taken in the same topic).

HINF 575  
Units: 1.5  
Human Factors in Healthcare  
Introduces a framework for considering human factors in health informatics. Includes study of human-computer interaction in the design of a range of health informatics applications, user analysis, workflow modelling, consideration of methods of evaluating system usability and socio-technical aspects of successful healthcare system design. In addition, approaches to the design of systems that are safe and that reduce human error in healthcare will be emphasized.

HINF 580  
Units: 1.5  
Health Informatics Graduate Seminar  
Key themes, issues and trends in Health Informatics. Consists of presentations by faculty and students on different Health Informatics subject areas.

HINF 590  
Units: 1.5  
Directed Studies in Health Informatics  
An opportunity to pursue directed readings or a project under the supervision of a faculty member. Students may take this course up to a maximum of two times throughout the program.

Note: A student’s supervisor can instruct only one directed studies course.

HINF 591  
Units: 1.5  
Topics in Health Informatics  
An advanced course on methods that are relevant to health informatics. Faculty will assign key readings drawn from health informatics, information systems, computer science and related disciplines. Students are expected to present and critique the papers and to discuss their relevance to the health informatics discipline. Through this course students may select a method for incorporation in their dissertation research.

HINF 592  
Units: 1.5  
Research Project  
The student is required to carry out an independent project within his/her field of specialization under the supervision of a faculty member.

Grading: INP, COM, N, F

HINF 597  
Units: 1.5  
Field Project in Health Informatics  
The student is required to carry out an independent field project within his/her field of specialization under the supervision of a faculty member.

Grading: INP, COM, N, F

HINF 598  
Units: 3.0  
Health Informatics Thesis  
The thesis provides the student with the opportunity of conducting original research and interpretation of those results in Health Informatics.

Grading: INP, COM, N, F

HINF 599  
Units: 6.0  
Health Informatics Thesis  
The thesis provides the student with the opportunity of conducting original research and interpretation of those results in Health Informatics.

Grading: INP, COM, N, F

HINF 602  
Units: 1.5  
Theories in Health Informatics  
An introduction to the procurement process in health informatics. Covers key decision making aspects in the analysis and selection of health information systems. An important goal is to have students appreciate the dynamics and compromises which take place when a health care authority/faculty selects information technology to primarily support its work practices.

HINF 562 - HSD 590
## HSTR 500 - HSTR 512

### History

#### Department of History

#### Faculty of Humanities

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<tr>
<th>Course</th>
<th>Units</th>
<th>Description</th>
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<tr>
<td>HSTR 500</td>
<td>1.5</td>
<td>Units: 1.5 Formerly: HIST 500 Historiography Surveys the diverse answers to the question, &quot;What is history?&quot; Exploration of the nature of historical knowledge through examination of major changes in theory, method and practice within the discipline. Students articulate their understanding of what being an historian entails. Specific topics covered may vary with the instructor. <strong>Note:</strong> Credit will be granted for only one of HSTR 500, HIST 500.</td>
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<tr>
<td>HSTR 501</td>
<td>1.5</td>
<td>Units: 1.5 Formerly: HIST 501A, 501B, HIST 501A, 501B American History New and classic readings in the history of Colonial America and the United States. Themes include indigenous societies, conquest, gender, religion, race, slavery, sexuality, politics and economy. <strong>Note:</strong> Credit will be granted for only one of HSTR 501, HIST 501A, HIST 501B.</td>
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<tr>
<td>HSTR 502A</td>
<td>1.5</td>
<td>Units: 1.5 Formerly: HIST 502A Early Modern British History Social, cultural and political history of early modern England, with an emphasis on the 17th century. Topics include crime and print culture, the British Civil Wars, the execution of Charles I, radical religion and the Interregnum, patriarchy and authority, class conflict and social hierarchy, parents and children, marriage and gender. Provides advanced students a survey of some of the main primary sources, important secondary works and historiographical issues. <strong>Note:</strong> Credit will be granted for only one of HSTR 502A, HIST 502A.</td>
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<tr>
<td>HSTR 502B</td>
<td>1.5</td>
<td>Units: 1.5 Formerly: HIST 502B Modern British History Social, cultural and political history of modern England. Topics include government and the state, war and society, crime and punishment, monarchy, and elite and popular cultures. Provides advanced students a survey of some of the main primary sources, important secondary works and historiographical issues. <strong>Note:</strong> Credit will be granted for only one of HSTR 502B, HIST 502B.</td>
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<tr>
<td>HSTR 503A</td>
<td>1.5</td>
<td>Units: 1.5 Formerly: HIST 503A Pre-1900 Canadian History Provides an in-depth look at historical writing about pre-1900 Canada. Explores a variety of historical approaches and covers a number of major topics in the field. Topics may include indigenous histories, First Nations-settler encounters, politics and war, rural and urban experiences, liberalism and the state, and issues of race, religion, gender and class. Focus on historiographical and analytical skills. <strong>Note:</strong> Credit will be granted for only one of HSTR 503A, HIST 503A.</td>
</tr>
<tr>
<td>HSTR 503B</td>
<td>1.5</td>
<td>Units: 1.5 Formerly: HIST 503B Post-1900 Canadian History Examines historical writing about 20th century Canada, taking a chronological and thematic approach to recent literature. Topics may include: gender and the family, law and moral regulation, work, the environment, First Nations, politics and the state, nationalism and regionalism, and the experience and commemoration of war. Focus on historiographical and analytical skills. <strong>Note:</strong> Credit will be granted for only one of HSTR 503B, HIST 503B.</td>
</tr>
<tr>
<td>HSTR 504A</td>
<td>1.5</td>
<td>Units: 1.5 Formerly: HIST 504A Europe, 1500-1800 Advanced study of the transformation of European society and culture during the early modern period. May take a topical or temporal focus. <strong>Note:</strong> Credit will be granted for only one of HSTR 504A, HIST 504A.</td>
</tr>
<tr>
<td>HSTR 504B</td>
<td>1.5</td>
<td>Units: 1.5 Formerly: HIST 504B Europe since 1800 Advanced study of the transformation of European politics, society and culture in the modern era. May take a topical or temporal focus. <strong>Note:</strong> Credit will be granted for only one of HSTR 504B, HIST 504B.</td>
</tr>
<tr>
<td>HSTR 505</td>
<td>1.5</td>
<td>Units: 1.5 Formerly: HIST 514, HIST 514 World History Examines recent contributions to the field of world history that allow both for focused study of particular themes as well as the exploration of broader historiographical and theoretical debates. Students are encouraged to pursue their own particular interests in the subject. <strong>Note:</strong> Credit will be granted for only one of HSTR 505, HIST 514.</td>
</tr>
<tr>
<td>HSTR 506</td>
<td>1.5</td>
<td>Units: 1.5 Formerly: HIST 506A, 506B, HIST 506A, 506B Medieval Europe The major fields, sources and approaches in medieval history and medievalism. <strong>Note:</strong> Credit will be granted for only one of HSTR 506, HIST 506A, HIST 506B, HIST 506A, HIST 506B.</td>
</tr>
<tr>
<td>HSTR 508A</td>
<td>1.5</td>
<td>Units: 1.5 Formerly: HIST 508A China in Local and Global History Examines the local history and global networks of Tibet, Taiwan, and Hong Kong as well as the North China Plain (around Beijing), the Yangzi River Delta (around Shanghai), and the Pearl River Delta (around Canton) in China up to the mid-20th century. Emphasis on both local and global approaches to the six regions and to modern China beyond the limits of its nation-state history. <strong>Note:</strong> Credit will be granted for only one of HSTR 508A, HIST 508A.</td>
</tr>
<tr>
<td>HSTR 508B</td>
<td>1.5</td>
<td>Units: 1.5 Formerly: HIST 508B A Global History of the Chinese Overseas Examination of the Chinese diaspora in Southeast Asia, North America and other regions. Emphasis on the emigration from China, transformation of Chinatowns and development of global networks and transnational identities of the Chinese overseas. May include exploration of the diasporic experiences of Japanese, Korean, Indian and other Asian migrants in the global arena. <strong>Note:</strong> Credit will be granted for only one of HSTR 508B, HIST 508B.</td>
</tr>
<tr>
<td>HSTR 509A</td>
<td>1.5</td>
<td>Units: 1.5 Formerly: HIST 509A Modern Japanese History A survey of historiographical issues in Japan's history from the end of Tokugawa to the present day. Analyzes the debates regarding peasant struggles in late Tokugawa, the impact of imperial arrivals in the 1850s, the nature of the Meiji restoration, migration and the rise of Japanese imperialism, and the national polity in the interwar years. Concludes with World War II and Japan's occupation and subsequent economic transformations. <strong>Note:</strong> Credit will be granted for only one of HSTR 509A, HIST 509A.</td>
</tr>
<tr>
<td>HSTR 509B</td>
<td>1.5</td>
<td>Units: 1.5 Formerly: HIST 509B Migration, Race and Empire: Canada and the Transpacific Brings together the histories of the Pacific and British Columbia using a translocal lens to analyze critically the intersections between race, colonialism and indigeneity from 1840 to the 1950s. Specific attention to Asian Canadian experiences on Vancouver Island and the impact of conflicting empires (British, American and Japanese). Utilizes critical anti-racist and feminist theory, and offers possibilities for innovative public history projects and community-based, action research. <strong>Note:</strong> Credit will be granted for only one of HSTR 509B, HIST 509B.</td>
</tr>
<tr>
<td>HSTR 511</td>
<td>1.5</td>
<td>Units: 1.5 Formerly: HIST 511 Military History Examines recent contributions to the field of world history that allow both for focused study of particular themes as well as the exploration of broader historiographical and theoretical debates. Students are encouraged to pursue their own particular interests in the subject. <strong>Note:</strong> Credit will be granted for only one of HSTR 505, HIST 514.</td>
</tr>
<tr>
<td>HSTR 512</td>
<td>1.5</td>
<td>Units: 1.5 Formerly: HIST 512 Intellectual History Advanced study of intellectual history. Topics to be explored may include the history of intellectual history, the similarities and differences between intellectual history and other genres of historical analysis, the rise of atheism and unbelief in early modern Europe and Enlightenment in Europe. <strong>Note:</strong> Credit will be granted for only one of HSTR 512, HIST 512.</td>
</tr>
</tbody>
</table>
HSTR 513 - Units: 1.5
Formerly: HIST 513
History of Gender, Sexuality and the Body
Explores selected topics in gender history, the history of sexuality and the history of the body and addresses current theoretical and methodological debates within these fields. Focus is primarily on American history, although Canadian and British readings may be included. Explores shifting understandings of femininity, masculinity and sexualities, as well as relationships between gender and class, race, ethnicity, religion, sexualities and the body.
Note: Credit will be granted for only one of HSTR 513, HIST 513.

HSTR 515A - Units: 1.5
Formerly: HIST 515A
Public History
Provides an overview of the branch of the discipline that involves communicating the past to non-academic audiences and analyzing applications of history outside of the university. Students meet practitioners of public history, making professional contacts and exploring non-academic applications of their training. Connected with these practical activities are analytical questions as they contemplate how history can be carried outside of the academy, students also discuss its purpose, importance and meaning.
Note: Credit will be granted for only one of HSTR 515A, HIST 515A, HIST 519 (if taken in the same topic).

HSTR 516 - Units: 1.5
Formerly: HIST 516
Digital History
Explores specific computing applications used in the field known as “digital history,” and how digital history is changing the way we think about History and the past. Emphasis on student projects, student presentations and discussions of selected readings on the big questions facing the discipline, including “Is this really a revolution?”
Note: Credit will be granted for only one of HSTR 516, HIST 516.

HSTR 517 - Units: 1.5
Formerly: HIST 517
Cultural History and Theory
Explores the theory and practice of cultural history, focusing on culture as topic and as methodology. Students examine the approaches of cultural historians who either seek out new sources, or read traditional sources against the grain to provide answers to new questions. Themes may include: ritual, symbolism and meaning; objects and representation; colonialism and difference; popular culture, storytelling and ritual, symbolism and meaning; objects and representation; culture, spirituality, colonialis m, secularization, immigration and assimilation, religion and health, religious conflicts and prejudices and issues of class, race, gender, sexuality and family life as they relate to religion.
Note: Credit will be granted for only one of HSTR 517, HIST 517.

HSTR 519 - Units: 1.5
Formerly: HIST 519
Special Topics
Notes:
• Credit will be granted for only one of HSTR 519, HIST 519 (if taken in the same topic).
• May be taken more than once for credit in different topics with permission of the department.

HSTR 521A - Units: 1.5
Formerly: HIST 521, HIST 521
Medieval Law and Administration
The origins and development of Western European civil, canon and common law. The history of law and jurisprudence, of the relationships of law and society and of the role of law in the growth of governance and order. Direct work on legal texts and records.
Note: Credit will be granted for only one of HSTR 521A, HSTR 521, HIST 521.

HSTR 521B - Units: 1.5
Formerly: HIST 521, HIST 521
British Legal History
Social, cultural and political history of the law in England. Topics include crime, policing, the administration of justice, and punishments. Intended to give advanced students a general introduction to some of the main primary sources, important secondary works and historiographical issues.
Note: Credit will be granted for only one of HSTR 521B, HSTR 521, HIST 521.

HSTR 522 - Units: 1.5
Formerly: HIST 522
The Social History of Religion
Explores selected topics in the social history of religion in the context of Canada, the United States and Britain in the nineteenth and twentieth centuries. Focuses on Christianity, but also touches on other faith traditions. Topics to be explored may include popular religion, religion and mass culture, spirituality, colonialism, secularization, immigration and assimilation, religion and health, religious conflicts and prejudices and issues of class, race, gender, sexuality and family life as they relate to religion.
Note: Credit will be granted for only one of HSTR 522, HIST 522.

HSTR 523 - Units: 1.5
Formerly: HIST 523
History of Science and Technology
Advanced study of the history of science. Topics to be explored may include the history of the history of science, the Scientific Revolutions, the rise of the ‘science of man’ in early modern Europe, science and Enlightenment, science and religion, and science and society in Britain, 1600-1945. May include topics in the history of technology.
Note: Credit will be granted for only one of HSTR 523, HIST 523.

HSTR 526 - Units: 1.5
Formerly: HIST 526
Ethnohistory
Examines the major issues facing ethnohistorians generally but with an emphasis on ethnohistory with respect to Indigenous peoples.
Note: Credit will be granted for only one of HSTR 526, HIST 526.
HSTR 600 - IGOV 520

HSTR 600 Units: 1.5
HISTORIOGRAPHY FOR DISSERTATION

HSTR 601 Units: 1.5
ADVANCED TOPICS IN AMERICAN HISTORY

HSTR 602A Units: 1.5
ADVANCED TOPICS IN EARLY MODERN BRITISH HISTORY

HSTR 602B Units: 1.5
ADVANCED TOPICS IN MODERN BRITISH HISTORY

HSTR 603A Units: 1.5
ADVANCED TOPICS IN PRE-1900 CANADIAN HISTORY

HSTR 603B Units: 1.5
ADVANCED TOPICS IN POST-1900 CANADIAN HISTORY

HSTR 604A Units: 1.5
ADVANCED TOPICS IN EARLY MODERN EUROPE

HSTR 604B Units: 1.5
ADVANCED TOPICS IN MODERN EUROPE

HSTR 605 Units: 1.5
ADVANCED TOPICS IN WORLD HISTORY

HSTR 608A Units: 1.5
ADVANCED TOPICS IN CHINESE HISTORY

HSTR 608B Units: 1.5
ADVANCED TOPICS IN THE CHINESE DIASTORA

HSTR 609 Units: 1.5
ADVANCED TOPICS IN JAPANESE HISTORY

HSTR 611 Units: 1.5
ADVANCED TOPICS IN MILITARY HISTORY

HSTR 613 Units: 1.5
ADVANCED TOPICS IN GENDER AND SEXUALITY

HSTR 615 Units: 1.5
ADVANCED TOPICS IN PUBLIC HISTORY

HSTR 616 Units: 1.5
ADVANCED TOPICS IN DIGITAL HISTORY

HSTR 617 Units: 1.5
ADVANCED TOPICS IN CULTURAL HISTORY AND THEORY

HSTR 618 Units: 1.5
ADVANCED TOPICS IN POLITICAL HISTORY

HSTR 622 Units: 1.5
ADVANCED TOPICS IN RELIGIOUS HISTORY

HSTR 623 Units: 1.5
ADVANCED TOPICS IN SCIENCE AND TECHNOLOGY

HSTR 626 Units: 1.5
ADVANCED TOPICS IN ETHNOHISTORY

HSTR 690 Units: 1.5
DIRECTED STUDY GEOGRAPHICAL FIELD

Note: May be taken more than once for credit in different topics with permission of the department.

HSTR 691 Units: 1.5
DIRECTED STUDY TOPICAL FIELD
Note: May be taken more than once for credit in different topics with permission of the department.

HSTR 693 Units: 3.0
FORMERLY: HIST 693

PhD CANDIDATE EXAMINATIONS
Students enrol in 693 for the duration of their preparations for their candidacy examinations. This begins at the time a student first enrols in the PhD program and continues until candidacy requirements have been completed.

Note: Credit will be granted for only one of HSTR 693, HIST 692.
Grading: INP, COM, N, F

HSTR 695 Units: 1.5
DISSERTATION PROPOSAL
Grading: INP, COM, N, F

HSTR 699 Units: 25.5 - 36.0
FORMERLY: HIST 699

PHD THESIS
Note: Credit will be granted for only one of HSTR 699, HIST 699.

Prerequisite(s): HSTR 693.
Grading: INP, COM, N, F

IED

Indigenous Education
Faculty of Education

IED 510 Units: 1.5
LEADERSHIP AND GOVERNANCE FOR LANGUAGE REVITALIZATION
Students will develop their understanding of leadership skills and processes necessary to implement successful language and culture programs. Topics will include: planning, proposal writing, budgeting, administration, project management, as well as the place & effect of language and culture programs. Topics will include: utilizing community stories (with permission) to enhance language learning opportunities and curriculum development; reinforcing the value of the knowledge that students bring to the classroom from their home communities; living in a bi-cultural world; and the cultural effects of language and culture loss - creating places for healing.

IED 520 Units: 1.5
PROGRAM DESIGN AND CURRICULUM DEVELOPMENT IN INDIGENOUS LANGUAGE REVITALIZATION
Leading practices in program design and curriculum development for Indigenous language revitalization will be examined. Processes through which competence in listening, speaking, reading and writing is developed will be explored. Analysis of program design, curriculum development and their implementation to promote language and culture revitalization will be addressed.

IED 530 Units: 1.5
INDIGENOUS RESEARCH METHODS
Indigenous methodologies, research practices and protocols are examined including specific topics such as research ownership, research process and outcomes. Approaches to research that are culturally respectful, ethical, and reciprocal will be explored.

IED 531 Units: 1.5
Also: LING 531
RESEARCHING COMMUNITY-BASED INITIATIVES IN LANGUAGE REVITALIZATION
An examination of language research in Indigenous communities. This course is project-based and introduces students to a range of issues in community-based language revitalization research. The diversity of languages and of community approaches will be highlighted.

Note: Credit will be granted for only one of IED 531, LING 531.

IED 572 Units: 1.5
SKILLS: INDIGENOUS EPIDEMIOLOGIES
An exploration of the natural laws of the world from an Indigenous perspective. Critical elements of examination will include: utilizing community stories (with permission) to enhance language learning opportunities and curriculum development; reinforcing the value of the knowledge that students bring to the classroom from their home communities; living in a bi-cultural world; and the cultural effects of language and culture loss - creating places for healing.

IED 579 Units: 1.5
COMPREHENSIVE EXAMINATION
A required element of non-thesis graduate students. Areas of examination and examination format, either written or oral, will be determined by the supervisory committee in consultation with the candidate.
Grading: INP, COM, N, F

IED 598 Units: 3.0
MAJOR PROJECT
Evidence of independent research work will be presented in the form of an extended paper, project, or report as determined with the supervisory committee. Students will design their project in partnership with an Indigenous community or Indigenous organization. The project will enhance the community or organization’s capacity to support language revitalization while providing an opportunity for students to approach the real world challenges of language revitalization in an Indigenous context.
Grading: INP, COM, N, F

IED 599 Units: 4.5
THESIS
Research on a topic chosen in consultation with the student’s supervisory committee.
Grading: INP, COM, N, F

IGOV

Indigenous Governance
Faculty of Human and Social Development

IGOV 520 Units: 1.5
INDIGENOUS GOVERNANCE
A critical reading of important works in the field, an intellectual framework for understanding key questions and contemporary conflicts within Indigenous societies, and a critical perspective of the relationship between Indigenous peoples and the state.

Prerequisite(s): Admission to MA program in Indigenous Governance.
IGOV 530  Units: 1.5
Indigenous Research Methods
A perspective on the methods and approaches used in the study of Indigenous issues, providing the basic tools and methods used for conducting applied research, as well as an exploration of the practical, ethical, and political issues involved in conducting research in Indigenous communities.
Prerequisite(s): Admission to MA program in Indigenous Governance.

IGOV 540  Units: 1.5
Indigenous Resurgence
An introduction to the spiritual and cultural foundations of Indigenous governance systems, and an examination of how traditional values, principles and worldviews shape Indigenous thought and action in resistance to colonialism.
Prerequisite(s): Admission to MA program in Indigenous Governance.

IGOV 550  Units: 1.5
Indigenous Peoples and Self Determination
A focused analysis of current processes to decolonize the relationships between Indigenous peoples and states (as well as other colonial entities), with particular emphasis on questions of land tenure, sovereignty, nationhood, self-determination, and treaty-making in a comparative context.
Prerequisite(s): Admission to MA program in Indigenous Governance.

IGOV 560  Units: 1.5
Indigenous Peoples and Globalization
An examination of how processes of globalization and neo-colonialism impact Indigenous peoples worldwide and strategies Indigenous peoples around the world are using to confront these economic, social, political and cultural pressures in order to regenerate their communities.
Prerequisite(s):
- Admission to MA program in Indigenous Governance;
- permission of the faculty.

IGOV 570  Units: 1.5
Indigenous Women and Resistance
An exploration of the strategies Indigenous women engage in resistance to colonialism with particular attention paid to women who root their resistance in traditional Indigenous philosophies, governance practices and ways of being.
Prerequisite(s):
- Admission to MA program in Indigenous Governance;
- permission of the faculty.

IGOV 575  Units: 3.0
Formerly: 580
Mentorship
Mentorships provide students with counselling and advice to support personal well-being, professional development and academic performance, and consists of regular writing assignments and small group meetings with their faculty supervisor throughout the academic year.
Note: Credit will be granted for only one of IGOV 575, IGOV 580.
Prerequisite(s): Admission to MA program in Indigenous Governance.
Pre- or Corequisite(s): All of IGOV 520, IGOV 530, IGOV 540, IGOV 550.

IGOV 590  Units: 1.5
Directed Readings
Individually structured reading or research seminars under the direction of a participating faculty member, allowing students to pursue their interests in topics related to Indigenous governance but not specifically covered in the seminars.
Note: May not be taken more than once for credit.

IGOV 595  Units: 1.5
Special Topics in Indigenous Governance
Seminars focusing on issues of particular interest and relevance.
Note: May be taken more than once for credit in different topics.
Prerequisite(s):
- Admission to MA program in Indigenous Governance;
- permission of the faculty.

IGOV 598  Units: 4.5 or 6.0
Community Governance Project
Graduate course in the Indigenous Governance program administered by the Faculty of Graduate Studies. Projects are geared toward providing a practical learning experience and opportunity for students to face the real world challenges of governance in an Indigenous context. They also serve as a crucial function for affiliated communities in providing access to the University's resources and expertise through the students' participation in projects to enhance the community's governance capacity.
Community governance project interns will work on a designated research or policy development project in an Indigenous organization, under the direction of a project management team that includes community leaders and IGOV faculty. Internship placements must be approved by the Director, and will typically involve 100 hours of work in the community and the completion of a comprehensive report based on the internship experience.
Note: Only students who entered the MA program prior to September 2009 need to register in the 4.5 unit section of IGOV 598 (requires permission of the department); Students who start their MA program on or after September 2009 need to register in the 6.0 unit section of IGOV 598.
Prerequisite(s): All of IGOV 520, IGOV 530, IGOV 540, IGOV 550, IGOV 575.
Grading: INP, COM, N, F

INGH 520  Units: 1.5
Community Engagement and Leadership
The concepts of respect, trust and cultural safety and their historical significance in engaging with Indigenous communities are explored. De-colonizing practices are emphasized through the exploration of relational practice and community capacity building as methods for effective engagement of community. Topics include the implications of recognizing the communal ownership of knowledge within Indigenous culture; the value of Indigenous knowledge and mentorship in the emergence of Indigenous health leaders are explored.
Note: A requirement of this course is a condensed five-day on-campus seminar.

INGH 521  Units: 1.5
Indigenous Public Health and Social Policy
Issues and practices associated with the governance of Indigenous Peoples' health through consideration of past, present and future experiences are explored. Students critically analyze health and social policy and the impact of colonization on the health of Indigenous Peoples. Governance for health is explored through an analysis of jurisdictional issues, existing health agreements and organizational structures. Students focus on the development of post-colonial models of policy and governance.

INGH 522  Units: 1.5
Indigenous Health Research Methodologies
Topics include the value of being in relationship with community as a foundation for research; knowledge of indigenous life course determinants relevant to the health of Indigenous Peoples; ethical, legal and social issues related to research with Indigenous Peoples.

INTD 580  Units: 1.5-3.0
Directed Studies for INTD Master's Program
Note: May be taken more than once for credit in different topics.

INTD 599  Units: 4.5-12.0
Thesis
Grading: INP, COM, N, F

INTD 680  Units: 1.5-3.0
Directed Studies for INTD Doctoral Program
Note: May be taken more than once for credit in different topics.

INTD 693  Units: 3.0
PhD Candidacy Examination
Corequisite(s): INTD 699.
Grading: INP, COM, N, F
INTD 699 - LING 531

INTD 699  Units: 15.0-30.0
Dissertation
Pre- or Co-requisite(s): INTD 693.
Grading: INP, COM, N, F

ITAL
Italian
Department of Hispanic and Italian Studies
Faculty of Humanities
ITAL 503  Units: 1.5
Also: SPAN 503
Core Reading List Course II
Grading: INP, COM, N, F
ITAL 505  Units: 1.5
Also: SPAN 505
Medieval Literature
ITAL 507  Units: 1.5
Also: SPAN 507
Renaissance and Baroque Literature
ITAL 590  Units: 1.5 or 3.0
Also: SPAN 590
Directed Studies
ITAL 598  Units: 3.0
Master's Essay
ITAL 599  Units: 6.0
MA Thesis/Oral
Grading: INP, COM, N, F

LAW
Law
Faculty of Law
LAW 501  Units: 1.5
Graduate Seminar in Law and Society
A critical introduction to theoretical perspectives on Law and Society. Designed to expose students to a range of substantive issues in advanced legal research, as a foundation for the development of each student's thesis research.
Prerequisite(s): Admission to a graduate program in Law.

LAW 502  Units: 1.5
Graduate Seminar in Applied Legal Methodology
A review of methodological approaches to advanced legal research, particularly as applied to the diverse research interests of seminar participants. Intended to support each student's implementation of their research question through presentation, commentary and refinement.
Prerequisite(s): Admission to a graduate program in Law.

LAW 590  Units: 1.5-3.0
Directed Studies in Law
Individual studies under the direct supervision of one or more faculty members. The content, credit value and method of evaluation must be approved by the instructor and the Graduate Adviser prior to registering in this course.
Notes:
• May be taken more than once for credit in different topics.
• Pro Forma required.

LAW 598  Units: 6.0
Major Research Paper in Law
Grading: INP, COM, N, F

LAW 599  Units: 9.0
LLM Thesis
Grading: INP, COM, N, F

LAW 690  Units: 1.5-3.0
Directed Studies in Law
Individual studies under the direct supervision of one or more faculty members. The content, credit value and method of evaluation must be approved by the instructor and the Graduate Adviser prior to registering in this course.
Notes:
• May be taken more than once for credit in different topics.
• Pro Forma required.

LAW 693  Units: 3.0
PhD Candidacy Examinations
The PhD Candidacy Examination consists of an oral examination. This examination should be taken and passed within two years of entering the PhD program.
Grading: INP, COM, N, F

LAW 699  Units: 21.0-36.0
PhD Dissertation
Prerequisite(s): LAW 693.
Grading: INP, COM, N, F

LING
Linguistics
Department of Linguistics
Faculty of Humanities
LING 500  Units: 1.5
Linguistic Field Methods
An introduction to the methods of data analysis, organization, and collection required in the field situation. Language of consultant may vary from year to year. The department has a particular interest in North American Native Languages.

LING 503  Units: 1.5
Introduction to Syntax
A graduate level introduction to the major subfields of syntax, reflecting recent developments in syntactic theory.

LING 504  Units: 1.5
Current Issues in Morphology
Recent developments in morphological theory.
Note: May be taken more than once for credit to a maximum of 3 units.

LING 505  Units: 1.5
Introduction to Phonology
A graduate level introduction to the major subfields of Phonology, reflecting recent developments in phonological theory.

LING 507  Units: 1.5
Semantics
Recent developments in semantic theory.

LING 508  Units: 1.5 or 3.0
Current Issues in Generative Grammar
Selected topics reflecting ongoing work in generative theory.
Note: May be taken more than once for credit.

LING 509  Units: 1.5
Sociolinguistics
Selected topics in recent research related to language variation such as bilingualism, language and gender, language attitudes, social dialects. Each registrant will select a particular topic for individual research.
Note: May be taken more than once for credit in different topics to a maximum of 3 units.

LING 510  Units: 1.5-3.0
Current Issues in Phonology
An examination of recent developments in phonological theory.
Note: May be taken more than once for credit.

LING 517  Units: 1.5
Experimental Phonetics Laboratory
Review of recent research in the phonetic and acoustic analysis of speech and in spoken language processing. A focus on experimental procedures designed to allow students to pursue individual topics in speech research.
Note: May be taken more than once for credit to a maximum of 3 units.

LING 520  Units: 1.5-3.0
Pacific Rim Languages
An overview of the structure of selected Indigenous languages spoken around the Pacific Rim.
Note: May be taken more than once for credit to a maximum of 3 units.

LING 527  Units: 1.5
Topics in Historical and Comparative Linguistics
Study of principles of historical and comparative linguistics.
Note: May be taken more than once for credit to a maximum of 3 units.

LING 531  Units: 1.5
Also: IED 531
Researching Community-Based Initiatives in Language Revitalization
An examination of language research in Indigenous communities. This course is project-based and introduces students to a range of issues in community-based language revitalization research. The diversity of languages and of community approaches will be highlighted.
Note: Credit will be granted for only one of LING 531, IED 531.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Units</th>
<th>Prerequisite(s)</th>
<th>Grading</th>
<th>Notes</th>
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**LING 560 - Linguistic Anthropology**

Selected topics in Linguistic Anthropology.

**LING 561 - Topics in Chinese Linguistics**

Current issues in Chinese language and linguistics.

**LING 570 - Psycholinguistics**

A seminar offered in collaboration with the department of Psychology. Selected topics of interest in understanding the acquisition of the child's first language in the areas of phonological and grammatical abilities, as well as the child's knowledge of semantic systems and discourse rules. Recent topics have been the development of conversational abilities in children, including turn taking, questioning and answering, and politeness and negotiation in speech acts.

**LING 572 - The Structure of the Lexicon**

An introduction to the study of representations of lexical forms, specifically as they relate to psycholinguistic dimensions of the mental lexicon. Issues related to the structure of both the first and second language mental lexicons will be examined.

**LING 573 - Second Language Acquisition Theory and Research**

A survey and critical examination of the research on second language acquisition (SLA). Current issues and research findings related to the teaching and learning of second languages inside second language classrooms are also discussed.

**LING 574 - Seminar in Applied Linguistics**

A seminar on issues in applied linguistics, including an overview of second language learning and teaching principles, TESL/TEFL methodology, language situation contacts and multilingualism. Each participant selects a topic area of individual interest to report to the seminar.

**LING 575 - Research Methods in Applied Linguistics**

Designed to assist graduate students in developing skills necessary to design and implement research in the field of second language (SL) acquisition and applied linguistics. Examines various methods for conducting research, types of research designs, and the steps involved in planning and executing SL research projects. Students also develop skills in reading and evaluating published research in second language acquisition and applied linguistics.

**LING 576 - Form-Focused Instruction and Second Language Development**

Through a combination of reading and critical analysis of research studies, this course examines the current theoretical perspectives and research findings on the various roles that form-focused instruction and corrective feedback plays in second language development.

**LING 577 - The Global Context of Language Revitalization**

Investigates language shift, maintenance, reclamation and revitalization. Topics may include global, social, cultural, economic, political, and historical factors involved in language use, and Indigenous and non-Indigenous language contexts around the world.

**LING 578 - Sociocultural Theory and Second Language Learning**

Designed to introduce graduate students to aspects of second language learning from the perspectives of sociocultural theory and cognitive development. Students will become familiar with key concepts and principles of sociocultural theory, such as mediation, activity theory, the genetic method, internalization, the zone of proximal development, private speech, and scaffolding; examine the growing body of research in language learning and teaching from this theoretical perspective; and consider its implications for language pedagogy.

**LING 580 - Linguistics Seminar**

The contents of this course will vary.

**LING 586 - Sound Structures for Applied Linguistics**

An investigation of the relationship between sound structures (as understood through phonetic theory, phonological theory, speech analysis) and applied linguistics (especially pronunciation teaching and second language acquisition).

**LING 590 - Directed Studies**

A course designed to enable students to pursue individual interests.

**LING 595 - Cross-Cultural Communication**

An examination of pragmatic linguistic factors affecting communication between cultural groups. Each participant selects a topic of interest to research and report on as a term paper and to present as a seminar.

**LING 597 - Studies in Language and Gender**

A study of the relationship between gender socialization and pragmatics of language use. Each participant selects a topic of interest to research and report on as a term paper and to present as a seminar.

**LING 598 - Comprehensive Examination**

Students enrolled in the non-thesis option will be examined orally on at least two previous substantial research papers or their equivalent.

**LING 599 - MA Thesis**

A major research paper (40-45 pages) reporting independent research under the direction of a faculty member. Students meet in a seminar weekly with the course instructor to discuss research topics including research designs, data collection and analyses, reporting and presentation research results, and other research related issues.

**LING 601 - Current Directions in Syntactic Theory**

Selected topics reflecting current research in syntactic theory.

**Notes:**
- May be taken more than once for credit.
- Students who have completed equivalent prerequisites may request permission to register in the course.

**Prerequisite(s):**
- LING 503 or LING 508, or permission of the department.
LING 602  
Units: 1.5-3.0
Current Directions in Phonological Theory
Selected topics reflecting current research in Phonological Theory.

Notes:
• May be taken more than once for credit in different topics.
• Students who have completed equivalent prerequisites may request permission to register in the course.

Prerequisite(s):
LING 505 or LING 510, or permission of the department.

LING 690  
Units: 1.5 or 3.0
Directed Studies
A research topic will be pursued in depth under the direction of the student's supervisor. Students are expected to write a research paper (or papers) and to present a colloquium based on their work.

Note: May be taken more than once for credit in different topics to a maximum of 3 units.

LING 693  
Units: 3.0
Candidacy Examination
The candidacy requirement must be satisfied within three years of registration in the doctoral program (see Faculty of Graduate Studies regulations). The candidacy examination consists of two substantial, original research papers, one in the area of phonological or syntactic theory, understood broadly, and the other in an area agreed to by the student and the supervisor.

Grading: INP, COM, N, F

LING 699  
Units: to be determined
PhD Dissertation
Note: Normally 18 units.
Prerequisite(s): LING 693.
Grading: INP, COM, N, F

MATH

Mathematics
Department of Mathematics and Statistics
Faculty of Science

MATH 510  
Units: 1.5
Abstract Algebra

MATH 511  
Units: 1.5
Topics in Matrix Theory and Linear Algebra

MATH 520  
Units: 1.5
Number Theory

MATH 522  
Units: 1.5
Combinatorics
Prerequisite(s): Permission of the department.

MATH 523  
Units: 1.5
Graph Theory
Prerequisite(s): Permission of the department.

MATH 529  
Units: 1.5
Topics in Discrete Mathematics
Note: May be taken more than once for credit in different topics with permission of the department.

MATH 530  
Units: 1.5
Real Analysis
Abstract measure and integration, product measures, measures on locally compact spaces and the Riesz representation theorem, the Stone-Weierstrass theorem.

MATH 531  
Units: 1.5
Functional Analysis

MATH 532  
Units: 1.5
Introduction to Operator Theory

MATH 533  
Units: 1.5
Topics in Operator Theory and Operator Algebras
Note: May be taken more than once for credit in different topics with permission of the department.

MATH 535  
Units: 1.5
Topics in Analysis
Topics may include some of the following: ergodic theory, dynamical systems, potential theory, harmonic analysis.

Note: May be taken more than once for credit in different topics with permission of the department.

MATH 538  
Units: 1.5
Complex Analysis
Topics chosen from: conformal mappings, the Riemann mapping theorem, the maximum principle, infinite products, Picard's theorem, normal families, Hp-spaces, approximation by rational functions, the Riemann zeta function, analytic continuation and Riemann surfaces.

Note: Students who have completed a course equivalent to MATH 438 may request permission to register in the course.

Prerequisite(s):
• One of MATH 330B, MATH 338, MATH 438; or
• permission of the department.

MATH 540  
Units: 1.5
Topology

MATH 549  
Units: 1.5
Hours: 3-0
Also: MATH 449

Scientific Computing
Note: Credit will be granted for only one of MATH 549, MATH 449 (if taken in the same topic).

Prerequisite(s): Permission of the department.

MATH 550  
Units: 1.5
Topics in Applied Mathematics
Note: May be taken more than once for credit in different topics with permission of the department.

MATH 551  
Units: 1.5
Differential and Integral Equations

MATH 555  
Units: 1.5
Topics in Probability
Note: May be taken more than once for credit in different topics with permission of the department.

MATH 563  
Units: 1.5
Algebraic Number Theory

MATH 575  
Units: 1.5
Topics in Mathematical Biology
Possible topics include population modelling, infectious disease dynamics, models of neuronal networks and models of gene regulatory networks.

Note: May be taken more than once for credit in different topics with permission of the department.

MATH 580  
Units: 1.5
Topics in Pure Mathematics
Note: May be taken more than once for credit in different topics with permission of the department.

MATH 581  
Units: 1.5
Directed Studies
Directed studies may be available in the areas of faculty interest.

Notes:
• May be taken more than once for credit in different topics with permission of the department.
• Pro Forma required.

MATH 585  
Units: 0 or 1.5
Seminar
Note: May be taken only once for credit in any degree program.
The seminar leader will inform students of the requirements for credit before the seminar commences. An INP grade may be assigned.

MATH 586  
Units: 0 or 1.5
Operator Theory Seminar
Note: May be taken only once for credit in any degree program.
The seminar leader will inform students of the requirements for credit before the seminar commences.

MATH 587  
Units: 0 or 1.5
Applied Math Seminar
Note: May be taken only once for credit in any degree program.
The seminar leader will inform students of the requirements for credit before the seminar commences.

MATH 588  
Units: 1.5
Discrete Mathematics Seminar
Note: May be taken more than once for credit with permission of the department.

MATH 591E  
Units: 1.5
Topics in Mathematics for Secondary Teachers
Intended for students enrolled in a master’s program specializing in Mathematics Education but open to students enrolled in other master's programs in Education. One of the four topics: Geometry, Mathematical Modelling, Data Analysis, History and Philosophy of Mathematics will be taught in a given term. Topics will be rotated each term the course is offered.

Note: May be taken more than once for credit in different topics.

Prerequisite(s): 3 units of MATH courses numbered 300 or higher.

MATH 599  
Units: 6.0
Master’s Thesis
Grading: INP, COM, N, F
MATH 693  Units: 3.0
 Candidacy Examination
 Grading: INP, COM, N, F

MATH 699  Units: 21.0-30.0
 Dissertation
 Corequisite(s): MATH 693.
 Grading: INP, COM, N, F

MBA

Master of Business Administration
Peter B. Gustavson School of Business
PhD program in International Management and Organization
is found under the BUS course code.

MBA 500  Units: 1.5-3.0
Essentials of Business and Leadership
An intensive course that constitutes the beginning of the MBA program. Provides students with a foundation on which to begin the study of business at an advanced level. Key areas of skill development include business writing, presenting, teambuilding, case analysis, cross-cultural communication and career development. Provides ethical frameworks for decision making and an exploration of issues relating to international business, sustainability and social responsibility.

MBA 501  Units: 0
Applied Projects
Client-based business projects that integrate program subject material, usually in the context of examining a particular industry or organization. Requires reports and/or presentations. Will focus, when possible, on the Gustavson School of Business value pillars: International, Integrative, Innovative, Sustainable/Socially Responsible. One of these projects takes place in an international setting.

MBA 501A  Units: 0
Integrative Management Exercise (IME)
One or more client-based business practice exercises which integrate program subject material, usually in the context of examining a particular industry or organization. Requires reports and/or presentations. Takes place on campus and will focus, when possible, on one or both of the International or Socially Responsible and Sustainable value pillars of the Gustavson School of Business.

MBA 501B  Units: 0
International Integrative Management Exercise (IME)
A client-based business practice exercise which integrates program subject material, usually in the context of examining a particular industry or organization. Requires reports and/or presentations. Takes place in an international setting.

MBA 502  Units: 0
Personal and Professional Development
A course of sessions/activities delivered throughout the MBA program providing practical knowledge and practice in areas vital for professional success in the business world. Content includes: career development, team-building, leadership development, and cross-cultural boundary spanning.

MBA 509  Units: 0.5-2.0
Managing in the Service Economy
Examines service issues from organization and human resources management, operations management and marketing perspectives to provide students an integrated view of designing and delivering a valuable, memorable customer experience. Topics include: building a service culture and strategy, managing the talent, service blueprinting, developing customer-oriented service standards, service design, creating the "servicescape", understanding consumer emotions and psychology, service failure and recovery, customer co-creation of value and service delivery networks.

MBA 510  Units: 0.5-1.5
Marketing Management
Controllable and uncontrollable marketing variables that managers face in today’s business environment. Topics include factors affecting consumer demand (including issues of sustainability, environmental impact and ethical management) and methods of satisfying it, market structure, product selection, distribution, promotion, pricing and market research. Course structure, exercises, projects and case problems are designed to develop the students’ ability to generate effective marketing strategies in the face of uncertainty.

MBA 511  Units: 0.5-1.5
Customer Experience Management
Intended for those students who are interested in working in service industries and addresses the distinct needs and problems of service organizations in the area of marketing. Topics include: the difference between marketing services versus manufacturing organizations; the marketing mix for service organizations; market research in services; managing demand in services; integrated services marketing communication; services pricing; and the overlap of marketing/operations/human resource systems in service organizations.

MBA 512  Units: 0.5-1.5
Quality Management and Service Operations
Focuses on managing and improving service firms across industries, including: financial services, health care, hospitality, retail and professional service firms. Addresses the distinct needs and problems of service organizations in the areas of operations and quality management. A core theme is a quality management approach to providing service excellence. Topics include: service strategy, service design, service quality, process improvement, service capacity management, service innovation and technology, and sustainable and socially responsible practices in services.

MBA 513  Units: 0.5-1.5
Issues in Service Technology and HR Management
Addresses the distinct needs and problems of service organizations in the areas of human resource management and IT management. Topics include: service strategy, service design, service quality, process improvement, service capacity management, service innovation and technology, and sustainable and socially responsible practices in human resource management.

Note: Registration is restricted to the Daytime MBA Cohort entering in summer session 2016. Attendance and participation are mandatory. Registration in MBA 501A is for the domestic, "on campus" IME. Grading: INP, COM, N, F

Prerequisite(s): MBA 510.
Corequisite(s): MBA 512.

Note: Not open to students with credit in the Service Management Specialization courses previously offered under MBA 595. The unit value of a course section will be specified according to the program in which it is delivered.

Prerequisite(s): MBA 510.
Corequisite(s): MBA 512 and MBA 513.

Note: Not open to students with credit in the Service Management Specialization courses previously offered under MBA 595. The unit value of a course section will be specified according to the program in which it is delivered.

Prerequisite(s): MBA 510.
Corequisite(s): MBA 512.

Note: Not open for students with credit in the Service Management Specialization courses previously offered under MBA 595. The unit value of a course section will be specified according to the program in which it is delivered.

Prerequisite(s): MBA 510.
Corequisite(s): MBA 512.

Note: Not open to students with credit in the Service Management Specialization courses previously offered under MBA 595. The unit value of a course section will be specified according to the program in which it is delivered.
MBA 514 Units: 0.5-1.5
Business and Sustainability
An introduction to the business challenges and opportunities arising from the world’s growing social and ecological issues, including climate change, poverty and corporate corruption. Students are exposed to how companies across multiple sectors have chosen to respond - or not respond - to the call for sustainable social, ecological and economic value creation. Relevant tools and frameworks are introduced, including stakeholder management/engagement, triple-bottom line, Natural Step, base-of-the-pyramid strategies and social entrepreneurship.

Notes:
• Credit will be granted for only one of MBA 514, MBA 580, MBA 595 (if taken in the same topic).
• The unit value of a course section will be specified according to the program in which it is delivered.

MBA 515 Units: 0.5-1.5
Applied Managerial Economics
Applies economic principles to the analysis of corporate problems. Topics include product, risk and business opportunity analysis, production costs and profit maximization, the determination of prices and output under different market structures, investment decisions, and economic forecasting.

Note: The unit value of a course section will be specified according to the program in which it is delivered.

MBA 520 Units: 0.5-1.5
Financial and Managerial Accounting
Focuses on two broad areas to improve understanding of the use of accounting information in management decision making: 1) Financial Reporting including examination of corporate financial reports, International Financial Accounting Standards, triple-bottom line reporting, and governance and 2) Managerial Accounting including the nature, analysis of costs, product costs, and control systems.

Note: The unit value of a course section will be specified according to the program in which it is delivered.

MBA 521 Units: 1.5
Also: COM 410
Leadership Strategies
An examination of leadership in a variety of environments: corporate, the military, and the public sector. Identifies the characteristics of a leader and instills an interest in and awareness of this vital organizational skill. Includes a review of leadership research from a historical perspective as well as current theory on transformational leadership. Experiential exercises, case studies and role playing techniques are employed to demonstrate leadership skills.

Note: Credit will be granted for only one of MBA 521, COM 410.
Prerequisite(s): Permission of the program.

MBA 522 Units: 1.5
Also: COM 415
Business and the Internet
Business is going global, and traditional markets are rapidly giving way to the electronic marketplace. Combines hands-on project for an existing organization with seminar style classes and invited speakers. Covers competitive advantages of electronic communications technologies; fundamentals of data communications; effective use of the Internet for business, and security, privacy, and intellectual property issues related to online business.

Note: Credit will be granted for only one of MBA 522, COM 415.
Prerequisite(s): Permission of the program.

MBA 524 Units: 1.5
Also: COM 445
Corporate Finance
Serves as a continuation of the introductory finance course to more advanced applications of the techniques, concepts, and tools of corporate finance. Main topics include short- and long-term financial management, cost of capital, capital structure, financial leverage, dividends policy, working capital management, leasing, mergers and acquisitions, and the use of derivatives for risk management.

Note: Credit will be granted for only one of MBA 524, COM 445.
Prerequisite(s): Permission of the program.

MBA 525 Units: 1.5
Also: COM 446
Investments
Covers the fundamental principles that are crucial to understanding the securities traded in international financial markets. The main topics include market structure, information efficiency, asset pricing models, valuation and trading of stocks, bonds, options and futures.

Note: Credit will be granted for only one of MBA 525, COM 446, COM 450 (if taken in the same topic), ECON 435.
Prerequisite(s): Permission of the program.

MBA 529 Units: 0.5-1.5
International Logistics and Supply Chain Management
Examines the issues involved in managing global supply chains and logistic flows. Topics are developed around the risks and opportunities of global sourcing. Topics include some of the following: designing and implementing global supply chains, foreign manufacturing, inventory management, coping with security concerns, outsourcing, service standards, transportation options and performance evaluation.

Notes:
• Credit will be granted for only one of MBA 529, MGB 519.
• The unit value of a course section will be specified according to the program in which it is delivered.

MBA 530 Units: 0.5-1.5
Managerial Finance
Provides a framework, concepts, and tools for analyzing financial decisions. Topics include discounted cash flow techniques, valuation of financial assets, financial statement analysis, capital budgeting decisions, risk and return tradeoffs, diversification and portfolio theory, capital market efficiency, and the cost of capital to the firm. Focuses on management-shareholder agency problems, ethical issues in financial decision-making, and issues related to sustainability and corporate social responsibility (CSR) in project valuation and portfolio investments.

Note: The unit value of a course section will be specified according to the program in which it is delivered.

MBA 531 Units: 1.5
Also: COM 425
Taxation for Managers
Reviews the fundamentals of the income tax system for all taxpayers. It then examines tax planning techniques that maximize cash flow and return on investment. While the course emphasizes business decisions, it also includes personal financial planning issues.

Note: Credit will be granted for only one of MBA 531, COM 425.
Prerequisite(s): Permission of the program.

MBA 535 Units: 0.5-1.5
Operations Management
An introduction to the concepts for managing the systems organizations use for producing goods and services. Topics include some of the following: operations strategy, capacity and technology planning, purchasing and materials management, workflow planning, scheduling, and quality management and control.

Note: The unit value of a course section will be specified according to the program in which it is delivered.

MBA 540 Units: 0.5-1.5
Applied Data Analysis and Decision Analysis
A decision-oriented course that focuses on the frameworks, concepts, theories and principles needed to organize and use information to make informed business decisions. Cases, exercises, discussion questions and other pedagogical tools are used to help participants build data gathering and analysis skills. Topics include collecting, summarizing, analyzing and extracting data; probability theory and risk in decision making; and One-Way Analysis of Variance and Regression Analysis.

Note: The unit value of a course section will be specified according to the program in which it is delivered.

MBA 544 Units: 0.5-1.5
Information Technology in the Organization
An introduction to the capabilities and utilization of information technology (IT), information systems (IS) and networks. Different approaches using IT and IS will be covered to provide an understanding of how they can be used effectively in today's internetworked enterprise. Cases and other assignments will be used to illustrate the evolving role of IS and networks in today's interconnected organization both within and external to it.

Note: The unit value of a course section will be specified according to the program in which it is delivered.
MBA 546  Units: 0.5-2.0  
Innovation and Design  
Explores the topic of innovation in products, services and user experience through design methodologies and perspectives. Topics include identifying and framing the right ‘problem space’ through deep understanding of users and context, and techniques for eliciting creative ideas, such as structured brainstorming and rapid prototyping, to explore the ‘solution space’. Students become integrative, creative problem solvers who combine rigorous research with narrative, visual data and other knowledge forms to generate original, practical strategies.  
**Note:** The unit value of a course section will be specified according to the program in which it is delivered.

MBA 550  Units: 0.5-1.5  
Strategic Analysis and Action  
Introduces the integrative nature of management. Explores the overall general management of the organization, and the formulation and implementation of the strategic direction of the firm. Covers major strategic management concepts including analyses of external and internal environments, innovation, corporate social responsibility (CSR), managerial ethics, value co-creation, and leadership, as they relate to business strategy. Intended to develop an appreciation of the role of a general manager from conceptual as well as pragmatic standpoints.  
**Note:** The unit value of a course section will be specified according to the program in which it is delivered.

MBA 552  Units: 0.5-2.0  
Collaboration in Organizations  
Explores ways to lead and cultivate collaboration in both inter- and intra-organizational contexts. Topics may include identifying what effective collaboration looks like, when collaboration does (and doesn’t) make sense, organizational barriers to collaboration, the skills required to encourage others to collaborate effectively, and the characteristics of collaborative leadership.  
**Note:** The unit value of a course section will be specified according to the program in which it is delivered.

MBA 553  Units: 0.5-1.5  
Managing People and Organizations I  
Examines the behaviour of individuals, groups and organizations from an organizational design perspective. Topics include: the analysis of goals, environment structure and growth, teams, organizational culture, power, politics and conflict management; decision making, motivation, trust and leadership.  
**Note:** The unit value of a course section will be specified according to the program in which it is delivered.

MBA 555  Units: 0.5-1.5  
Managing People and Organizations II  
Examines the issues in managing employees in organizations. Topics include recruitment and hiring, retention practices, performance review, compensation design, layoffs and selected employment and human rights legislation.  
**Note:** The unit value of a course section will be specified according to the program in which it is delivered.

MBA 558  Units: 1.5  
Also: COM 403  Employment Law  
Examines the constitutional, legislative and common law rules that govern the employment relationship in both unionized and nonunion workplaces. Examines the entire employment relationship including pre-hire issues, employer/employee rights and obligations, termination of employment and post-termination obligations.  
**Note:** Credit will be granted for only one of MBA 558, COM 403, COM-450 (if taken in the same topic).  
**Prerequisite(s):** Permission of the program.

MBA 560  Units: 0.5-1.5  
Managing Legal Risks  
Examines various legal risks (whether arising from the common law or through legislation) that must be identified and effectively managed within contemporary organizations (including for-profit businesses, not-for-profit firms and governmental organizations). Examines the legal risks associated with the manufacture, delivery and marketing of goods and services, the creation and protection of confidential information and other intellectual property, and risks arising from employment and contractor relationships. Also reviews risk management strategies available under the law of tort and contract.  
**Note:** The unit value of a course section will be specified according to the program in which it is delivered.

MBA 561  Units: 0.5-1.5  
Entrepreneurial Planning and Finance  
Part of the integrated MBA Entrepreneurship module, focuses on differences between ideas and opportunities, identifying necessary information to screen and analyze the risks attached to shaping opportunities into viable businesses; understanding financial data and use of quantifiable factors in the entrepreneurial decision process. Students understand essential elements of a business plan, the catalyst for skill development of entrepreneurial new venture ideas.  
**Note:** Not open to students with credit in the Entrepreneurship Specialization courses previously offered under MBA 595. The unit value of a course section will be specified according to the program in which it is delivered.  
**Corequisite(s):** MBA 562 and MBA 563.

MBA 562  Units: 0.5-1.5  
New Venture Marketing  
Part of the integrated MBA Entrepreneurship program, develops the thinking skills required to: develop valued products, understand customers and markets, and gain market acceptance with limited resources.  
**Note:** Not open to students with credit in the Entrepreneurship Specialization courses previously offered under MBA 595. The unit value of a course section will be specified according to the program in which it is delivered.  
**Corequisite(s):** MBA 561 and MBA 563.

MBA 563  Units: 0.5-1.5  
Entrepreneurial Strategy  
Part of the integrated MBA Entrepreneurship program, develops skills necessary to plan a venture’s strategy, business model and competitive position, to assess a strategy’s viability, and to develop implementation plans to realize that strategy. Models for international and social entrepreneurship and venture growth will also be discussed.  
**Note:** Not open to students with credit in the Entrepreneurship Specialization courses previously offered under MBA 595. The unit value of a course section will be specified according to the program in which it is delivered.  
**Corequisite(s):** MBA 561 and MBA 562.

MBA 564  Units: 0.5-2.0  
Entrepreneurship  
Entrepreneurship is about new value creation in new for-profit ventures, social enterprises, existing corporations, government, and other contexts. Takes prospective entrepreneurs through the opportunity (value) identification and realization process with a focus on developing entrepreneurial expertise and an entrepreneurial mindset. Learners will apply key theory, frameworks, concepts, and tools towards their own entrepreneurial pursuit with the aim of getting to the proof-of-concept stage of development with a lean business plan.  
**Note:** The unit value of a course section will be specified according to the program in which it is delivered.

MBA 567  Units: 0.5-2.0  
International Business Environment I  
Overview of international business and management, emphasizing globalization and its implications for individuals, organizations and nations. Explores topics in global and regional economic integration, sources of national competitive advantage, international trade and investment, corporate social responsibility (CSR) in international contexts, strategy and organization in multinational enterprises, emerging markets, and current issues related to the international business environment. Students will develop a world-view of today’s dynamic global marketplace and analytical skills for addressing complex global issues.  
**Note:** The unit value of a course section will be specified according to the program in which it is delivered.

MBA 570  Units: 0.5-1.5  
International Financial Management  
An examination of international financial markets and the financial decision making of multinational firms. Topics include international monetary systems, balance of payments, exchange rate determination, foreign currency derivatives, risk management techniques, and financing the firm in global financial markets.  
**Notes:**  
- Credit will be granted for only one of MBA 571, MGB 512.  
- The unit value of a course section will be specified according to the program in which it is delivered.
MBA 572 - Units: 0.5-1.5
International Marketing and Global Strategy
An examination of the strategic challenges facing businesses in an international context, with a focus on marketing issues. Topics include the problems associated with controlling and coordinating activities in multiple markets, managing diverse markets, responding to consumer and competitor differences, understanding the impact of different institutional structures, and coping with market consolidation.

MBA 573 - Units: 0.5-1.5
Managing People and Relationships in a Global Context
An examination of the issues involved in managing subordinates and partners in an international context. Particular attention will be paid to how internationalization poses additional challenges to the development of human resources management practices and how cultural values affect interpersonal relationships.

MBA 575 - Units: 0.5-2.0
Cross-Cultural Management in Malaysia
Examines the cross-cultural issues involved in international management. In addition to 20 hours of classroom instruction in Canada, this course includes a 6-week field study in Kuala Lumpur, Malaysia, where students will be exposed to in-class instruction on the business environment of Malaysia and the ASEAN region, and a practicum in a Malaysian organization.

MBA 576 - Units: 0.5-2.0
International Business Environment II
This course is a continuation of topics covered in IB Environment I.

MBA 585 - Units: 0.5-1.5
Consulting Methods I
Provides an overview of management consulting to help students gain an understanding of management consulting skills and competencies. These consulting skills can be used in the pursuit of a consulting career or integrated as part of general management knowledge. Designed to prepare students for 501 Applied Projects and 596 Integrative Project.

MBA 586 - Units: 0.5-2.0
Consulting Methods II
Continuation of topics covered in Consulting Methods I.
Note: The unit value of a course section will be specified according to the program in which it is delivered.

MBA 588 - Units: 1.0-7.5
Study Abroad
Students register in this course while participating in a formal academic exchange with a university outside of Canada.
Note: May be taken more than once for credit to a maximum of 7.5 units.

MBA 590 - Units: 1.0-3.0
Directed Study
The content, credit value, and method of evaluation must be approved by the Director as well as the instructor offering the area of individual study prior to registration.
Notes: May be taken more than once for credit in different topics.
Pro Forma required.

MBA 595 - Units: 0.5-5.0
Special Topics in Business Administration
Course content will reflect the interests of the faculty members and current issues in business and industry. Topics will vary annually. New specialization modules will also be introduced under 595. Note: May be taken more than once for credit in different topics.

MBA 596 - Units: 3.0
Integrative Project
An individual or group consulting project. Participating students work individually or are placed into small teams and, under faculty supervision, maintain a consulting/client relationship with a corporate sponsor. The students examine a problem of current interest to the sponsor and prepare detailed oral and written recommendations.
Grading: INP, COM, N, F

MBME - Master of Business Administration + Master of Engineering
MBA Program and Faculty of Engineering
Sardul S. Gill Graduate School of Business
Specifically for the MBA + MEng Double Degree Program which is jointly offered by the Sardul S. Gill Graduate School of Business and the Faculty of Engineering.
Other courses offered by the MBA Program are found under the following course codes: ECE and MECH.

MBME 598 - Units: 3.0
Major Project
A substantial analysis of a specific issue related to both management and engineering contexts, prepared individually under the supervision of faculty advisers from both the Gustavson School of Business and the Faculty of Engineering.
Note: Students, in consultation with their academic adviser, should determine if they have an adequate background in research methodology prior to enrolling in MBME 598. This may require the student to take a research methods course. Students should consult with their academic adviser to identify an appropriate course.
Grading: INP, COM, N, F

MBMS - Master of Business Administration + Master of Science (CSC)
MBA Program and Faculty of Engineering
Sardul S. Gill Graduate School of Business
Specifically for the MBA + MSc in Computer Science Double Degree Program which is jointly offered by the Sardul S. Gill Graduate School of Business and the Faculty of Engineering. Other courses offered by the MBA Program are found under the following course code: MBA. Other courses for the MSc in Computer Science component of the program are found under the following course code: CSC.

MBMS 598 - Units: 3.0
Major Project
A substantial analysis of a specific issue related to both management and computer science, prepared individually under the supervision of faculty advisers from both the Gustavson School of Business and the Department of Computer Science.
Note: Students, in consultation with their academic adviser, should determine if they have an adequate background in research methodology prior to enrolling in MBMS 598. This may require the student to take a research methods course. Students should consult with their academic adviser to identify an appropriate course.
Grading: INP, COM, N, F
MECH 500 - MECH 538

COURSE LISTINGS MECH

MECH 501 - Units: 1.5
Introduction to Continuum Mechanics

MECH 504 - Units: 1.5
Mechanical Vibrations
Multi-mass linear systems; flexibility and stiffness matrices, natural frequencies, mode shapes and orthogonal properties, coupled and uncoupled system equations, solutions for damped or undamped response to arbitrary forcing and initial conditions. Linear continuous systems; wave equation problems and lateral beam vibration with classical boundary conditions. Effects of added mass or stiffness on frequencies and modes. Forced and transient response. Transfer matrix methods for lumped parameter systems and continuous systems; application to axial and torsional vibration of rods, shafts and beams with attached mass or stiffness. Non-linear vibration; basic methods for solution. Characteristic non-linear effects. Random vibrations; elements of describing random response, Fourier transforms and frequency response functions.

MECH 510 - Units: 1.5
Living Cells and their Molecules: Mechanics & Thermodynamics

Note: Credit will be granted for only one of MECH 510, MECH 580 (if taken in the same topic).

MECH 512 - Units: 1.5
Introductory Haptics

Note: Credit will be granted for only one of MECH 512, MECH 580 (if taken in the same topic).

MECH 515 - Units: 1.5
Biomaterials and Tissue Engineering
Introduction to the types of biomaterials and their associated properties. Experimental characterization techniques including microscopy, detection of chemical compositions, protein adsorption and immunoreactivity. Methods for combining biomaterials with cells to engineer tissues.

Note: Credit will be granted for only one of MECH 515, MECH 580 (if taken in the same topic).

MECH 520 - Units: 1.5
Computer-Aided Design and Engineering
Fundamentals of computer graphics; basic elements of geometric modeling of solids and curved surfaces; advanced topics in engineering drawings; use of integrated CAD/CAM systems for modeling, simulation, engineering analysis, automated production, and parameter optimization of mechanical designs; input and output techniques, data management, and customization of CAD/CAM systems.

Note: There is a 3-hour laboratory requirement on alternate weeks.

MECH 521 - Units: 1.5
Computer-Aided Manufacturing (CAM)
Introduction to machining operations featuring of numerically controlled machine tools and types of CNC programming. Manual part programming with G-codes, canned cycles, subprograms, and simulation program. CNC machine tools and control and machine tool kinematics. CNC machining of curved surfaces, and surface machining strategies. Rapid prototyping or 3D printing. Machining mechanics and dynamics.

Note: There is a 3-hour laboratory requirement on alternate weeks.

MECH 522 - Units: 1.5
Mechanics and Dynamics of Machining
Cutting Mechanics: orthogonal cutting, oblique cutting, cutting force modeling, mechanistic modeling, specific cutting energy formulation and identification, milling and turning, tool wear, and cutting temperatures. Cutting Dynamics: structural vibrations, damping, dimensional form errors in machining, modal analysis, and chatter vibrations in orthogonal cutting and milling.

Note: Credit will be granted for only one of MECH 522, MECH 580 (if taken in the same topic).

MECH 523 - Units: 1.5
Modeling and Design of Advanced Hybrid Electric Vehicles
Background of Hybrid Electric Vehicle (HEV) powertrain technologies; vehicle power plants, electric propulsion systems, transmissions, and energy storage system; vehicle powertrain modeling and simulation using advanced powertrain modeling tools; design and optimization of HEV powertrain system; other key issues in HEV design and development; HEV related research and case study.

Note: Credit will be granted for only one of MECH 523, MECH 580 (if taken in the same topic).

MECH 524 - Units: 1.5
Planning and Control of Advanced Manufacturing Systems
Introduction to manufacturing and production systems with the basic taxonomy of manufacturing, types of production processes, components of a production system, and concept of production control. Production process planning covering the experience-based process planning, knowledge-based approach using decision tables and decision trees, process capability analysis, group technology, and Computer-Aided Process Planning. Topics of planning and control of production systems, including forecasting, inventory system, aggregate production planning, material requirements planning, and operation sequencing and scheduling. Case studies on the planning and control of advanced manufacturing systems.

MECH 528 - Units: 1.5
Formerly: 620
Global Optimization and Quantitative Reasoning Techniques
Review of conventional engineering optimization methods, global optimization algorithms, introduction of metamodeling and metamodel-based global optimization techniques, multi-objective and multi-disciplinary optimizations; knowledge representation and reasoning, rule-based systems, fuzzy pattern clustering and recognition, and artificial neural networks; applications of metamodel-based global optimization and quantitative reasoning for computational design and optimal control.

Note: Credit will be granted for only one of MECH 528, MECH 620.

MECH 530 - Units: 1.5
Computational Fluid Dynamics and Heat Transfer

MECH 533 - Units: 1.5
Fluid Mechanics

MECH 536 - Units: 1.5
Microfluidics

MECH 537 - Units: 1.5
Kinetic Theory and Microscale Flows
Distribution function of gases and its moments, Boltzmann equation, conservation laws, H-Theorem (2nd law), BGK models, continuum limit; the laws of Navier-Stokes and Fourier (NSF), temperature jump and velocity slip, beyond NSF, higher order methods and moment equations, Knudsen layers. Applications to ideal gases, flow in micro channels, electrons, energy transfer in solids, etc.

MECH 538 - Units: 1.5
Advanced Aircraft Design

Note: Credit will be granted for only one of MECH 538, MECH 580 (if taken in the same topic).
MECH 540  Units: 1.5  
Transport Phenomena  
Fundamentals of thermomechanics; kinematics, motion, stress, thermodynamics, fundamental principles of thermomechanics. Constitutive equations; basic principles and axioms, linearization of constitutive equations, constitutive equations of special materials such as Newtonian fluids and binary mixtures. Field equations for binary fluid mixtures. Mass transport; diffusivity and mechanisms of mass transport, examples of concentration distributions in binary solids and fluids (laminar flow), examples from ternary systems.

MECH 541  Units: 1.5  
Advanced Thermodynamics  

MECH 542  Units: 1.5  
Energy Systems and Exergy Analysis  
Macroscopic examination of energy systems, system architecture and evolution. Dynamics of energy systems. Characteristics and impacts of energy storage. Exergy balance and second law efficiency.

MECH 543  Units: 1.5  
Cryogenic Engineering  

MECH 544  Units: 1.5  
Renewable Energy  
Overview of major classes of renewable energy: solar photovoltaic, wind, biomass, hydro, solar thermal, tidal and wave. Examination of renewable energy from the perspective of (1) extent; distribution and accessibility of the resource, (2) technologies for the conversion of the resource (3) current applications, and (4) prospects for future implementation.

MECH 546  Units: 1.5  
Introduction to Ocean Engineering  
  Note: Credit will be granted for only one of MECH 546, MECH 580 (if taken in the same topic).

MECH 547  Units: 1.5  
Wind Power Systems  
  Note: Credit will be granted for only one of MECH 547, MECH 580 (if taken in the same topic).

MECH 548  Units: 1.5  

MECH 549  Units: 1.5  
Fuel Cell Technology  

MECH 550  Units: 1.5  
Advanced Control Theory  

MECH 551  Units: 1.5  
Advanced Kinematics of Manipulators  
The material covered includes: point and direction, and line and screw motion description; homogeneous, line and screw coordinate, and quaternions, representations; inverse displacement solution by analytic, root finding, hybrid, and numerical methods; appropriate frames of reference; screw systems and transforms; local and globally optimum solution of redundant rates; overdetermined and near degeneration solutions; multi-arm kinematics. Application to open, closed parallel and hybrid, simple and general structures considered.

MECH 554  Units: 1.5  
Mechatronics  
Introduction to mechatronic systems; modeling of mixed mechatronic systems; microcontroller programming and interfacing; theory, selection and implementation of sensors and actuators commonly used in mechatronic systems; control architectures and case studies in mechatronics systems.  
  Note: Credit will be granted for only one of MECH 554, MECH 580 (if taken in the same topic).

MECH 555  Units: 1.5  
Micro-ElectroMechanical Systems  
MECH 565 Units: 1.5
Formerly: 664
Nonlinear Finite Elements
Geometric nonlinearities, applications to assessment of structural stability, nonlinear solution techniques and basic computer implementation issues. Survey of the state-of-the-art finite element methods in solid and structural mechanics with emphasis on nonlinear problems.

Note: Credit will be granted for only one of MECH 565, MECH 664.

MECH 571 Units: 1.5
Fracture, Fatigue and Mechanical Reliability

Note: Students who have completed equivalent prerequisites may request permission to register in the course.

Prerequisite(s):
- MECH 320, or
- permission of the department.

MECH 573 Units: 1.5
Ferrous and Non-Ferrous Metals
The iron-carbon and iron-cementite phase diagrams; nucleation and growth of microstructural constituents, the martensite phase transformation; time-temperature-transformation (TTT) curves; properties affected by quenching, tempering and annealing; alloy additions; structural, high strength and specialty steels; welding; tool and stainless steels; cast irons; super alloys; metal matrix composites.

MECH 575 Units: 1.5
Engineering Ceramics
Engineering ceramics: structure, properties and applications. Topics to be covered: historical significance of ceramics; definition of ceramics and glasses; structures of ceramics; glasses and glass ceramics; properties and applications of oxide and silicate ceramics; properties and applications of carbide, boride and nitride ceramics; ceramic processing; mechanical properties; toughening mechanisms for brittle ceramics; design concepts; ceramic capacitors; ferroelectrics; piezoelectrics and electro-optic ceramics.

MECH 576 Units: 1.5
Introduction to Electron Microscopy

Note: Credit will be granted for only one of MECH 576, MECH 580 (if taken in the same topic).

MECH 577 Units: 1.5
Formerly: 545
X-ray Analysis of Engineering Materials

Note: Credit will be granted for only one of MECH 577, MECH 545.

MECH 580 Units: 1.5
Selected Topics in Mechanical Engineering
Note: May be taken more than once for credit in different topics.

MECH 590 Units: 1.5
Directed Studies
A wide range of topics will be available.

Note: Pro Forma required.

MECH 594 Units: 1.0
Seminar
Participation in a program of seminars by internal and external speakers on current research topics. MEEng students are not required to present.

Prerequisite(s): Admission to MEEng program in Mechanical Engineering.

MECH 599 Units: 9.0
MEng Project Report
Grading: INP, COM, N, F

MECH 601 Units: 1.5
Engineering Analysis
Introduction to mathematical methods used in engineering analyses with focus on the application to engineering problems rather than the rigorous proofs of mathematical concepts. Topics can include: integral transformations including Laplace and Fourier transforms; complex analysis including analytic functions, theory of residues and conformal mapping; calculus of variations as applied to optimal control, finite element methods and wave equations; linear algebra including least squares problems, eigenproblems and matrix decompositions.

Note: Credit will be granted for only one of MECH 601, MECH 580 (if taken in the same topic).

MECH 693 Units: 3.0
Candidacy Examination
PhD students enrol in 693 for the duration of their preparation for the candidacy examination. This begins at the time the PhD student first enrols in the PhD program and continues until the candidacy examination has been completed.

Pre- or Corequisite(s): MECH 601.
Grading: INP, COM, N, F

MECH 695 Units: 1.5
Seminar
Participation in a program of seminars by internal and external speakers on current research topics. Normally, all PhD students are required to give two seminars on their thesis research within 16 months and 34 months of registration.

Prerequisite(s): Admission to a doctoral program in Mechanical Engineering.

Grading: INP, COM, N, F

MECH 699 Units: 27.0
PhD Dissertation
Prerequisite(s): MECH 693.
Grading: INP, COM, N, F

MGB
Master of Global Business
Peter B. Gustavson School of Business

MGB 180 Units: 1.0
Formerly: 580
Language Skills I
Provides language instruction for students to significantly advance their skill and knowledge in another language. The essential points of structure and vocabulary will be taught, giving capability to function in everyday settings. Students will learn to share information about themselves in the target language and ask basic questions of those around them.

Notes:
- Credit will be granted for only one of MGB 180, MGB 580.
- May not be used for credit in any other undergraduate or graduate program.

Prerequisite(s): Admission to MGB program.
Grading: FNC

MGB 181 Units: 1.0
Formerly: 581
Language Skills II
Further development of the language skills learned in 180.

Notes:
- Credit will be granted for only one of MGB 181, MGB 581.
- May not be used for credit in any other undergraduate or graduate program.

Pre- or Corequisite(s): MGB 180.
Grading: FNC
MGB 182 · Units: 1.0
Formerly: 582
Language Skills III
Further development of the language skills learned in 181.
Notes:
• Credit will be granted for only one of MGB 182, MGB 582.
• May not be used for credit in any other undergraduate or graduate program.
Pre- or Corequisite(s): MGB 181.
Grading: FNC

MGB 502 · Units: 0
Internship Preparation
Preparation and training to undertake MGB Internship work terms. Includes preparation of cover letters and resumes, skills assessment and analysis, networking and interview skill development and career planning.
Note: Students are required to register in this course during the first and second terms of their MGB program.
Grading: INP, COM, N, F

MGB 510 · Units: 1.0
The North American Business Context
Examines the socio-economic, political and legal factors that affect business operations in Canada and the United States. Topics include the Canada/US business regulatory environments, economies, governmental and legal systems, labour markets, protection of intellectual property and international trade relationships including the North American Free Trade Agreement.

MGB 512 · Units: 1.0
International Financial Management
An examination of international financial markets and the financial decision making of multinational firms. Topics include international monetary systems, exchange rate determination, foreign currency derivatives, risk management techniques, and investments, financing and operations in global markets.
Note: Credit will be granted for only one of MGB 512, MBA 571.

MGB 516 · Units: 1.0
International Marketing and Global Strategy
An examination of the strategic challenges facing businesses in an international context, with a focus on marketing issues. Topics include the problems associated with controlling and coordinating activities in multiple markets, managing diverse markets, responding to consumer and competitor differences, understanding the impact of different institutional structures, and coping with market consolidation.
Note: Credit will be granted for only one of MGB 516, MBA 572.

MGB 519 · Units: 1.0
International Logistics and Supply Chain Management
Examines the issues involved in managing global supply chains and logistic flows. Topics are developed around the risks and opportunities of global sourcing. They include designing and implementing global supply chains, foreign manufacturing, inventory management, coping with security concerns, outsourcing, service standards, transportation options and performance evaluation.
Note: Credit will be granted for only one of MGB 519, MBA 529.

MGB 520 · Units: 1.5
The Asian Business Context
An overview of business operations in the Asian context in various industry sectors. Also examines socio-economic, cultural and legal factors that impact doing business in Asia and that impact Asian firms doing business in regional and global settings.

MGB 525 · Units: 1.5
Developing Business in International Entrepreneurial Environments
Examines the analyses and knowledge needed for successful new global business ventures as well as within an international environment. Emphasis will be given to the various stages in the development of a business plan, from idea development to presentation of the plan.

MGB 530 · Units: 1.5
The European Business Context
An overview of corporate governance structures, legal and economic systems and environmental sustainability issues in the European Union and beyond. Prepares students to apply their knowledge and global perspective to solving business issues and challenges.

MGB 535 · Units: 1.0
Consulting Methods and Practice
Provides an overview of the process of management consulting, introduces students to consulting methods to help them gain knowledge of consulting and to highlight specific consulting and research skills. To practice the application of these methodologies, student teams will examine an issue or problem being faced by their assigned overseas organizations, and provide them with consulting advice. In addition, this course will ultimately prepare students for the MGB 536 International Research and Consulting Project.

MGB 536 · Units: 3.0
International Research and Consulting Project
An individual or group consulting report. Participating students, working individually or in small teams and under faculty supervision, research issues and maintain a consulting/client relationship with a corporate sponsor. The students examine a problem of current interest to the sponsor and prepare detailed written recommendations, make in-person presentations to clients and submit a final report.

MGB 537 · Units: 1.5
Global Internship
Students must complete at least 300 hours of work with an organization that normally (1) has an international component linking two or more regions, or (2) is located in any region of the world, provided that it is not the student’s “home” region or country. Requires students to apply their learning through a reflective component that describes how the coursework and the Internship experience in particular have prepared them for global business related careers.
Note: Students who fail to complete an internship by the end of four academic terms may be required to withdraw.
Pre-requisite(s):
• MGB 502; or
• permission of the school.
Grading: INP, COM, N, F

MGB 540 · Units: 1.5
The South American Business Context
An overview of business operations in the South American context in various industry sectors. Also examines socio-economic, cultural and legal factors that impact doing business in South America and that impact South American firms doing business in regional and global settings.

MGB 550 · Units: 1.5
The Middle East and North Africa (MENA) Business Context
An overview of business operations in the MENA context in various industry sectors. Also examines socio-economic, cultural and legal factors that impact doing business in the MENA region and that impact MENA region firms doing business in regional and global settings.

MGB 570 · Units: 2.0
Global Leadership and Cultural Intelligence
An examination of the various dimensions of culture and cross-cultural leadership and management. Topics include how cultural intelligence and global mindset impact teamwork, conflict management, negotiations, motivation and overall leadership in international settings. Compares how people from the three regions of the MGB program modules (e.g., North America, Asia and Europe) are similar and how they differ along these dimensions, including the challenges resulting from these differences and how to resolve them.

MGB 583 · Units: 1.5
Language, Communication and Global Business
Provides a framework - in conjunction with students’ language courses - to explore relationships among language, communication, and culture, a subject highly relevant to global companies. Considers the process of language interaction in global organizations and shows how foreign language learning adds value to businesses and careers. Also examines example global companies that have shaped their language policies (often towards using English as the lingua franca), impacting individual and organizational performance.
Pre- or Corequisite(s): MGB 180.

MICR
Microbiology
Department of Biochemistry and Microbiology
Faculty of Science

MICR 570 · Units: 0.5-3.0
Directed Studies in Microbiology
A wide range of microbiological topics will be available for assignment. Topics will be restricted to an analysis of recent advances. The student’s graduate adviser will not normally participate in directed studies taken for more than one unit of credit.
Notes:
• May be taken more than once for credit in different topics.
• Pro Forma required.

MICR 599 · Units: to be determined
MSc Thesis: Microbiology
Grading: INP, COM, N, F
MUS 500A Units: 1.5 Advanced Recording Techniques

MUS 506B Units: 1.5 Sound Recording Seminar

MUS 507 Units: 3.0 Computer Music Seminar

MUS 510 Units: 1.5 Computational Music and Audio Analysis

MUS 511 Units: 1.5 Music Perception and Cognition

MUS 512 Units: 1.5 Music Technology Colloquium

MUS 520 Units: 1.5 Topics in Musicology Before 1550

MUS 521 Units: 1.5 Topics in Musicology After 1550

MUS 530 Units: 1.5 Topics in Musicology Before 1750

MUS 531 Units: 1.5 Topics in Musicology After 1750

MUS 532 Units: 1.5 Comparative Topics in Musicology

MUS 533 Units: 1.5 Graduate Forum in Musicology

MUS 534 Units: 1.5 Advanced Research Forum in Musicology

MUS 540 Units: 0.5 or 1.0 Individual Tuition

MUS 545 Units: 4.0 Major Instrument Study

MUS 545Q Units: 4.0 Major Instrument Study

MUS 555 Units: 3.0 Individual Tuition in Composition

MUS 561 Units: 1.5 Seminar in Composition

MUS 562A Units: 1.5 Seminar in Performance of New Music

MRNE 500 Units: 1.0-6.0 Directed Studies

MRNE 501 Units: 3.0 Special Topics

MRNE 502 Units: 1.5 Special Topics

MUS 500 Units: 1.5 Selected Problems in Theory and Analysis

MUS 501 Units: 1.5 Seminar in Musical Notations

MUS 502 Units: 1.5 Musical Aesthetics and the Theory of Criticism

MUS 503 Units: 1.5 Introduction to Graduate Study and Music Bibliography

MUS 504 Units: 1.5 Seminar in Performance Practices

MUS 506A Units: 1.5 Advanced Recording Techniques

MUS 508 Units: 1.5 Musical Acoustics

MUS 511 Units: 1.5 Music Perception and Cognition

MUS 513 Units: 1.5 Music Technology Colloquium

MUS 514 Units: 1.5 Topics in Musicology Before 1750

MUS 515 Units: 1.5 Topics in Musicology After 1750

MUS 516 Units: 1.5 Comparative Topics in Musicology

MUS 517 Units: 1.5 Graduate Forum in Musicology

MUS 519 Units: 1.5 Advanced Research Forum in Musicology
MUS 562B - NRSC 599

MUS 562B 
Seminar in Contemporary Composition and Performance 
This seminar/workshop provides intensive professional training for composers who work together with performers in the creation and production of new music. Composers will create new works designed for small mixed ensembles of performers registered simultaneously in 562A, and work with them to prepare the works for performance. Training in contemporary notation and performance practices, analysis, instrumentation, communication skills, and concert production. The final project will be a festival.

MUS 580 
Ensembles 
MMus candidates in Performance will normally register for both this course and 581 in each year of study. MA candidates in Musicology (with Performance) will normally select one of 580 or 581 each year, as determined in consultation with the supervisor.

MUS 581 
Chamber Music 
MMus candidates in Performance will normally register for both this course and 580 in each year of study. MA candidates in Musicology (with Performance) will normally select one of 580 or 581 each year, as determined in consultation with the supervisor.

MUS 588 
MMus Practicum 
Recital for performance candidates normally taken in first year.

MUS 590 
Directed Studies 
Note: May be taken more than once for credit with permission of the school.

MUS 596 
Lecture-Recital 
A lecture-recital of substantial duration, its topic likely related to the student's thesis. For students in the MA program in Musicology with Performance.

MUS 598A 
MMus Practicum 
Degree recital required for performance candidates in final year.

MUS 598B 
MMus Graduating Compositions 
Grading: INC, COM, N, F

MUS 598C 
MMus Project 
Project required for Music Technology candidates in final year.

MUS 598Q 
MMus Practicum 
Students in the Master of Music (MMus) in Performance Emphasis in String Quartet Program must complete a total of 3 recitals to fulfill this requirement.

Grading: INC, COM, N, F.

MUS 599 
MA Thesis 
Grading: INP, COM, N, F.

MUS 689 
Dissertation Proposal 
For candidates for the PhD in Musicology. 
Grading: INP, COM, N, F

MUS 690 
Directed Studies 
Note: May be taken more than once for credit with permission of the school.

MUS 693 
PhD Candidacy Examinations 
Students enrol in MUS 693 for the duration of their preparation for their candidacy examinations. This begins at the time a student first enrolls in the PhD program and continues until candidacy requirements have been completed.
Grading: INP, COM, N, F

MUS 699 
PhD Dissertation 
Prerequisite(s): MUS 693. 
Grading: INP, COM, N, F

NRSC Neuroscience 
Division of Medical Sciences

NRSC 500 
Fundamentals of Neuroscience 
Provides graduate students with a foundational basis in neuroscience. Students cover the essentials of neuroscience, and receive comprehensive instruction in cellular, molecular, systems, behavioral and cognitive neuroscience from resident experts.
Note: This course is required for all students enrolled in the Neuroscience Graduate Program. This course runs from September to April.
Prerequisite(s): Registration in a graduate program.

NRSC 501A 
Advanced Topics in Cellular Neuroscience I 
Seminar on current topics in Cellular Neuroscience.
Note: For admitted Neuroscience students, this course is required in the first year of their program.
The course runs from September to April.
A grade of INP (in progress) will be given until the second enrolled term is completed.

NRSC 501B 
Advanced Topics in Cognitive Neuroscience I 
Seminar on current topics in Cognitive Neuroscience.
Note: For admitted Neuroscience students, this course is required in the first year of their program.
The course runs from September to April.
A grade of INP (in progress) will be given until the second enrolled term is completed.
NRSC 600  Units: 3.0  
**Fundamentals of Neuroscience**  
This is a team-taught course that provides graduate students with a foundational basis in neuroscience. Students cover the essentials of neuroscience, and receive comprehensive instruction in cellular, molecular, systems, behavioral and cognitive neuroscience from resident experts.  
**Note:** This course is required for all students enrolled in the Neuroscience Graduate Program. This course runs from September to April.

NRSC 601A  Units: 1.5  
**Advanced Topics in Cellular Neuroscience I**  
Seminar on current topics in Cellular Neuroscience.  
**Note:** For admitted Neuroscience students, this course is required in the first year of their program. The course runs from September to April. A grade of INP (in progress) will be given until the second enrolled term is completed.

NRSC 601B  Units: 1.5  
**Advanced Topics in Cognitive Neuroscience I**  
Seminar on current topics in Cognitive Neuroscience.  
**Note:** For admitted Neuroscience students, this course is required in the first year of their program. The course runs from September to April. A grade of INP (in progress) will be given until the second enrolled term is completed.

NRSC 602A  Units: 1.5  
**Advanced Topics in Cellular Neuroscience II**  
Seminar on current topics in Cellular Neuroscience.  
**Note:** Registration in NRSC 602A is mandatory (after completion of NRSC 601A) every year the student is enrolled in the graduate program. The course runs from September to April.  
**Prerequisite(s):** NRSC 601A or NRSC 601B.  
**Grading:** INP, COM, N, F.

NRSC 602B  Units: 1.5  
**Advanced Topics in Cognitive Neuroscience II**  
Seminar on current topics in Cognitive Neuroscience.  
**Note:** Registration in NRSC 602B is mandatory (after completion of NRSC 601B) every year the student is enrolled in the graduate program. The course runs from September to April.  
**Prerequisite(s):** NRSC 601A or NRSC 601B.  
**Grading:** INP, COM, N, F.

NRSC 687  Units: 1.5 - 3.0  
**Advanced Topics in Neuroscience**  
Topics of current interest in Neuroscience.  
**Notes:**  
- May be taken more than once for credit with permission of the program.  
- Pro Forma required.  
**Prerequisite(s):** Permission of the program.

NRSC 690  Units: 1.5 - 3.0  
**Directed Studies in Neuroscience**  
Research projects or directed readings.  
**Notes:**  
- May be taken more than once for credit with permission of the program.  
- Pro Forma required.  
**Prerequisite(s):** Permission of the program.

NRSC 693  Units: 3.0  
**Candidacy Examination**  
The Candidacy exam will consist of a defence of a written proposal (10 page OHR format) on the student’s proposed dissertation research project and an oral exam based on the background material and research components of the proposal. The exam committee will be composed of a chair (current director of the neuroscience program or their designate) and at least three examiners. Members of the student’s supervisory committee (excluding the supervisor) may serve as examiners but at least one examiner must be from outside of the supervisory committee and at least one of the examiners must be from outside of the candidate’s supervisory department. The candidate’s supervisor is permitted to be present during the exam but is not permitted to participate or aid the student in any manner. Both the oral and written components of the exam must be successfully completed to advance in the program and a student may be required by the examining committee to be re-examined on either component if performance in the first instance is not deemed satisfactory. Students are only permitted one re-test of either component, and re-tests must be undertaken within two months of the initial exam. Failure on both components of the exam initially, or one component twice, will be considered grounds for removal from the Neuroscience Program. The candidacy examination must be held within 21 months of a student entering the PhD program. Students transferring from the MSc to the PhD program must complete the exam with 18 months from their entry into the PhD.  
**Note:** Students enrol in NRSC 693 upon registering in the PhD program (or upon switching to the PhD program from the MSc program) and remain enrolled until all candidacy requirements are complete.  
**Grading:** INP, COM, N, F.

NRSC 699  Units: 21-39  
**PhD Dissertation**  
A dissertation containing an original scientific study which adds new knowledge to the field of neuroscience.  
**Note:** Students who have completed equivalent prerequisites may request permission to register in the course. Students possessing a MSc will require 21 units to fulfill the program requirements. Students possessing a BSc will require 30 units to fulfill the program requirements.  
**Prerequisite(s):**  
- NRSC 693;  
- permission of the program.  
**Grading:** INP, COM, N, F.

NRUED 570  Units: 1.5  
**Formerly: NURA 530**  
**Engaging with Pedagogy: Teaching and Learning in Nursing Education**  
Prepares students to explore and critically examine the philosophical, theoretical and ethical perspectives informing pedagogy in nursing education.  
**Note:** Credit will be granted for only one of NUED 570, NURA 530.  
**Prerequisite(s):** NUED 570.

NRUED 571  Units: 1.5  
**Formerly: NURA 531**  
**Critical Pedagogy in Nursing Education and Evaluation**  
Students identify and critique ideologies and discourses relevant to teaching, learning and evaluation.  
**Note:** Credit will be granted for only one of NUED 571, NURA 531.  
**Prerequisite(s):** NUED 570.

NRUED 572  Units: 1.5  
**Formerly: NURA 532**  
**Intersectoral Course and Curriculum Design in Nursing Education**  
Students apply theoretical and critical knowledge in the development of nursing curriculum, courses and learning activities for intersectoral nursing education practice.  
**Note:** Credit will be granted for only one of NUED 572, NURA 532.  
**Prerequisite(s):** NUED 570 and NUED 571.

NRUED 573  Units: 1.5  
**Nurse Educator Practice I**  
Students will have opportunities to further integrate their evolving knowledge of Advanced Practice Nursing. Nurse Educator option through working with expert teachers in clinical, academic, and/or community settings.  
**Prerequisite(s):** NUED 570.  
**Corequisite(s):** NUED 577.  
**Grading:** INC, COM, N, F.

NRUED 574  Units: 1.5  
**Nurse Educator Practice II**  
Students integrate their evolving knowledge of Advanced Practice Nursing. Nurse Educator option through teaching practice with expert teachers in clinical, academic, policy and/or community settings.  
**Prerequisite(s):** All of NUED 570, NUED 571, NUED 572, NUED 573.  
**Grading:** INC, COM, N, F.
NURSING AND HEALTH INFORMATION SCIENCE

School of Nursing
Faculty of Human and Social Development

Specifically for Double-Degree MN option in Nursing and Health Information Science.

All Nursing courses are open to Nursing students only unless otherwise noted in the course description. When a course is oversubscribed, preference will be given to Nursing students who are closest to graduation. Contact the School of Nursing or refer to current timetable for course offerings.

Courses offered by the School of Nursing are also found under the following course codes: NUED, NUNP, NURA, NURP, and NURS.

NUNP 531 Units: 1.5
Applied Pathophysiology
Provides students with the advanced knowledge of pathophysiology required to understand, diagnose and treat health and illness in primary health care contexts. Includes an overview of individual and family growth and development as well as the epidemiology of health and disease across the lifespan. Students will learn about the etiology, signs and symptoms, assessment and treatment of common acute/episodic health conditions, diseases or disorders and chronic illnesses prevalent across the lifespan.

NUNP 532 Units: 1.5
Pharmacological Interventions in Health and Illness
An opportunity for students to gain advanced knowledge of pharmacology, including pharmacokinetics and pharmacodynamics. Students will learn about evidence informed practice in the selection, prescription and monitoring of drugs to treat diseases, disorders or conditions and injuries. By the end of the course they should know how to select drug therapy based on knowledge of pharmacology, drug interactions, client health history and client disease, disorder or condition. Students will be prepared to write prescriptions that meet both provincial and federal standards and legislative requirements, including responsibilities relevant to prescription and management of controlled substances. Further, students will examine the effects of the marketing practices of pharmaceutical companies on prescribing practices and explore the ethics and implications for practice as a family nurse practitioner.

NUNP 537 Units: 1.5
Family Nurse Practitioner Internship
Designed to assist students in consolidating and applying the knowledge, skills and abilities from the NP program to their practice as family nurse practitioners. Students will complete 200 practice hours under the supervision of a faculty instructor and practice mentor(s). Students will assume a leadership role in addressing gaps in health services, promoting continuity of care and fostering health prevention and promotion. There is a required onsite component.

Note: Students may be required to demonstrate knowledge and skills obtained in all of NURS 531, NURS 532, NURS 540, NURS 541, NURS 543, NURS 544, NURS 545, NURS 546, NURS 547, NURS 548 upon enrollment in NUNP 537 if 12 months or more have lapsed between completing prerequisite courses and enrolling in NUNP 537.

Prerequisite(s): All of NURS 531, NURS 532, NURS 540, NURS 541, NURS 543, NURS 544, NURS 545, NURS 546, NURS 547, NURS 548.
Grading: INP, COM, N, F

NUNP 540 Units: 1.5
Advanced Assessment and Diagnostic Reasoning Theory
The theoretical knowledge, judgment, skills, and abilities required by advanced practice nurses, specifically nurse practitioners, to assess individuals across the lifespan, families and communities. Includes comprehensive and holistic health assessments that integrates the psychosocial, emotional, ethnic, cultural, and spiritual dimensions of health, health promotion and disease prevention, and diagnostic reasoning. Integration of an advanced practice nursing perspective will help students critique various approaches to assessment of health and illness.

Notes:
• Credit will be granted for only one of NUNP 540, NUNP 533.
• A student must pass both theory and practice corequisites to advance to the next set of corequisite theory and practice courses. If a student fails one corequisite course they may be required to complete both corequisites again the next time they are offered.

Prerequisite(s): NUNP 531 and NUNP 532.
Corequisite(s): NUNP 541.

NUNP 541 Units: 1.5
Advanced Assessment and Diagnostic Reasoning Practice
An opportunity for 150 hours of practice experience through the application of theoretical knowledge required by advanced practice nurses, specifically nurse practitioners, to assess individuals across the lifespan, families and communities. The focus is on the development of students’ core nurse practitioner (NP) competencies of health assessment, health promotion and disease prevention and professional roles and responsibilities. There will be a required onsite component in this course.

Notes:
• Credit will be granted for only one of NUNP 541, NUNP 533.
• A student must pass both theory and practice corequisites to advance to the next set of corequisite theory and practice courses. If a student fails one corequisite course they may be required to complete both corequisites again the next time they are offered.

Prerequisite(s): NUNP 531 and NUNP 532.
Corequisite(s): NUNP 540.
Grading: INC, COM, N, F
NUNP 543 - Units: 1.5
Integrated Primary Health Care and Advanced Practice Nursing: I (Theory) (Adult I)
Advanced practice nursing with persons who experience episodic illness conditions, chronic diseases, and complex health challenges. Particular attention is paid to theoretical perspectives on and skill development related to nurse practitioner core competencies with culturally diverse young to middle-aged adults and families. Selected concepts, theories, and research associated with health promotion and maintenance, and illness prevention are explored within the community context. Students will receive a letter grade upon completion.

Notes:
- Credit will be granted for only one of NUNP 543, NUNP 534, NUNP 550.
- A student must pass both theory and practice corequisites to advance to the next set of corequisite theory and practice courses. If a student fails one corequisite they may be required to complete both corequisites again the next time they are offered. Students may be required to demonstrate knowledge and skills obtained in NUNP 531, NUNP 532, NUNP 540 and NUNP 541 upon enrollment in NUNP 543/544 if 12 months or more have lapsed between completing prerequisite courses and enrolling in NUNP 543/544.

Prerequisite(s): All of NUNP 531, NUNP 532, NUNP 540, NUNP 541.
Corequisite(s): NUNP 544.

NUNP 544 - Units: 1.5
Integrated Primary Health Care and Advanced Practice Nursing: I (Practice) (Adult I)
An opportunity for 150 hours of practice experience through which students engage in advanced practice nursing under the guidance of a course instructor and clinical preceptor. Integration of philosophical, theoretical, and methodological perspectives gleaned from 543 as well as from core courses within the program is sought. There will be a required onsite component to this course. Upon completion of the practice component, students will receive a pass/fail grade.

Notes:
- Credit will be granted for only one of NUNP 544, NUNP 534, NUNP 551.
- A student must pass both theory and practice corequisites to advance to the next set of corequisite theory and practice courses. If a student fails one corequisite they may be required to complete both corequisites again the next time they are offered. Students may be required to demonstrate knowledge and skills obtained in NUNP 531, NUNP 532, NUNP 540 and NUNP 541 upon enrollment in NUNP 543/544 if 12 months or more have lapsed between completing prerequisite courses and enrolling in NUNP 543/544.

Prerequisite(s): All of NUNP 531, NUNP 532, NUNP 540, NUNP 541.
Corequisite(s): NUNP 543.
Grading: INC, COM, N, F

NUNP 545 - Units: 1.5
Integrated Primary Health Care and Advanced Practice Nursing: II (Theoretical) (Childbearing/rearing Families and Children)
Advanced practice nursing with persons who experience episodic illness conditions, chronic diseases, and complex health challenges. Particular attention is paid to theoretical perspectives and skill development related to nurse practitioner core competencies with culturally diverse childbearing families, infants, children, adolescents, and pregnant women. Health promotion and illness prevention are explored within the community context. After completion of the theory component, students will receive a letter grade.

Notes:
- Credit will be granted for only one of NUNP 545, NUNP 535, NUNP 560.
- A student must pass both theory and practice corequisites to advance to the next set of corequisite theory and practice courses. If a student fails one corequisite they may be required to complete both corequisites again the next time they are offered. Students may be required to demonstrate knowledge and skills obtained in NUNP 531, NUNP 532, NUNP 540, NUNP 541, NUNP 543 and NUNP 544 upon enrollment in NUNP 545/546 if 12 months or more have lapsed between completing prerequisite courses and enrolling in NUNP 545/546.

Prerequisite(s): All of NUNP 531, NUNP 532, NUNP 540, NUNP 541, NUNP 543, NUNP 544.
Corequisite(s): NUNP 546.

NUNP 546 - Units: 1.5
Integrated Primary Health Care and Advanced Practice Nursing: III (Practice) (Adult II)
An opportunity for 150 hours of practice experience through which students engage in advanced practice nursing under the guidance of a course instructor and clinical preceptor. Integration of philosophical, theoretical, and methodological perspectives gleaned from 547 as well as from core courses within the program is sought. There will be a required onsite component to this course. Upon completion of the practice component, students will receive a pass/fail grade.

Notes:
- Credit will be granted for only one of NUNP 548, NUNP 535, NUNP 551.
- A student must pass both theory and practice corequisites to advance to the next set of corequisite theory and practice courses. If a student fails one corequisite they may be required to complete both corequisites again the next time they are offered. Students may be required to demonstrate knowledge and skills obtained in NUNP 531, NUNP 532, NUNP 540, NUNP 541, NUNP 543 and NUNP 544 upon enrollment in NUNP 547/548 if 12 months or more have lapsed between completing prerequisite courses and enrolling in NUNP 547/548.

Prerequisite(s): All of NUNP 531, NUNP 532, NUNP 540, NUNP 541, NUNP 543, NUNP 544.
Corequisite(s): NUNP 548.

NUNP 547 - Units: 1.5
Integrated Primary Health Care and Advanced Practice Nursing: III (Theoretical) (Adult II)
Advanced practice nursing with persons who experience episodic illness conditions, chronic diseases, and complex health challenges. Particular attention is paid to theoretical perspectives and skill development related to nurse practitioner core competencies with culturally diverse older adults and families. Selected concepts, theories, and research associated with health promotion and maintenance, illness prevention, chronic disease management, and end of life care are explored within the community context. Upon completion of the theory component, students will receive a letter grade.

Notes:
- Credit will be granted for only one of NUNP 547, NUNP 534, NUNP 550.
- A student must pass both theory and practice corequisites to advance to the next set of corequisite theory and practice courses. If a student fails one corequisite they may be required to complete both corequisites again the next time they are offered. Students may be required to demonstrate knowledge and skills obtained in NUNP 531, NUNP 532, NUNP 540, NUNP 541, NUNP 543, and NUNP 544 upon enrollment in NUNP 547/548 if 12 months or more have lapsed between completing prerequisite courses and enrolling in NUNP 547/548.

Prerequisite(s): All of NUNP 531, NUNP 532, NUNP 540, NUNP 541, NUNP 543, NUNP 544.
Corequisite(s): NUNP 547.
Grading: INC, COM, N, F
NUNP 593 - NURS 502A

NUNP 593  Units: 1.5
Evaluation Synthesis
The culminating educational experience for NP students, and the singular opportunity for faculty members to assess students’ evolution toward the terminal goals of the MN-NP program. Serves as an evaluation instrument in which students demonstrate their synthesis of coursework, knowledge, skills and experiential learning, to reveal broad mastery of their learning across the curriculum in preparation for successful registration, initial employability and further career advancement.

Note: Students may be required to register in this course over two (2) consecutive terms.

Grading: INP, COM, N, F

NURS 518  Units: 1.5
APL Praxis II
Continuing integration of Advanced Practice Nursing with a particular population. Students develop a personalized plan that focuses on systems leadership and research/evaluation competencies. In collaboration with a field guide, students engage in a minimum of 104 practice hours and complete a practice project that contributes to the scholarship of nursing practice.

Pre- or Corequisite(s): NURA 516 and NURS 508.

Grading: INC, COM, N, F.

NURS 519  Units: 1.5
Nursing Leadership II
Exploration of the influences and effects of contemporary leadership practices related to health systems and organizations. The impact of current organizational structures and discourses on the delivery of health care, development of health policy and enactment of advanced practice nursing will be explored.

Pre- or Corequisite(s):
- NURA 516; or
- permission of the program.

NURS 500  Units: 1.5
Scholarly Writing for Advanced Practice Nursing
Review of academic writing fundamentals and processes. Students select topics relevant to their program foci and write a summary/critique of scholarly literature, a limited field guide, students engage in a minimum of 104 practice hours and develop a project plan for 518.

Pre- or Corequisite(s): NURA 516 and NURS 508.

Grading: INC, COM, N, F.

NURS 501  Units: 1.5
Philosophical and Theoretical Knowledge for APN
Explores how philosophy and theory inform nursing disciplinary development and advanced practice nursing. Particular emphasis is placed on a coherent model of knowledge, offering a framework for diverse approaches to engagement with nursing discourse, philosophical, theoretical, and ethical inquiry.

Note: Credit will be granted for only one of NURS 501, NURS 506, NURA 511, NURA 512.

NURS 502A  Units: 1.5
Conceptualizing Research for Advanced Practice Nursing
Prepares students to gain knowledge, and abilities in research including developing a focused inquiry using the research process, integrating philosophical and theoretical underpinnings into research process, generating research questions and coherent arguments to support research, and appreciation of research as integral to advanced practice nursing.

Notes:
- Credit will be granted for only one of NURS 502A, NURS 507, NURS 512, NURA 513.
- Students who have equivalent undergraduate level statistics and research course successfully completed within the past five years may request permission of the department to register in the course.

Prerequisite(s): 1.5 units of 300- or 400- level STAT course or permission of the school.
NURS 502B  Units: 1.5
Developing Empirical Research Knowledge and Skills
Continues to develop knowledge and skills in reading and critiquing empirical research including interpretive
and statistical literacy; understanding diverse approaches to
research synthesis and models of knowledge translation,
developing discernment in methodological decision
making, understanding ethical principles and practices for
research with a variety of populations.

Prerequisite(s):
• NURS 502A; and
• 1.5 units of 300- or 400- level STAT course; or
• permission of the school.

Prerequisite(s):
• NURS 502A; and
• 1.5 units of 300- or 400- level STAT course; or
• permission of the school.

NURS 503  Units: 1.5
Qualitative Approaches to Research in Nursing
Nursing phenomena are considered through a range of
qualitative research approaches. Central to this process is an
exploration of interrelationships between and among
philosophical tenets and the construction of research
questions, selection of methods, and theoretical influences
on data interpretation and analysis for a range of qualitative
approaches to research.

NURS 504  Units: 1.5
Phenomenological and Hermeneutic Approaches to
Inquiry
An opportunity to explore assumptions and values
underlying selected approaches to interpretive inquiry:
hermeneutics and phenomenology. Focuses on the
philosophical and methodological underpinnings of
interpretive thinking/practice/research through readings/
conversation of interpretive texts. The practice of
developing interpretive writing/thinking is an important
part of this process. Students will participate in a project that
provides an experience for the generation and
interpretation of text, related to their area of practice/
research interest.

NURS 506  Units: 1.5
Philosophical Knowledge and Advanced Practice
Nursing
Explores philosophical discourses in the study of nursing.
Particular emphasis is placed on contemporary debates with
a view to conceptual clarification. Introduces a philosophical
framework that includes ontological, epistemological and
ethical approaches to critique and extend knowledge of
advanced practice nursing throughout the curriculum.

Note: Credit will be granted for only one of NURS 506,
NURA 511, NURA 512.

NURS 507  Units: 1.5
Theoretical Knowledge and Advanced Practice
Nursing
Examines and critiques how theories inform and shape
nursing and advanced practice nursing. Students will
explore theories of nursing and theories influencing nursing
practice taught in a philosophical framework that includes
ontological, epistemological and ethical approaches.

Note: Credit will be granted for only one of NURS 507,
NURA 512, NURA 513.

NURS 508  Units: 1.5
Methodological Knowledge and Advanced Practice
Nursing
Explores a variety of approaches to research guided by a
philosophical framework that includes ontology,
epistemology and ethics. Emphasis will be placed on
developing student’s abilities to critically appraise and
synthesize research studies with a view to clarity,
consistency and coherence.

Prerequisite(s): NURS 506.

NURS 509  Units: 1.5
Evaluation of Health Care
Exploration of concepts, theories and strategies for
evaluating nursing care and health programs/services as
depicted to a range of health care settings.

Prerequisite(s):
• NURS 508 and NURA 516; or
• permission of the school.

NURS 510  Units: 1.5
Applied Statistics in Nursing
Students will develop familiarity with advanced statistical
methods as they are applied to nursing and health care.
These will include multiple linear regression, factor analysis,
and multivariate analysis of variance. A brief introduction to
structural equation modelling and psychometric methods
may be offered.

Prerequisite(s):
• NURS 425; or
• permission of the school.

NURS 514  Units: 1.5
Nursing Ethics for Leadership and Practice
Through the examination of empirical and theoretical work
on current and future issues in health care ethics, students
will develop expertise and strategies to deal with ethical
problems in health care and in nursing. Furthermore, they
will critically examine the relationship of health care ethics
to social and health policy, as well as the implications for
health care system change.

Note: Credit will be granted for only one of NURS 514,
NURA 514.

NURS 549  Units: 1.5
Health Services Research
This course introduces nurses to health services research
and examines the contributions that nurses make to this
field of inquiry and to the health care system. Issues of
significance for nurses and the knowledge nurses need to
understand and engage in nursing health services research
are explored. Key concepts such as population health, health
care delivery, health policy, quality of care and related
research methods will be examined.

NURS 568  Units: 1.5
Trends and Issues in Advanced Practice Nursing
Students have the opportunity to explore the notion of
advanced practice nursing (APN) and to consider the
mandate, competencies, and divergent perspectives and
knowledge bases related to APN as they challenge and
extend the boundaries of nursing practice and advance the
profession. Students will consider issues related to the
definitions, competencies, legal, and ethical issues related to
APN locally, nationally and internationally.

NURS 569  Units: 1.5 or 3.0
Directed Studies
An opportunity for students to develop individual studies at
the graduate level (e.g., directed readings, research project
etc.) with the supervision of one or more faculty members.
A plan of study including focus, credit value and evaluation
method is developed in consultation with a faculty member
and must be approved by the graduate adviser prior to
registering in this course.

Notes:
• May be taken more than once for credit in different topics
  with permission of the school.
• Pro Forma required.

NURS 590  Units: 1.5
Thesis/Project Seminar
Prepares students to select either a project or thesis option
in their program and to finalize membership on the
supervisory committee. Students will explore options for
research and begin work on the project or thesis proposal.

Grading: INC, COM, N, F.

NURS 593  Units: 1.5
Scholarly Inquiry: Integrating Knowledge and
Practice
Exploration of how scholarly inquiry and knowledge
mobilization can promote evidence-informed nursing
practice. Students also explore options for and discuss the
process of completing a nursing practice, leadership, or
education project.

Note: Credit will be granted for only one of NURS 594,
NURS 593.

Grading: INC, COM, N, F.
NURS 596
Units: 1.5
Nursing Scholarship: Integration & Dissemination
Exploration of creative ways to integrate and disseminate what students have learned from the Master of Nursing program. Students will produce a scholarly paper, present their work, and respond to questions.
Note: Credit will be granted for only one of NURS 596, NURS 597.
Grading: INC, COM, N, F.

NURS 598
Units: 3.0
Practice Project
Students will complete a project that is creative, innovative and contributes to scholarly nursing practice in an area of professional interest. The project is intended to facilitate synthesis of students’ graduate experience and contribute to their development as advanced practice nurses. The project is an alternative to the Thesis Option (NURS 599). Evaluation of this course will be carried out as per Faculty of Graduate Studies regulations.
Notes:• Credit will be granted for only one of NURS 598, NURS 596.
• The examining committee of a student sitting a non-thesis oral will be comprised of a supervisor, a committee member and a Chair.
Grading: INC, INC, COM, N, F.

NURS 599
Units: 6.0
Thesis
Students working independently, with faculty guidance, complete a thesis to meet specific professional and academic goals. The thesis will entail research in a topic area chosen in consultation with the student’s supervisory committee. The thesis option is an alternative to the Practice Project (NURS 598). Evaluation of this course will be carried out as per Faculty of Graduate Studies regulations.
Grading: INC, COM, N, F.

NURS 601
Units: 1.5
Philosophy in Nursing
Explores the range of philosophical schools of thought and traditions that have influenced the development of the discipline of Nursing. Prepares students to participate in and contribute to knowledge development that will shape the evolution of the discipline.

NURS 602
Units: 1.5
Epistemological Discourses in the Study of Nursing
Explores the current state of theorizing that underpins nursing’s disciplinary and knowledge claims.
Pre- or Corequisite(s):• NURS 601; or
• permission of the department.

NURS 604A
Units: 1.5
Formerly: NURS 604.
Research Methodology for Nursing and Health Care:
Qualitative
Explores assumptions and claims underlying qualitative methodologies that inform research in professional nursing practice and health care.
Notes:• Credit will be granted for only one of NURS 604, NURS 604A.
• NURS 604A is not a pre- or co-requisite of NURS 604B.
Prerequisite(s): NURS 601.

NURS 604B
Units: 1.5
Formerly: NURS 604.
Research Methodology for Nursing and Health Care:
Quantitative
This portion of the course will explore assumptions and biases underlying various quantitative methodologies that inform research in professional nursing practice and health care. We will examine quantitative research designs with particular emphasis on their appropriateness for addressing nursing and health problems. Issues specific to the design of nursing health care studies are explored.
Notes:• Credit will be granted for only one of NURS 604, NURS 604B.
• NURS 604A is not a pre- or co-requisite of NURS 604B.
Prerequisite(s): NURS 601.

NURS 620
Units: 1.5 or 3.0
Research Internship
Research Internships are arranged with a specific faculty member and may be taken over one or several terms. During the Research Internship, a learner will have hands-on experiences with several aspects of research, for example, the conceptualization of a study, study design, applying for funding, obtaining ethical approval, accessing the field, collecting and analyzing data, writing, and knowledge translation.
Prerequisite(s): Permission of the school.
Grading: INC, COM, N, F.

NURS 621
Units: 1.5
Doctoral Seminar
Opportunities to engage in dialogue about the contribution of doctoral education to the academic discipline and professional practice of nursing. This course will take place over two terms.
Grading: INC, COM, N, F.

NURS 622
Units: 1.5
Dissertation Seminar
Opportunities to engage in dialogue about topics that will support their preparation for doctoral candidacy exams and dissertation research. Students actively participate in the planning and process of the course, taking leadership roles and presenting their own scholarly work.
Grading: INC, COM, N, F.

NURS 630
Units: 1.5 or 3.0
Teaching Internship
Teaching internships may be arranged with a specific faculty member and may be taken over one or several terms. During the Teaching Internship, a student will engage with several aspects of nursing education, for example, classroom or online teaching, educational research initiatives and/or, writing a paper for publication.
Note: Pro Forma required.
Prerequisite(s): Permission of the school.
Grading: INC, COM, N, F.

NURS 679
Units: 1.5-4.5
Doctoral Research Seminar
Based on an understanding of scholarship as a social and communal activity, these seminars provide students from across cohort’s opportunities to have conversations about research and scholarly activity, as well as topics relevant to becoming stewards of the discipline. Students decide on the topics to be covered and share responsibility for organizing sessions and arranging speakers.
Note: Students will be required to take 1.5 units of NURS 679 coursework and can, with permission of their program supervisor, enroll in as many as 4.5 units of NURS 679 coursework. Scheduled over two terms to facilitate student engagement among multiple cohorts.
Grading: INC, COM, N, F.

NURS 680
Units: 1.5-4.5
Special Topics in Research Methods
Based on student demand, courses on the following focused topics will be organized for individuals or groups of students: issues of measurement, evaluation research, grounded theory, ethnography, hermeneutics and phenomenology, discourse analysis, historical analysis, instrument development and testing and participatory action research. This research-focused course is available to small groups of interested students and/or individuals by faculty members and/or visiting faculty.
Notes:• May be taken more than once for credit in different topics with permission of the school to a maximum of 4.5 units.
• Pro Forma required.
• Students will be required to take 1.5 units of NURS 680 coursework and can, with permission of their program supervisor, enroll in as many as 4.5 units of NURS 680 coursework.

NURS 690
Units: 1.5 or 3.0
Directed Studies
Provides opportunities for students to develop individual studies at the doctoral level (e.g., directed readings, research project etc.) with the supervision of one or more faculty members. A plan of study including focus, credit value and evaluation method is developed in consultation with a faculty member and must be approved by the graduate adviser prior to registering in this course. We encourage students interested in a research topic to register for a NURS 680 course rather than a NURS 690.
Note: Pro Forma required.
Prerequisite(s): Permission of the school.

NURS 693
Units: 3.0
Candidacy Examination
Students enrol in NURS 693 to prepare for their candidacy examination. Students are expected to work with their supervisory committees to generate a reading list and review these readings in preparation for the candidacy process. Must be completed prior to registration in NURS 699.
Grading: INC, COM, N, F.
Dissertation
All doctoral students must write and publicly defend a research proposal and have it approved by their supervisory committee before continuing the research process. All doctoral students are required to prepare a dissertation upon which a public examination and defense is conducted. The dissertation must qualify as a significant and original contribution to disciplinary knowledge.
Prerequisite(s): NURS 693.
Grading: INP, COM, N, F.

### PAAS

**Pacific and Asian Studies**

**Department of Pacific and Asian Studies**

**Faculty of Humanities**

**PAAS 500** Units: **1.5**

**Theories of Pacific Region Societies**

Offers a critical review of contemporary social theory pertinent to the study of Pacific and Asian societies. Drawing on various scholarly approaches from the fields of sociology, anthropology, political science and history, readings will address the institutions, mechanisms and values involved in social, cultural and political transformations. Focuses on current theory about the nature and scope of globalization, commodification, or modernization, with particular emphasis on the effect of these on local social and cultural practice.

**PAAS 501** Units: **1.5**

**Cultural, Linguistic and Literary Theories in Asia-Pacific Studies**

Offers a critical review of contemporary cultural and literary theory pertinent to the study of Pacific and Asian societies. Drawing from various scholarly approaches of Marxism, post-structuralism, semiotics, feminist psychoanalysis, and critical art history, readings will address the often implicit meanings and conceptual boundaries encoded in cultural and artistic products. Explores the consequences of modernization and global vs. local realms, with a focus on the disturbances and complexities they generate in the subjective realm, where they often form the basis of creative expressions.

**PAAS 520** Units: **1.5**

**Special Topics in Pacific Studies**

Focuses on an area of faculty specialization. The topic will vary but may include one of the following: migration studies; state and civil society; the politics of culture; global and local relations; and gender and ethnic identity.

**PAAS 521** Units: **1.5**

**Special Topics in Asia-Pacific Literature, Linguistics and Culture**

Focuses on an area of faculty specialization. The topic will vary but may include one of the following: theatre studies; postcolonial literature; linguistics; popular culture; cinema studies; and critical assessments of the works of individual authors and artists.

**PAAS 550** Units: **1.5**

**Research Methodologies**

Required of all graduate students. We will work through the mechanics of designing a thesis, from initial conceptualization through to methodologies and analysis. Students will design a full thesis proposal and participate in a mock defense.

**PAAS 580** Units: **1.5**

**Advanced Readings in Japanese, Chinese or Indonesian**

Critical reading and analysis of advanced works in the original language.

**PAAS 590** Units: **1.5**

**Directed Studies**

A directed readings course, to be taken with the thesis supervisor, which will allow students to develop in-depth understanding of their topic/area of specialization.

Note: May be taken more than once for credit in different topics to a maximum of 3 units.

**PAAS 599** Units: **6.0-9.0**

**MA Thesis**

Grading: INP, COM, N, F.

### PADR

**Public Administration Dispute Resolution**

**School of Public Administration**

**Faculty of Human and Social Development**

**PADR 501** Units: **1.5**

**Collaboration and Engagement**

The 21st century workplace requires conflict resolution competence and collaborative skills to work effectively in public and non-profit sector environments. Prepares students to anticipate, identify, assess, prevent, mitigate, and manage or resolve conflict. A critical approach to theory and practice is adopted and three distinctive areas of learning are woven together: integral theory and conflict analysis; negotiation; and facilitation.

Prerequisite(s): Admission to MA program in Dispute Resolution or admission to MPA program (on campus).

**PADR 502** Units: **1.5**

Formerly: PADR 502A

**Analysis for the Public and Non-Profit Sectors**

Provides an intensive introduction to qualitative and quantitative approaches and methods for research, policy analysis, evaluation and other analytical projects in the public and non-profit sectors. Offers students opportunities to learn and apply methodologies for evidence-informed decisions in organizational and inter-organizational settings.

Note: Credit will be granted for only one of 502, 502A, ADMN 502A, DR 515, CD 508.

Prerequisite(s): Admission to MA program in Dispute Resolution or admission to MPA program (on campus).

**PADR 503** Units: **1.5**

**Professional Integrity in the Public and Non-Profit Sectors**

Builds professional competencies and reflective practice skills for those working in the public and non-profit sectors. Using a case-based approach, topics include: ethical dilemmas and management of disputes, the issues of personal responsibility and accountability; loyalty to employer; political and professional neutrality and obligations to the public interest; conflict of interest; confidentiality and transparency; and privacy protection. Students study standards of conduct established in both sectors and the philosophical theories which underpin them.

Note: Credit will be granted for only one of PADR 503, ADMN 522, ADMN 554, DR 512.

Prerequisite(s): Admission to MA program in Dispute Resolution or admission to MPA program (on Campus).

**PADR 504** Units: **1.5**

**Public Leadership and Management**

Introduces theories of leadership and management development and practice. Examines the role of leaders, managers and conflict specialists as agents of positive influence in complex socio-technical systems. Leadership, management and dispute resolution competencies will be introduced and developed in individual, team, organizational, and inter-organizational contexts. Through experiential learning, students will apply concepts to self, others (as team members), leaders and managers.

Note: Credit will be granted for only one of PADR 504, ADMN 507, DR 511.

Prerequisite(s): Admission to MA program in Dispute Resolution or admission to MPA program (on Campus).

**PADR 505** Units: **1.5**

**Policy-making and Policy Communities**

Students learn about the public policy-making process and develop skills in the art and craft of policy analysis. Introduces key concepts and theories and then builds skills and knowledge with information-gathering exercises, case studies, and preparation and presentation of decision briefs. Students review policy-making in a broad context, pulling together evidence and different analytical lenses for a variety of organizations and identify and recommend strategies and develop workable implementation and communication plans.

Note: Credit will be granted for only one of PADR 505, ADMN 556.

Prerequisite(s): Admission to MA program in Dispute Resolution or admission to MPA program (on Campus).
PHIL Philosophy

Department of Philosophy
Faculty of Humanities

PHIL 500 Units: 1.5 or 3.0
Topics in Philosophy
Note: May be taken more than once for credit in different topics with permission of the department.

PHIL 514 Units: 1.5 or 3.0
Topics in Cognitivist Philosophies of Mind
Emphasizes cognitivist theories of consciousness and meaning (intentionality).
Note: May be taken more than once for credit in different topics with permission of the department.

PHIL 521 Units: 1.5 or 3.0
Topics in Philosophy of Science
Note: May be taken more than once for credit in different topics with permission of the department.

PHIL 533 Units: 1.5 or 3.0
Topics in Applied Philosophy
Note: May be taken more than once for credit in different topics with permission of the department.

PHIL 534 Units: 1.5 or 3.0
Topics in Ethics
Note: May be taken more than once for credit in different topics with permission of the department.

PHIL 535 Units: 1.5 or 3.0
Topics in Social and Political Philosophy
Note: May be taken more than once for credit in different topics with permission of the department.

PHIL 541 Units: 1.5 or 3.0
Topics in Aesthetics
Note: May be taken more than once for credit in different topics with permission of the department.

PHIL 551 Units: 1.5 or 3.0
Topics in Epistemology and Metaphysics
Note: May be taken more than once for credit in different topics with permission of the department.

PHIL 561 Units: 1.5 or 3.0
Topics in Philosophy of Language
Note: May be taken more than once for credit in different topics with permission of the department.

PHIL 590 Units: 1.5 or 3.0
Directed Studies
Note: May be taken more than once for credit in different topics with permission of the department.

PHIL 591 Units: 1.5
Research Methods Seminar
Exclusively for graduate students in philosophy. Aims to help students broaden their reading base and deepen their communication and critical skills by engaging with philosophical works and core issues in a variety of fields.

PHIL 592 Units: 1.5
Professional Development Practicum
Students must attend and demonstrate participation in philosophy colloquia, including regular pre-seminars, throughout the year. Attendance and evidence of participation will be tracked by the Graduate Adviser and Graduate Coordinator.
Grading: COM, N, F.

PHIL 593 Units: 4.5
Major Research Project
Students must complete a Major Research Project under the guidance of a supervisor and committee member. This project will normally take the form of a journal article-type submission. Normally the Major Research Project will be completed during the Summer Session following the first Winter Session. The Major Research Project is subject to Oral Examination by a committee.
Grading: INP, COM, N, F.

PHIL 693 Units: 3.0
Candidacy Examination
Grading: INP, COM, N, F

PHIL 699 Units: 18.0
PhD Dissertation
Prerequisite(s): PHIL 693.
Grading: INP, COM, N, F

PHSP Public Health and Social Policy
School of Public Health and Social Policy
Faculty of Human and Social Development

PHSP 501 Units: 1.5
Public Health Epidemiology
An applied approach grounded in population-based data. Focuses on the distributions and determinants of health, disease, disability and mortality. Topics include: characteristics and dynamics of health and disease in human populations, including epidemiological strategies in examining the natural history of disease and the impact of disease on the population; population health assessment; surveillance and emerging social epidemiological models that attend to complex models of causation.

PHSP 502 Units: 1.5
Public Health Biostatistics
Uses an approach grounded in population-based data. Builds upon PHSP 501, and focuses on understanding health inequities across diverse settings and populations using biostatistics and epidemiological data to understand the life course determinants of health. Includes an overview of design and analysis of health-related data collection methods including survey methods. The basic concepts and methods of epidemiological biostatistical analysis are covered.
Prerequisite(s): PHSP 501.

PHSP 503 Units: 1.5
Public Health Practice I: Population Health and Health Promotion
Contributes to students’ theoretical and practical understanding of population health and its determinants as well as diverse constructions of health as a foundation for health promotion. Considers health promotion principles, models and approaches as well as inequalities in health in the context of social justice and cultural safety. Fosters understanding of health and its determinants, health inequalities in Canada and globally, and a more in-depth understanding in at least one area of health promotion.

PHSP 504 Units: 1.5
Supportive Environments and Healthy Public Policy
Social environmental factors that impact the health of the community. Using a social-ecological model, attends to understanding the integral role of policy in the development of supportive environments. With an emphasis on critical analysis of health policy, students explore the development of healthy public policy in the management of public health concerns.

PHSP 505 Units: 1.5
Public Health Practice II: Public Health Interventions
Focuses on the range of evidence-informed public health interventions employed in public health practice. Based on the BC Core Public Health Functions Framework, examines strategies used to improve the health of a population including provision of public health prevention and improvement programs, disease and injury prevention, environmental health and health emergency management; strategies for health protection, health promotion, disease surveillance; public health capacity and infrastructure; the impact of public health services on health inequity.

PHSP 506 Units: 1.5
Public Health Research and Evaluation
Emphasis on evidence-informed practice, and examining community-based research strategies to explicate applied knowledge within the field of public health. Topics include literature synthesis approaches; program evaluation; qualitative research methods; and mixed methods.

PHSP 507 Units: 1.5
Practicum
All graduate diploma students are required to complete a 225-hour practicum. This planned, supervised and evaluated practicum will usually be completed at the end of the student’s program of study. Graduate diploma students who wish to complete the Master of Public Health will be required to take PHSP 589.
Prerequisite(s): All of PHSP 501, PHSP 503, PHSP 504.
Corequisite(s): PHSP 508A.
Grading: INP, COM, N, F

PHSP 508A.
PHSP 508A Units: 1.5
Culminating Report
As a culmination of the practicum experience all Graduate Diploma students are required to complete a report that demonstrates a synthesis and integration of coursework and other learning experiences in preparation for professional public health practice. Graduate diploma students who complete the diploma and wish to then complete the Master of Public Health will be required to take PHSP 508B. 
Prerequisite(s): All of PHSP 501, PHSP 503, PHSP 504.
Corequisite(s): PHSP 507.
Grading: INP, COM, N, F

PHSP 508B Units: 3.0
Culminating Report
As a culmination of the practicum experience all Master of Public Health students are required to complete a report that demonstrates a synthesis and integration of coursework and other learning experiences in preparation for professional public health practice.

Notes:
- Credit will be granted for only one of PHSP 508B, PHSP 590 (if taken in the same topic).
- Students who register in PHSP 589 for 1.5 units over two terms may enrol in PHSP 590 concurrently.

Prerequisite(s): All of PHSP 301, PHSP 302, PHSP 303, PHSP 504, PHSP 505, PHSP 506.
Corequisite(s): PHSP 589.
Grading: INP, COM, N, F

PHSP 540 Units: 1.5
Knowledge Development in Public Health Nursing
Examines the history of public health nursing focusing on exemplary leaders engaged in creating change in their community. The emergence of nursing knowledge and understanding public health nursing as a synthesis of public health and nursing science is emphasized. Includes a critical examination of the roles of nurses in public health as well as exploring exemplary nurse-led community based programs, services and policies related to disease prevention, health promotion and primary health care.

PHSP 541 Units: 1.5
Social Justice and Public Health Nursing
Emphasis on social justice as a philosophical base for public health nursing. From a critical perspective, students explore and compare theories of social justice. Drawing on personal and professional experience and using case examples, students explore the embodiment of social justice as ethical nursing practice.

Note: A requirement of this course is a condensed five-day on-campus seminar.

PHSP 542 Units: 1.5
Advanced Public Health Nursing Practice
Focuses on leadership and the conceptualization and application of advanced practice in public health nursing. Students engage in a critical analysis of advanced practice nursing as it relates to public health in Canadian and comparative contexts. Professional issues and advanced practice strategies are explored.

PHSP 550 Units: 1.5
Perspectives in Social Policy and Public Health
Examines the history of public health nursing focusing on exemplary leaders engaged in creating change in their community. The emergence of nursing knowledge and understanding public health nursing as a synthesis of public health and nursing science is emphasized. Includes a critical examination of the roles of nurses in public health as well as exploring exemplary nurse-led community based programs, services and policies related to disease prevention, health promotion and primary health care.

Note: A requirement of this course is a condensed five-day on-campus seminar.

PHSP 551 Units: 1.5
Social Values, Ideologies, and Policy Analysis
Examines an assortment of public health approaches, including policy techniques and plans relating to health promotion, policy analysis and advocacy, capacity building, forming partnerships and collaborations, and strengthening communities. Also considers the importance of healthy public policies for various groups facing health disparities.

PHSP 552 Units: 1.5
Healthy Public Policy Strategies
Examines the history of public health nursing focusing on exemplary leaders engaged in creating change in their community. The emergence of nursing knowledge and understanding public health nursing as a synthesis of public health and nursing science is emphasized. Includes a critical examination of the roles of nurses in public health as well as exploring exemplary nurse-led community based programs, services and policies related to disease prevention, health promotion and primary health care.

PHPS 589 Units: 1.5 or 3.0
Practicum
All MPH students are required to complete a 450 hour practicum. This planned, supervised and evaluated experience will usually be completed at the end of the student's program of study.

Note: No credit will be awarded for practicums taken in the same topic area as other practicums.

PHSP 590 Units: 1.5-4.5
Directed Studies
Compares individual studies involving directed readings, projects or special studies under the direction of a faculty member. A proposal is developed in consultation with a faculty member and includes a plan for the evaluation of the student's work. The proposal must be approved by the Director or Program Manager before students are allowed to register.

Note: May be taken more than once for credit in different topics with permission of the program.

PHSP 591 Units: 1.5
Special Topics in Public Health Studies
Examines the history of public health nursing focusing on exemplary leaders engaged in creating change in their community. The emergence of nursing knowledge and understanding public health nursing as a synthesis of public health and nursing science is emphasized. Includes a critical examination of the roles of nurses in public health as well as exploring exemplary nurse-led community based programs, services and policies related to disease prevention, health promotion and primary health care.

Note: A requirement of this course is a condensed five-day on-campus seminar.

PHSP 595 Units: 1.5
Perspectives in Social Policy and Public Health
Examines the history of public health nursing focusing on exemplary leaders engaged in creating change in their community. The emergence of nursing knowledge and understanding public health nursing as a synthesis of public health and nursing science is emphasized. Includes a critical examination of the roles of nurses in public health as well as exploring exemplary nurse-led community based programs, services and policies related to disease prevention, health promotion and primary health care.

Note: A requirement of this course is a condensed five-day on-campus seminar.

PHSP 599 Units: 6.0
Thesis
Students, working independently, with faculty guidance, complete a thesis to meet specific professional and academic goals. The thesis will entail research in a topic area chosen in consultation with the student's supervisory committee. The thesis option is an alternative to the Culminating Project (PHSP 598). Evaluation of this course will be carried out as per Faculty of Graduate Studies regulations.

Grading: INP, COM, N, F

PHYS Physics
Department of Physics and Astronomy
Faculty of Science
Students should consult the department concerning the courses offered in any particular year.

PHYS 500A Units: 1.5
Formerly part of 500 Quantum Mechanics
Topics may include angular momentum and symmetries, perturbation theory, scattering theory, density operators, quantum statistical mechanics.

Note: Credit will be granted for only one of PHYS 500, PHYS 500A.

PHYS 501A Units: 1.5
Quantum Theory and Quantum Fields
Further topics in quantum theory, and an introduction to quantum field theory focusing on quantum electrodynamics.

Note: Credit will be granted for only one of PHYS 501A, PHYS 501B, PHYS 502, PHYS 500A.

PHYS 501B Units: 1.5
Advanced Quantum Field Theory
Further topics in quantum field theory.

Note: Credit will be granted for only one of PHYS 501A, PHYS 501B, PHYS 502, PHYS 500A.

PHYS 502A Units: 1.5
Classical Electrodynamics
The classical theory of electrodynamics. Topics may include: electrodynamics as a relativistic field theory; static and retarded potentials; waves and their propagation in dispersive media; radiation and scattering.

Note: Credit will be granted for only one of PHYS 501A, PHYS 501B, PHYS 502.

PHYS 507A Units: 1.5
Solid State Physics I
First course on the quantum and classical physics of condensed matter: Electron energy band structure in crystals; ground state and quasiparticle excitations of metals and semiconductors; phonons, photons and the interactions between them.

PHYS 507B Units: 1.5
Solid State Physics II
Second course on the quantum and classical physics of condensed matter: Symmetries and group theory of states of matter; optical properties of solids; quantum coherence phenomena; magnetism.
PHYS 508  Units: 1.5
Topics in Nanophysics
Covers the physics of phenomena occurring on the nanometer length scale. Topics include semiconductor nanostuctures and devices, nanomagnetism and spintronics, nanophotonics, and molecular electronics.

PHYS 509  Units: 1.5
Standard Model Phenomenology
An introduction to the Standard Model of particle physics, including its symmetries and field-theoretic structure. Further topics may include a brief introduction to Lie groups and their applications, spontaneous symmetry breaking, Goldstone’s theorem and the Higgs mechanism, aspects of quantum chromodynamics.
Note: Credit will be granted for only one of PHYS 509, PHYS 508B.

PHYS 511A  Units: 1.5
Topics in Nuclear and Particle Physics I
A selection of advanced topics in nuclear and/or particle physics.
Note: May be taken more than once for credit.

PHYS 513  Units: 1.5
Topics in Theoretical Physics
A graduate course covering more advanced techniques and/or topical subjects in theoretical physics. Content varies.
Note: May be taken more than once for credit.

PHYS 515  Units: 1.5
Data Analysis Techniques for Physics and Astronomy
An advanced course in data analysis for the physical sciences. Topics may include: Numerical methods, probability theory, Monte Carlo methods, statistical analysis techniques, and signal and image processing.

PHYS 521A  Units: 1.5
Techniques in Nuclear and Particle Physics
Topics may include: interaction of particles in matter, particle detection techniques and technologies, principles of particle accelerators, survey of existing facilities.
Note: May be taken more than once for credit in different topics with permission of the department.

PHYS 522  Units: 1.5
Topics in Accelerator Physics
Note: May be taken more than once for credit.

PHYS 534  Units: 1.5
Radiation Dosimetry
The fundamentals of radiation dosimetry, ionization cavity theories and radiation dosimetry protocols. A variety of absolute and relative dosimetry techniques are also covered, with hands-on experience provided through a series of lab exercises on medical linear accelerators. Monte Carlo simulation of radiation transport for dosimetry applications is introduced.

PHYS 539  Units: 1.5
Medical Imaging
Fundamental theory and application of medical imaging, including radiology, computed tomography, magnetic resonance imaging, ultrasound, and nuclear medicine imaging. Basic principles, image formation and reconstruction, imaging instrumentation and hardware, and current trends of each imaging modality will be given.

PHYS 540  Units: 1.5
Topics in Radiation Biophysics
Topics in radiation biophysics, including DNA strand breaks, cell survival curves, fractionation and dose rate effects, oxygen effect, relative biological effectiveness, tumour radiobiology, radiation pathology, radiobiological modelling, stochastic and deterministic effects, and molecular techniques in radiobiology.

PHYS 544  Units: 1.5
Anatomy and Physiology for the Medical Physicist
WebCT based course covering basics of anatomy and physiology. Aimed at students in medical physics who are interested in clinical and/or academic careers that will require interaction with radiation oncologists and other health care professionals.
Grading: INC, COM, N, F

PHYS 545  Units: 0.5
Clinical Shadowing
Shadowing course designed to give the student some insight into the clinical aspects of the medical physics profession. Under the guidance of a clinical physicist, students progress through a series of clinical areas. Modules illustrate the collaborative nature of the profession and the interaction with other medical professionals.
Grading: INC, COM, N, F

PHYS 546  Units: 0.5
Colloquium
Weekly physics and astronomy colloquium.
Grading: INC, COM, N, F

PHYS 560  Units: 0
Directed Studies
Notes:
• May be taken more than once for credit.
• Pro Forma required.

PHYS 599  Units: to be determined
MSC Thesis
Note: Normally 6 units.
Grading: INC, COM, N, F

PHYS 699  Units: to be determined
PhD Dissertation
Note: Normally 30 units.
Corequisite(s): PHYS 693.
Grading: INC, COM, N, F

POLI

Political Science
Department of Political Science
Faculty of Social Sciences

POLI 505  Units: 1.5
Problems of Political Analysis
An examination of theoretical viewpoints in the study of politics.

POLI 507  Units: 1.5
Comparative Policy and Governance
The study of diverging governance practices and policy outcomes in different jurisdictions. Focuses on: policy determinants such as history, culture, institutions, and the economy; policy dynamics and processes such as agenda-setting and decision-making, networks and communities, and policy change; and policy styles and transfer, referring to the state’s ability to design, coordinate, implement and, learn from policy interventions. Students will review seminal studies and undertake a comparative policy project.

POLI 508  Units: 1.5
Comparative Politics
An examination of key issues and debates in the study of comparative politics. Involves a survey of the major literature in this field of political science.

POLI 509  Units: 1.5
Political Theory
An examination of key issues and debates in the study of political theory. Involves a survey of the major literature in this field of political science.

POLI 514  Units: 1.5
Politics of the European Union
An examination of key issues and debates in the study of the politics of the European Union. It will involve a survey of the major literature in the field of European politics.
Note: Credit will be granted for only one of POLI 514, POLI 533 (if taken in the same topic).

POLI 516  Units: 1.5
Canadian Politics
An examination of key issues and debates in the study of Canadian politics. Involves a survey of the major literature in this field of political science.
POLI 533  Units: 1.5
Themes in Contemporary Politics
A seminar dealing with an important theme or themes in contemporary politics. The content will vary from year to year.
Note: May be taken more than once for credit with permission of the department.

POLI 540  Units: 1.5
International Relations
An examination of key issues and debates in the study of international relations. Involves a survey of the major literature in this field of political science.

POLI 580  Units: 3.0
Legislative Internship Report
Grading: INP, COM, N, F

POLI 590  Units: 1.5 or 3.0
Directed Readings
Note: May be taken more than once for credit in different topics to a maximum of 3 units.

POLI 590A  Units: 1.5 or 3.0
Political Theory
Note: Credit will be granted for only two of POLI 590A, POLI 590B, POLI 590C, POLI 590D, POLI 590E, POLI 590F, POLI 590G, POLI 590H, POLI 590I, POLI 590J, POLI 590K, POLI 590L, POLI 590M, POLI 590N, POLI 590O, POLI 590P.

POLI 590B  Units: 1.5 or 3.0
Comparative Politics
Note: Credit will be granted for only two of POLI 590A, POLI 590B, POLI 590C, POLI 590D, POLI 590E, POLI 590F, POLI 590G, POLI 590H, POLI 590I, POLI 590J, POLI 590K, POLI 590L, POLI 590M, POLI 590N, POLI 590O, POLI 590P.

POLI 590C  Units: 1.5 or 3.0
Comparative Politics
Note: Credit will be granted for only two of POLI 590A, POLI 590B, POLI 590C, POLI 590D, POLI 590E, POLI 590F, POLI 590G, POLI 590H, POLI 590I, POLI 590J, POLI 590K, POLI 590L, POLI 590M, POLI 590N, POLI 590O, POLI 590P.

POLI 590D  Units: 1.5 or 3.0
Comparative Politics
Note: Credit will be granted for only two of POLI 590A, POLI 590B, POLI 590C, POLI 590D, POLI 590E, POLI 590F, POLI 590G, POLI 590H, POLI 590I, POLI 590J, POLI 590K, POLI 590L, POLI 590M, POLI 590N, POLI 590O, POLI 590P.

POLI 590G  Units: 1.5 or 3.0
Contemporary Themes and Issues
Note: Credit will be granted for only two of POLI 590A, POLI 590B, POLI 590C, POLI 590D, POLI 590E, POLI 590F, POLI 590G, POLI 590H, POLI 590I, POLI 590J, POLI 590K, POLI 590L, POLI 590M, POLI 590N, POLI 590O, POLI 590P.

POLI 590H  Units: 1.5 or 3.0
Contemporary Themes and Issues
Note: Credit will be granted for only two of POLI 590A, POLI 590B, POLI 590C, POLI 590D, POLI 590E, POLI 590F, POLI 590G, POLI 590H, POLI 590I, POLI 590J, POLI 590K, POLI 590L, POLI 590M, POLI 590N, POLI 590O, POLI 590P.

POLI 590J  Units: 1.5 or 3.0
International Relations
Note: Credit will be granted for only two of POLI 590A, POLI 590B, POLI 590C, POLI 590D, POLI 590E, POLI 590F, POLI 590G, POLI 590H, POLI 590I, POLI 590J, POLI 590K, POLI 590L, POLI 590M, POLI 590N, POLI 590O, POLI 590P.

POLI 590K  Units: 1.5 or 3.0
International Relations
Note: Credit will be granted for only two of POLI 590A, POLI 590B, POLI 590C, POLI 590D, POLI 590E, POLI 590F, POLI 590G, POLI 590H, POLI 590I, POLI 590J, POLI 590K, POLI 590L, POLI 590M, POLI 590N, POLI 590O, POLI 590P.

POLI 590N  Units: 1.5 or 3.0
Canadian Federal and Provincial Politics
Note: Credit will be granted for only two of POLI 590A, POLI 590B, POLI 590C, POLI 590D, POLI 590E, POLI 590F, POLI 590G, POLI 590H, POLI 590I, POLI 590J, POLI 590K, POLI 590L, POLI 590M, POLI 590N, POLI 590O, POLI 590P.

POLI 590P  Units: 1.5 or 3.0
Canadian Federal and Provincial Politics
Note: Credit will be granted for only two of POLI 590A, POLI 590B, POLI 590C, POLI 590D, POLI 590E, POLI 590F, POLI 590G, POLI 590H, POLI 590I, POLI 590J, POLI 590K, POLI 590L, POLI 590M, POLI 590N, POLI 590O, POLI 590P.

POLI 599  Units: 9.0
Thesis
Grading: INP, COM, N, F

POLI 600  Units: 1.5
Professional Development Seminar
A compulsory seminar for PhD students in Political Science that runs from September until April. Students are introduced to the professional aspects of the discipline including: how to write grant applications, how to teach effectively, how to design a syllabus and a CV, how to contribute to the administrative and intellectual community in their department and in political science more broadly.

POLI 605  Units: 1.5
Problems of Political Analysis
A further examination of theoretical viewpoints in the study of politics. Intended for doctoral candidates preparing for comprehensive examinations.

POLI 606  Units: 1.5
Comparative Policy and Governance
The study of diverging governance practices and policy outcomes in different jurisdictions. Focus is on: policy determinants such as history, culture, institutions, and the economy; policy dynamics and processes such as agenda-setting and decision-making, networks and communities, and policy change, and policy styles and transfer, referring to the state’s ability to design, coordinate, implement and learn from policy interventions. Students will review seminal studies and undertake a comparative policy project. Intended for doctoral candidates preparing for a comprehensive examination in the field.

POLI 607  Units: 1.5
Thesis
Grading: INP, COM, N, F

POLI 608  Units: 1.5
Comparative Politics
An examination of key issues and debates in the study of comparative politics. Involves a survey of the major literature in this field of political science. Intended for doctoral candidates preparing for a comprehensive examination in the field.

POLI 609  Units: 1.5
Political Theory
An examination of key issues and debates in the study of political theory. Involves a survey of the major literature in this field of political science. Intended for doctoral candidates preparing for a comprehensive examination in the field.

POLI 610  Units: 1.5
Theories of Public Management
Explores different theories and approaches to understanding public administration and reform. Considers variations in three areas: political and constitutional authority, accountability and responsibility, and the roles of elected and non-elected officials; government structures, responsibilities for policy and service delivery, and distributed governance; and patterns and trends in central decision-making, budgeting, control, transparency, and citizen engagement. Students will review seminal comparative studies on administrative practice and reform and undertake a comparative study on a selected topic.

POLI 614  Units: 1.5
Politics of the European Union
An examination of key issues and debates in the study of the politics of the European Union. It will involve a survey of the major literature in the field of European politics.

POLI 616  Units: 1.5
Canadian Politics
An examination of key issues and debates in the study of Canadian politics. Involves a survey of the major literature in this field of political science. Intended for doctoral candidates preparing for a comprehensive examination in the field.

POLI 633  Units: 1.5
Themes in Contemporary Politics
A seminar dealing with an important theme or themes in contemporary politics. The content will vary from year to year.
Note: May be taken more than once for credit in different topics with permission of the department.

POLI 640  Units: 1.5
International Relations
An examination of key issues and debates in the study of international relations. Involves a survey of the major literature in this field of political science. It is intended for doctoral candidates preparing for a comprehensive examination in the field.

POLI 650  Units: 1.5
Directed Readings
A seminar dealing with an important theme in political science. The content will vary from year to year.

POLI 660  Units: 1.5
Comparative Politics
An examination of key issues and debates in the study of comparative politics. Involves a survey of the major literature in this field of political science. Intended for doctoral candidates preparing for a comprehensive examination in the field.

POLI 670  Units: 1.5
Directed Readings
A seminar dealing with an important theme in political science. The content will vary from year to year.

POLI 690  Units: 1.5 or 3.0
Directed Readings
A seminar dealing with an important theme in political science. The content will vary from year to year.
PSY 507  Personality
Units: 1.5
Notes:
• May be taken more than once for credit in different topics with permission of the department to a maximum of 6 units.
• The specific content area will be designated prior to registration.
Grading: INP, COM, N, F

PSYC 504  Individual Study
Units: 1.5-6.0
Individual Study
Notes:
• May be taken more than once for credit in different topics with permission of the department to a maximum of 6 units.
• The student must consult with the instructor about the area of study prior to registration.
Prerequisite(s): Permission of the department.

Practicum in Clinical Psychology
PSYC 503  Units: 4.0
Practicum in Clinical Psychology
Practicum in a clinical setting. 1 unit of credit is equivalent to approximately 100 hours.
Prerequisite(s):
• Admission to a graduate program in Clinical Psychology;
• permission of the department.
Grading: INP, COM, N, F

PSYC 505  Clinical Intervention Practicum
Units: 4.0
Clinical Intervention Practicum
Practicum in a clinical setting with emphasis on various forms of intervention. 1 unit of credit is equivalent to approximately 100 hours.
Prerequisite(s):
• Admission to a graduate program in Clinical Psychology;
• permission of the department.
Grading: INP, COM, N, F

PSYC 506A  Psychology Clinic Practice
Units: 1.5
Psychology Clinic Practice
Supervised psychological practice in the Psychology Clinic, Department of Psychology.
Note: May be taken more than once for credit in different topics.
Prerequisite(s):
• Admission to a graduate program in Clinical Psychology;
• permission of the department.
Grading: INP, COM, N, F

PSYC 506B  Psychology Clinic Practice: Test Mastery
Units: 1.5
Formerly: PSYC 506
Psychology Clinic Practice: Test Mastery
Supervised test mastery in the Psychology Clinic, Department of Psychology.
Note: Credit will be granted for only one of PSYC 506B, PSYC 506.
Prerequisite(s):
• Admission to a graduate program in Clinical Psychology;
• permission of the department.
Grading: INP, COM, N, F

PSYC 512  Research Practicum
Units: 1.5-4.5
Research Practicum
Practicum in a research setting with emphasis on planning, conducting, analyzing, and/or writing up research results under the supervision of faculty.
Notes:
• May be taken more than once for credit in different topics.
• The student must consult with the proposed research supervisor about the content and nature of the research activity prior to registration and complete a Pro Forma. The content must differ from but may be related to PSYC 599 or 699.
Prerequisite(s): Permission of the department.
Grading: INP, COM, N, F

PSYC 513  Quantitative Analysis
Units: 1.5 - 6.0
Quantitative Analysis
Topical seminars on specialized issues related to quantitative analysis.
Notes:
• May be taken more than once for credit in different topics with permission of the department to a maximum of 6 units.
• The specific content area will be designated prior to registration.

PSYC 517  Research Methods in Psychology
Units: 1.5
Research Methods in Psychology
Notes:
• May be taken more than once for credit in different topics with permission of the department to a maximum of 6 units.
• The specific content area will be designated prior to registration.

PSYC 518  Psychometric Methods
Units: 1.5
Psychometric Methods
Topics typically include: historical background, sample descriptive statistics, norm referencing (e.g., percentiles, Z-scores, T-scores), criterion referencing, sensitivity/specificity, classical true score test theory, item response theory (IRT), reliability, validity, standard errors, test development, standards for clinical tests, and assessment of reliable change.

PSYC 520  Survey of Social Psychology
Units: 1.5
Survey of Social Psychology
In-depth examination of state-of-the-science theories and research in social psychology. Social thinking and social behaviour are explored through the study of individual processes (e.g., social cognition, motivation), interpersonal processes (e.g., social influence, helping, intimacy), and societal processes (e.g., group dynamics, intergroup relations, cultural and environmental influences). Emphasis is placed on the most recent advancements in social psychology and on the research interests and expertise of the instructor.

PSYC 521  Human Motivation
Units: 1.5
Human Motivation
Seminars review of theory and research examining human motivation. Special topics include goals, intrinsic and extrinsic motivation, social and achievement motivation, self-efficacy, self-regulation, unconscious motivation, and growth motivation. Emphasis is placed on the social and cognitive perspective on motivation.
PSYC 522 Units: 1.5
Cultural Psychology
Seminar review of theory and research on cultural influences on basic psychological processes. Special topics include culture and the self, culture and social cognition, and cultural influences on psychological well-being. Attention is also paid to culturally appropriate research methods and statistics.

PSYC 526 Units: 1.5
Special Topics in Personality and Social Psychology
Topical seminars on specialized issues related to personality and social psychology.

Note: May be taken more than once for credit in different topics to a maximum of 6 units.

PSYC 527 Units: 1.5
Research Methods in Social Psychology
In-depth examination of state-of-the-art research methods in social psychology. The topics may include experimental and quasi-experimental research designs, survey research, cross-cultural and longitudinal methods, event-sampling methods, psychophysiological methods, implicit measure and priming techniques, content and narrative analysis, computer simulation, data analytical strategies, ethics. Emphasis is placed on the more recent advancements in research methods in social psychology and on the research interests and expertise of the instructor.

PSYC 530 Units: 1.5
The Social Self
Seminar review of theory and research examining current social psychological research and theory on the self. Special topics include self-concept, self-esteem, motivation and the self, and the self in close relationships. Emphasis is placed on the more recent advancement in social and personality psychology of the self.

PSYC 531 Units: 1.5
Environmental Psychology
Seminar review of theory and research in environmental psychology. The topics may include sustainability-related behaviour, social design of buildings, human behaviour as it is related to built and natural environments, environmental perception and cognition, and person-environment transactions in nature, residences, neighbourhoods, schools, workplaces, retail stores, and public spaces.

PSYC 532 Units: 1.5
General Linear Model - Univariate
Presents a model-comparison approach to the analysis of a single dependent variable. Topics include simple and multiple regression involving continuous independent variables, categorical independent variables (ANOVA designs), and mixtures of the two (covariance analysis). Also covered will be logistic regression, data screening and outlier detection, testing of model assumptions, data transformation, and repeated measures models.

PSYC 533 Units: 1.5
General Linear Model - Multivariate
Topics generally include multivariate multiple regression, principle component and factor analysis, canonical correlation analysis, multivariate analysis of variance, discriminant function analysis and logistic regression.

Prerequisite(s): PSYC 532.

PSYC 534 Units: 1.5
Univariate Design and Analysis
An examination of various factorial designs for univariate data from an advanced perspective. For a number of frequently used designs (e.g., completely randomized, randomized block, and repeated measures), planned comparisons, tests of the models' assumptions, expected mean squares, and interpreting interactions (e.g., simple main effects) will be covered. Students will be required to learn and use statistical software packages, such as SPSS and SAS. Time and interest permitting, a brief introduction to other modelling procedures for response time and accuracy data will be offered.

PSYC 537 Units: 1.5
Multilevel Modeling
Provides an introduction to concepts and practical application of multilevel models for nested data structures, including experimental and longitudinal data.

Prerequisite(s): PSYC 532.

PSYC 540 Units: 1.5
Formerly: 515A
History and Theory in Neuropsychology
Survey of major topics and issues in clinical and experimental neuropsychology, including a historical introduction and recent material. Topics may include aphasia, agnosia, apraxia, agnosophia, other clinical syndromes, and hemispheric specialization.

Note: Students who have completed an equivalent undergraduate human neuropsychology course may request permission to register in the course.

Prerequisite(s):
- PSYC 315; or
- permission of the program.

PSYC 541 Units: 1.5
Formerly: 541/544
Research Design and Methods in Neuropsychology
Seminar on research methods and designs in studying brain/behaviour relationships, the strengths and limitations of various methods, and the populations and research questions for which they are used.

PSYC 543 Units: 1.5
Formerly: 535B
Behavioural Neuroanatomy
Introduction to human neuroanatomy, neurophysiology and neurochemistry, with an emphasis on relationships between structure, function and behaviour.

Prerequisite(s): Permission of the department.

PSYC 545 Units: 1.5
Neuropsychological Assessment
In depth examination of general approaches and models for neuropsychological assessment. This includes evaluation of multiple areas of cognitive functioning, including attention, memory, executive functioning, language, perceptual skills and motor abilities. Test interpretation, case analysis, and report writing skills will also be emphasized.

Prerequisite(s):
- PSYC 584; and
- admission to a graduate program in Clinical Psychology.

Corequisite(s): PSYC 506B.

PSYC 546A Units: 1.5
Advanced Neuropsychology: Children and Adolescents
In depth examination of typical neuodevelopment and associated acquired and neurodevelopmental disorders of children and adolescents, including a discussion of cognitive and behavioural profiles and techniques of neuropsychological assessment.

Prerequisite(s):
- All of PSYC 506B, PSYC 540, PSYC 545, PSYC 584; and
- admission to a doctoral program in Clinical Psychology; and
- permission of the department.

Grading: INC, COM, N, F.

PSYC 546B Units: 1.5
Advanced Neuropsychology: Adults
In depth examination of typical neuodevelopment and associated acquired and neurodegenerative disorders of adults, including a discussion of cognitive and behavioural profiles and the techniques of neuropsychological assessment.

Prerequisite(s):
- All of PSYC 506B, PSYC 540, PSYC 545, PSYC 584; and
- admission to a doctoral program in Clinical Psychology; and
- permission of the department.

Grading: INC, COM, N, F.

PSYC 547 Units: 1.5
Formerly: 535D
Neuropsychological Intervention in Adults
Introduction to theory and techniques associated with management of neurological disorders. Topics include the relationship between impairment, disability, and handicap, current techniques in cognitive rehabilitation, and interventions with individuals and families.

Prerequisite(s): Permission of the department.

Grading: INC, COM, N, F.

PSYC 548 Units: 1.5
Formerly: 515D
Special Topics in Neuropsychology
Note: May be taken more than once for credit in different topics to a maximum of 6 units.

PSYC 549 Units: 1.5
Neuropsychological Intervention in Children and Adolescents
Introduction to theory, methods and techniques associated with management of neurological, neuropsychological and learning disorders in children and adolescents. Topics include the relationship among impairment, disability, and functional status, with current empirically-based approaches for remediation and/or compensation of cognitive and academic skill deficits. Interventions will focus on individual children and families within both educational and social contexts.

Note: Enrolment may be limited.

Prerequisite(s):
- Admission to a doctoral program; and
- permission of the department.

Grading: INC, COM, N, F.
PSYC 550 - PSYC 576A

PSYC 550  Units: 1.5
Formerly: 512A
Physiological Psychology: Introduction
Seminar discussing selected topics concerning fundamental neurobiological processes underlying behaviour, including synaptic transmission, motor and sensory activity, motivation, neural plasticity, and theories of neural organization.

PSYC 551  Units: 1.5
Neuropsychopharmacology
Seminar discussing the neurochemical bases of brain function and of the effects of psychoactive drugs, with emphasis on the role played by chemical neurotransmitters and the system of neurons that releases them.

PSYC 560  Units: 1.5
Formerly: part of 561
Research Methods in Lifespan Psychology
A critical examination of research designs and analytical approaches for understanding developmental and aging-related change and variation. Includes cross-sectional, longitudinal, sequential, experimental, and qualitative approaches.

PSYC 561  Units: 1.5
Formerly: 560B
History and Theories in Lifespan Psychology
Seminar review of major classical and contemporary theoretical perspectives and their implications for the study of psychological development across the lifespan. Emphasis on differences among theoretical perspectives with respect to central developmental issues such as concepts of change, sources of development, and the universality of developmental laws and findings.

PSYC 562  Units: 1.5
Formerly: 560C
Infancy and Childhood
Seminar review of theory and research examining psychological development from infancy through childhood. Special topics include personality/temperament, attachment, parent-child relations, and socialization process. Emphasis is placed on the role of the context in individual development.

PSYC 563  Units: 1.5
Formerly: 560D
Adult Development and Aging
Seminar review of theory and research examining psychological processes during adulthood and aging. Specific topics include memory, intelligence, problem solving, personality, social processes, and mental health. Attention is also given to the biological and sociocultural contexts of these developments.

PSYC 564  Units: 1.5
Formerly: 561A
Advanced Analysis of Change and Variation
The emphasis is the general linear mixed model for repeated measurements and other nested data structures. Both multilevel and structural equation models will be examined and applied to longitudinal data. Special topics include time invariant and time-varying covariates, evaluation of alternative time structures, change in factor-level outcomes and analysis of intensive repeated measures designs.

Note: May be taken more than once for credit in different topics with permission of the department to a maximum of 5 units.

Prerequisite(s):
- PSYC 532 and PSYC 533; or
- permission of the department.

PSYC 565  Units: 1.5
Formerly: 561B
Cognitive Development in Adulthood and Aging
Seminar review of theory and research examining personality change, stress, coping, and adjustment across the adult lifespan. Specific topics include the cases for and against personality change, personality as a mediator of other behaviour, stress, coping, life events, and mental health in adulthood.

PSYC 566  Units: 1.5
Formerly: 561C
Personality and Adjustment in Adulthood and Aging
Seminar review of theory and research examining personality change, stress, coping, and adjustment across the adult lifespan. Specific topics include the cases for and against personality change, personality as a mediator of other behaviour, stress, coping, life events, and mental health in adulthood.

PSYC 567  Units: 1.5
Dysfunctional Development in Adulthood and Aging
Seminar review of theory and research examining dysfunctional and pathological processes in later life. Specific topics include dementia, depression, personality disorders, alcoholism and other addictions and suicide. Attention will be given to issues of etiology, diagnosis, treatment, and impact on caregivers.

PSYC 568  Units: 1.5
Adolescence
Seminar review of theory and research examining psychological processes during adolescence. Specific topics include pubertal maturation, parent-adolescent relations, gender roles, sexuality, and problem behaviour. Attention will be given to the role of the context (e.g., family, school) in adolescent development.

PSYC 569  Units: 1.5
Formerly: 562
Special Topics in Lifespan Development
Topical seminars on specialized issues related to lifespan development and aging.

Note: May be taken more than once for credit in different topics to a maximum of 6 units.

PSYC 570  Units: 1.5 or 3.0
Also: LING 570
Psycholinguistics
A seminar offered in collaboration with the department of Linguistics. Selected topics of interest in understanding the acquisition of the child’s first language in the areas of phonological and grammatical abilities, as well as the child’s knowledge of semantic systems and discourse rules. Recent topics have been the development of conversational abilities in children, including turn-taking, questioning and answering, and politeness and negotiation in speech acts.

PSYC 571  Units: 1.5 or 3.0
Also: LING 571
Developmental Psycholinguistics
A seminar offered in collaboration with the department of Linguistics. Selected topics of interest in understanding the comprehension and production of natural language are examined. The most recent topics have been sentence processing, discourse analysis, linguistic inference and the resolution of ambiguity, and the development of cognitive science interests in reasoning and discourse processes as well as the structure of mental representations.

PSYC 574A  Units: 1.5
Cognitive Methods: Electroencephalography and Event-related Brain Potentials
An intensive, hands-on introduction to the basics of collecting and analyzing event-related brain potential (ERP) data.

Notes:
- Credit will be granted for only one of PSYC 574A, PSYC 574 (if taken in the same topic), PSYC 576C (if taken in the same topic).
- Enrolment is limited to 5 students.

Prerequisite(s): Permission of the department.

PSYC 574B  Units: 1.5
Cognitive Methods: Functional Magnetic Resonance Imaging
Introduction to theory and methods of functional magnetic resonance imaging (fMRI) for the study of mind and brain using lectures, discussions and hands-on lab exercises. Includes underlying physics and physiology, experimental design, data collection and preprocessing, statistical analysis, and various advanced methods.

Note: Credit will be granted for only one of PSYC 574B, PSYC 579 (if taken in the same topic).

PSYC 574C  Units: 1.5
Cognitive Methods: Computational Modelling
Exploration of methods of computational modelling of cognitive processes. Methods covered may include mathematical models, symbolic models, and neural network models. Theoretical foundations, procedures for fitting models, and applications to cognitive psychology and cognitive neuroscience will be considered.

Note: Credit will be granted for only one of PSYC 574C, PSYC 576B (if taken in the same topic).

PSYC 576A  Units: 1.5
Cognitive Processes: Human Memory
Exploration of current theories and research on selected aspects of human memory. One or more major topics within the domain of human memory will be studied in depth.

Note: May be taken more than once for credit in different topics to a maximum of 6 units.
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<thead>
<tr>
<th>Course Code</th>
<th>Units</th>
<th>Title</th>
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<tbody>
<tr>
<td>PSYC 576C</td>
<td>1.5</td>
<td>Cognitive Processes: Mind and Brain</td>
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<td></td>
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<td>Discussions of neurological evidence for modular organization of cognitive processes.</td>
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<td>Note: May be taken more than once for credit in different topics to a maximum of 6 units.</td>
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<tr>
<td>PSYC 576D</td>
<td>1.5</td>
<td>Cognitive Processes: Cognitive Control</td>
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<td>Exploration of selected theories and research in cognitive psychology and/or the cognitive neuroscience of cognitive control.</td>
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<td>One or more major topics within the domain of cognitive control (e.g. working memory, attention, error detection, conflict monitoring, response inhibition, and/or decision making) will be studied in depth.</td>
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<td>Note: May be taken more than once for credit in different topics with permission of department to a maximum of 6 units.</td>
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<tr>
<td>PSYC 576E</td>
<td>1.5</td>
<td>Cognitive Processes: Visual Perception</td>
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<td>Exploration of current theories and research on selected aspects of visual perception. One or more major topics (e.g., object recognition, Gestalt perception, neurophysiology of visual perception) will be studied in depth.</td>
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<td>• Credit will be granted for only one of PSYC 576E, PSYC 511 (if taken in the same topic).</td>
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<td>• May be taken more than once for credit in different topics with permission of department to a maximum of 6 units.</td>
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<tr>
<td>PSYC 577</td>
<td>1.5</td>
<td>Cognitive Seminar</td>
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<td>Weekly seminar throughout the Winter session, involving faculty and graduate students in the Cognitive Psychology Program. Seminar participants take turns hosting the meeting, typically by presenting a paper on recent or ongoing cognitive psychological research.</td>
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<td>Note: May be taken more than once for credit to a maximum of 9 units.</td>
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<td>Prerequisite(s):</td>
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<td>• Admission to a graduate program in Cognitive Psychology; or</td>
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<td>Grading: INC, COM, N, F.</td>
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<tr>
<td>PSYC 579</td>
<td>1.5</td>
<td>Special Topics in Psychology</td>
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<td>Seminar on special topics in the field of psychology.</td>
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<td>Note: May be taken more than once for credit in different topics to a maximum of 6 units.</td>
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<tr>
<td>PSYC 581</td>
<td>1.5</td>
<td>Psychopathology: Childhood and Adolescence</td>
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<td>Discussion of conceptual models used to understand psychopathology, presentation of various mental disorders from multiple theoretical perspectives; discussion of diagnostic issues emphasizing the impact of gender and culture in the expression of &quot;abnormal&quot; behaviour. Emphasis on disorders that emerge during childhood and adolescence. Topics are considered from a scientist-practitioner perspective. Includes discussion of relevant professional issues in clinical psychology.</td>
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<td>Prerequisite(s): Admission to a graduate program in Clinical Psychology.</td>
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<tr>
<td>PSYC 582</td>
<td>1.5</td>
<td>Psychopathology: Adulthood</td>
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<td>Formerly: half of 580</td>
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<td></td>
<td>Psychopathology: Adulthood</td>
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<td>Draws on models for understanding psychopathology developed in PSYC 581. Discussion of conceptual models used to understand psychopathology, presentation of various mental disorders from multiple theoretical perspectives; discussion of diagnostic issues emphasizing the impact of gender and culture in the expression of &quot;abnormal&quot; behaviour. Emphasis is on disorders that emerge during adulthood. Topics are considered from a scientist-practitioner perspective. Includes discussion of relevant professional issues in clinical psychology.</td>
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<td>Prerequisite(s):</td>
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<td>• PSYC 581; and</td>
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<td>• admission to a graduate program in Clinical Psychology; and</td>
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<td>• permission of the department.</td>
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<tr>
<td>PSYC 583</td>
<td>1.5</td>
<td>Professional and Ethical Issues in Clinical Psychology</td>
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<td>Formerly: 535C</td>
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<td>Discussion of ethical standards for providers of psychological services and of registration requirements as required by BCPS, CPA and APA. Presentations by practising psychologists related to professional and interprofessional problems encountered in practice.</td>
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<td>Note: Enrolment may be limited.</td>
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<td>Prerequisite(s):</td>
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<td>• Admission to a graduate program in Clinical Psychology; and</td>
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<td>• permission of the department.</td>
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<tr>
<td>PSYC 584</td>
<td>1.5</td>
<td>Clinical Assessment: Cognitive Functioning</td>
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<td>Formerly: 524A</td>
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<td>Introduction to theory and practice in the assessment of cognitive functioning and academic achievement, including test administration, scoring, interpretation, and report writing. Test administration proficiency and individual case study interpretation are required during formal laboratory experiences.</td>
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<td>Grading: INC, COM, N, F.</td>
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<tr>
<td>PSYC 585</td>
<td>1.5</td>
<td>Clinical Assessment: Psychosocial Functioning</td>
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<td>Formerly: 524B</td>
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<td>Introduction to theory and practice in the psychological assessment of social, emotional and personality functioning.</td>
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<td>Grading: INC, COM, N, F.</td>
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<tr>
<td>PSYC 586A</td>
<td>1.5</td>
<td>Advanced Clinical Assessment</td>
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<td>Formerly: half of 586; 624B</td>
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<td></td>
<td>Advanced Clinical Assessment</td>
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<td>Advanced theory and professional issues in the psychological assessment of social, emotional and personality functioning.</td>
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<td>Note: Enrolment may be limited.</td>
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<td>Prerequisite(s):</td>
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<td>• PSYC 585; and</td>
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<td>• admission to a graduate program in Clinical Psychology; and</td>
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<td>Grading: INC, COM, N, F.</td>
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<td>PSYC 590</td>
<td>1.5</td>
<td>Practical Issues and Challenges in Adult Psychotherapy</td>
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<td>An advanced psychotherapy course that builds upon the introductory therapy skills developed in 589. Includes didactic seminar and group case consultation.</td>
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<tr>
<td>PSYC 591</td>
<td>1.5</td>
<td>Special Topics in Clinical Psychology</td>
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<td>Note: May be taken more than once for credit in different topics to a maximum of 6 units.</td>
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<td>Prerequisite(s): Admission to a graduate program in Clinical Psychology.</td>
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</tbody>
</table>
PSYC 593 - SDH 500A

PSYC 593  Units: 1.5
Family Interventions
Introduction to various theoretical approaches to family interventions. Specific techniques are explored through readings, discussions, assignments, and role-plays.
Note: Enrolment may be limited.
Prerequisite(s): PSYC 589; and admission to a doctoral program in Clinical Psychology; and permission of the department.
Grading: INP, COM, N, F.

PSYC 594  Units: 1.5
Special Topics in Clinical Intervention
Introduction to any one or more specialized therapeutic techniques for working with individuals in clinical settings.
Note: May be taken more than once for credit in different topics to a maximum of 6 units.
Prerequisite(s): Admission to a graduate program in Clinical Psychology.
Grading: INP, COM, N, F.

PSYC 595  Units: 1.5
Cognitive Behavioural Therapy
An advanced psychotherapy course that provides students with an understanding of the theory and clinical skills associated with Cognitive-Behavioural Therapy. Theory and specific techniques are explored through readings, class discussion, class assignments and role-plays.
Note: Credit will be granted for only one of PSYC 595, PSYC 594 (if taken in the same topic).
Prerequisite(s): PSYC 589; and admission to a doctoral program in Clinical Psychology.
Grading: INP, COM, N, F.

PSYC 596  Units: 1.5
Interpersonal Therapies
An advanced psychotherapy course that provides students with an understanding of the theoretical underpinnings of the major interpersonal therapies and the role of interpersonal process in therapy in general. Specific theories and techniques are explored through readings, class discussion and class assignments.
Note: Credit will be granted for only one of PSYC 596, PSYC 594 (if taken in the same topic).
Prerequisite(s): PSYC 589; and admission to a doctoral program in Clinical Psychology.
Grading: INP, COM, N, F.

PSYC 597  Units: 1.5
Clinical Psychology Colloquium
Weekly colloquium through the Winter session, involving faculty and graduate students in the Clinical Psychology Program. Colloquium participants take turns hosting the meeting, typically presenting on current clinical practice issues, cases, or research.
Note: May be taken more than once for credit to a maximum of 7.5 units.
Prerequisite(s): Admission to a graduate program in Clinical Psychology.
Grading: INP, COM, N, F.

PSYC 599  Units: 3.0-6.0
Thesis
Grading: INP, COM, N, F.

PSYC 602  Units: 1.0-6.0
Independent Research
Notes:
- May be taken more than once for credit in different topics.
- Pro Forma required.
- The student must consult with the instructor about the area of study prior to registration.
A maximum of 6 units of 602 may be taken in any one Winter Session at the discretion of the student's Supervisory Committee.
Prerequisite(s): Permission of the department.

PSYC 603  Units: 4.0
Advanced Clinical Practicum
Practicum in an approved clinical setting. 1 unit of credit is equivalent to approximately 100 hours.
Prerequisite(s):
- Admission to a graduate program in Clinical Psychology;
- permission of the department.
Grading: INP, COM, N, F.

PSYC 604  Units: 1.5-6.0
Individual Study
Notes:
- May be taken more than once for credit in different topics.
- Pro Forma required.
- The student must consult with the instructor about the area of study prior to registration.
A maximum of 6 units of 604 may be taken in any one Winter Session at the discretion of the student's Supervisory Committee.
Prerequisite(s): Permission of the department.

PSYC 605  Units: 1.5 or 3.0
Practicum in the Teaching of Psychology
Teaching practicum with individual instructors of the department in areas of potential teaching interest for the student.
Note: Pro Forma required.
Grading: INC, COM, N, F.

PSYC 606  Units: 15.0
Clinical Internship
Full-year internship with 1600 to 2000 hours of supervised practical experience in settings approved by the committee on clinical training.
Note: Students who have completed a clinical course sequence may request permission to register in the course.
Prerequisite(s): Permission of the department.
Grading: INP, COM, N, F.

PSYC 612  Units: 1.5-4.5
Advanced Research Practicum
Advanced practicum in research with an emphasis on coordination of a program of research in association with a faculty supervisor. Typically involves organization and training of research assistants, developing research protocols, management of research databases, statistical analysis, and preparation and submission of materials for publication as specified in a Pro Forma.

PSYC 693  Units: 3.0
PhD Candidacy Examinations
Students enrol in PSYC 693 while they prepare for and complete their doctoral candidacy examinations. This begins at the time a student first enrols in the PhD program and continues until all candidacy examination requirements have been successfully completed. Students have 36 months from the time of first registration in the doctoral program to complete the exams. Students registered in 699 must also be registered in 693 concurrently until 693 is complete.
Grading: INP, COM, N, F.

PSYC 699  Units: 15.0-30.0
PhD Dissertation
Pre- or Corequisite(s): PSYC 693.
Grading: INP, COM, N, F.

SDH 500A  Units: 1.5
Fundamentals of Health Research I
An interdisciplinary seminar covering fundamental topics in health research such as: basics in epidemiology, ethics, policy, health and wellness, grant and proposal writing, academic presentations, critical review for publication, knowledge transfer and developing community partnerships. Topics to be covered in the core courses are central to health research scholarship and provide core competencies preparatory to the independent research component of the program.
SDH 500B - Units: 1.5  
Fundamentals of Health Research II  
A continuation of 500A, an interdisciplinary seminar covering fundamental topics in health research such as: basics in epidemiology, ethics, policy, health and wellness, grant and proposal writing, academic presentations, critical review for publication, knowledge transfer and developing community partnerships. Topics to be covered in the core courses are central to health research scholarship and provide core competencies preparatory to the independent research component of the program.  
Prerequisite(s):  
• SDH 500A, or  
• permission of the program.

SDH 501A - Units: 1.5  
Social Dimensions of Health Colloquium I  
The SDH colloquium series exposes students to a wide range of conceptual and substantive issues that reflect the breadth and depth of health research generally. Attendance and participation in the colloquium is mandatory throughout their time in the SDH program. Students receive 3 units of pass/fail credit during their first year. Students will be required to make presentations of their own research in the colloquium.

SDH 501B - Units: 1.5  
Social Dimensions of Health Colloquium II  
A continuation of SDH 501A, a colloquium series that exposes students to a wide range of conceptual and substantive issues, which reflect the breadth and depth of health research generally. Attendance and participation in the colloquium is mandatory throughout their time in the SDH program. Students receive 3 units of pass/fail credit during their first year. Students will be required to make presentations of their own research in the colloquium.

SDH 590 - Units: 1.5  
Directed Studies  
Notes:  
• May be taken more than once for credit in different topics with the permission of the program.  
• Pro Forma required.

SDH 599 - Units: 6.0  
Thesis  
Grading: INP, COM, N, F

SDH 600A - Units: 1.5  
Fundamentals of Health Research I  
An interdisciplinary seminar covering fundamental topics in health research such as: basics in epidemiology, ethics, policy, health and wellness, grant and proposal writing, academic presentations, critical review for publication, knowledge transfer and developing community partnerships. Topics to be covered in the core courses are central to health research scholarship and provide core competencies preparatory to the independent research component of the program.

SDH 601A - Units: 1.5  
Social Dimensions of Health Colloquium  
The SDH colloquium series exposes students to a wide range of conceptual and substantive issues that reflect the breadth and depth of health research generally. Attendance and participation in the colloquium is mandatory throughout their time in the SDH program. Students receive 3 units of pass/fail credit during their first year. Students will be required to make presentations of their own research in the colloquium.

SDH 601B - Units: 1.5  
Social Dimensions of Health Colloquium  
A continuation of 601A, a colloquium series that exposes students to a wide range of conceptual and substantive issues that reflect the breadth and depth of health research generally. Attendance and participation in the colloquium is mandatory throughout their time in the SDH program. Students receive 3 units of pass/fail credit during their first year. Students will be required to make presentations of their own research in the colloquium.

SDH 690 - Units: 1.5  
Directed Studies  
Notes:  
• May be taken more than once for credit in different topics with the permission of the program.  
• Pro Forma required.

SDH 693 - Units: 3.0  
Comprehensive Exam  
Three questions related to their particular research area will be crafted by the student in consultation with their supervisory committee. The questions will be answered in a written format, drawing upon pertinent literature and will be evaluated on a pass/fail basis.  
Grading: INP, COM, N, F

SDH 699 - Units: 15.0  
Dissertation  
Prerequisite(s): SDH 693.  
Grading: INP, COM, N, F

SLST 501 - Units: 1.5  
Hours: 3-0  
Also: GMST 501  
Introduction to the Disciplines of Germanic and Slavic Studies  
An introduction to the research specialties that make up Germanic and Slavic Studies: literary and cultural studies, film studies, cultural history and second language acquisition. May include sessions on how to write a research grant proposal, do a sophisticated library research, prepare a bibliography and write a thesis proposal.  
Note: Credit will be granted for only one of SLST 501, GER 501, GMST 501.

SLST 502 - Units: 1.5  
Hours: 3-0  
Also: GMST 502  
Theory and Practice  
Introduces students to the theories and methodologies that animate the disciplines of Germanic and Slavic studies and may include topics such as professional skills, pedagogy and thesis writing.  
Note: Credit will be granted for only one of SLST 502, GMST 502.

SLST 503 - Units: 1.5  
Also: GMST 503  
Teaching in the Disciplines of Germanic and Slavic Studies  
A practice-based introduction to course design, teaching strategies, methodologies and assessment tools in the teaching areas of Germanic and Slavic Studies.  
Note: Credit will be granted for only one of SLST 503, GMST 503.

SLST 505 - Units: 1.5  
Advanced Russian Language Study  
Research topics may include Russian morphology, phonetics, lexicology, and language acquisition.

SLST 511 - Units: 1.5  
Studies in Film  
A critical analysis and study of films of the 20th and 21st century by Slavic and East European filmmakers.

SLST 521 - Units: 1.5  
Studies in Russian Literature and Culture  
Examination of literary works and cultural processes in Russian and/or Soviet society.

SLST 522 - Units: 1.5  
Studies in Ukrainian Literature and Culture  
Examination of literary works and cultural processes in Ukraine.

SLST 531 - Units: 1.5  
Studies in Slavic Cultural History  
A cultural studies approach to texts, films, performances, media and material objects and spaces in Slavic and East European nations.
SLST 560 Units: 1.5
Slavic-Canadian Studies
Examination of the culture of Slavic and East European diasporas in Canada, as well as their impact on the creative processes in their home countries.

SLST 570 Units: 1.5
Also: GMST 570
Studies in New Media in Second Language Acquisition
Critical examination of the current research on teaching a foreign language. Focus on learning and teaching outside of the language environment, foreign language learning theories, teaching methodologies and practices.
Note: Credit will be granted for only one of SLST 570, GMST 570.

SLST 581 Units: 1.5
Twentieth-Century Genocides in Eastern Europe
Examines the common and unique features of genocides, ethnic cleansing, and forced population transfers in twentieth-century Eastern Europe including the Ukrainian Famine, the Holocaust, and the Bosnian War.

SLST 590 Units: 1.5 Hours: 3-0
Directed Studies in Slavic Studies I
Notes:
• May be taken more than once for credit to a maximum of 4.5 units.
• Pro Forma required.

SLST 591 Units: 1.5 Hours: 3-0
Directed Studies in Slavic Studies II
Notes:
• May be taken more than once for credit in different topics to a maximum of 4.5 units.
• Pro Forma required.

SLST 599 Units: 6.0-9.0
Thesis
Grading: INP, COM, N, F

SOCI Sociology
Department of Sociology
Faculty of Social Sciences

SOCI 503 Units: 1.5
Classical Sociological Theory
An in-depth examination of the original works of Marx, Weber and Durkheim, with a supplemental focus on key themes, predecessors, contemporaries and descendents of the canonical trio in the years up to the 1920s.

SOCI 504 Units: 1.5
Formerly: 500
Contemporary Social Theory
Surveys the origins in, and critical responses to, contemporary social theory, including such formulations as postmodernism, post-structuralism, post-Marxism, psychoanalysis, and feminism and such theorists as Bauman, Beck, Bourdieu, Fraser, Giddens, Habermas, Hooks and Wallstein.
Note: Credit will be granted for only one of SOCI 504, SOCI 500.

SOCI 507 Units: 1.5
Statistical Analysis
An introduction to statistical methods for Sociology, including bivariate and multivariate analysis, with an emphasis on an introduction to regression models in the social sciences and on the use of computer statistical software to analyze sociological data. This course is equivalent to and may be taught as SOCI 471.
Note: Credit will be granted for only one of SOCI 507, SOCI 471; SOCI 371B (if taken prior to May 2011).

SOCI 508 Units: 1.5
Linear Models
Intermediate multivariate linear models and related methods with applications to sociological research, including a detailed assessment of model assumptions, diagnostics and extensions and the generalization of models to non-linear relationships. Includes the use of computer statistical software for the analysis of data.
Note: Credit will be granted for only one of SOCI 508, SOCI 472, SOCI 501.
Prerequisite(s): SOCI 507.

SOCI 510 Units: 1.5
Categorical Data Analysis
Introduction to statistical methods for analyzing categorical data. The emphasis is on practical applications rather than statistical theories.
Note: Students who have completed a course equivalent to SOCI 501 may request permission to register in the course.
Prerequisite(s):
• SOCI 501; or
• permission of the department.

SOCI 511 Units: 1.5 Hours: 3-0
Research Design
Planning sociological inquiry: formulating a problem, relating the problem to existing theory and research, and determining appropriate empirical strategies.

SOCI 515 Units: 1.5
Qualitative Research Methods
Key issues and methods in the systematic study of the social world through qualitative sociological research. Examination of the relationship between analytical perspective and methodological decisions, methods of gathering data and analysis, issues of language, representation, politics, social organization and participation.
Note: Students who have completed a course equivalent to SOCI 374 may request permission to register in the course.
Prerequisite(s):
• SOCI 374; or
• permission of the department.

SOCI 520 Units: 1.5
Formerly: 610
Selected Topics in Contemporary Sociology
A seminar on topics shaped by the interests of students and instructor. Topics may include current issues in contemporary social theory, environmental sociology, racialization, mass media and social power, feminist theory, the sociology of disability.
Note: Credit will be granted for only one of SOCI 520, SOCI 610 (if taken in the same topic).

SOCI 525 Units: 1.5
Gender, Power and Social Justice
An exploration of the formation and transformation of gender in the contemporary world, drawing on sociological, feminist and other relevant frameworks. Themes may include the relations between gendered discourses, identities and bodies, the political economy of gender, and intersections between gender and other forms of social power.

SOCI 535 Units: 1.5
Political Sociology
Examines political behaviour, formal politics, non-conventional politics, the state and civil society in contemporary societies. The social bases for political support and contention, including the role of social class and other forms of social cleavage and solidarity, the dimensions and consequences of the distribution of power in contemporary societies, and the political role of various social groups are discussed.

SOCI 545 Units: 1.5
Sociology of Health
The social determinants of health and illness in human societies. Topics may vary from year to year and, to a certain extent, will be modified to reflect student interest. Applies major theoretical perspectives in its coverage of specific topics. Topics may include: the social and cultural determinants of health with an emphasis on the health of vulnerable populations; embodiment and health; substance use and addictions; the organization and use of health services; public health; the conduct of socio-medical research; and ethical issues in health research.
Notes:
• May be taken more than once for credit in different topics.
• Students who have completed a course equivalent to SOCI 445 may request permission to register in the course.
Prerequisite(s):
• SOCI 445; or
• permission of the department.
Recommendation(s): SOCI 285 strongly recommended prior to SOCI 545.

SOCI 556 Units: 1.5
Social Movements
Studies the origins, strategies, ideologies and political implications of social movements in North America, Europe and beyond. Attention is given to ecology, feminist, gay/lesbian, anti-racist, and human rights movements, as well as to the formation of the New Right.
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**SOCI 585 - Seminar on Aging**
An advanced study of social gerontology. Topics may vary from year to year and may be modified to reflect student interest. Examples include: caregiving, inter-generational relations, and health care policies. Applies key theoretical perspectives to specific topics (such as examining the subjective worlds of caregivers to older adults from feminist and constructivist perspectives, critiquing neoliberal health care policies for an aging society from a political economy perspective). Not offered every year.

**Prerequisite(s):**
- SOCI 385 or permission of the department.

**SOCI 590 - Directed Studies**
May be taken more than once for credit to a maximum of 3 units.

**SOCI 598 - Major Research Paper**
A piece of independent research work involving substantial analytical engagement with a defined area of sociology guided by one or more research questions.

**Prerequisite(s):** Normally, a student is expected to have completed at least one year of course work prior to registration.

**Grading:** INP, COM, N, F

**SOCI 599 - Thesis**
Note: Students who have completed all coursework may request permission to register in the course. After 16 months of coursework, the student is required to have an approved proposal on file to maintain registration in SOCI 599.

**Grading:** INP, COM, N, F

**SOCI 620 - Selected Topics in Sociological Research Methods**
In-depth examination and/or comparison of specific research methods, such as survey research, critical discourse analysis, social network analysis, historical/comparative method, multilevel and longitudinal quantitative analysis, and institutional ethnography.

**SOCI 690 - Directed Studies**
May be taken more than once for credit to a maximum of 3 units.

**SOCI 693 - PhD Candidacy Examinations**
Students enrol in SOCI 693 for the duration of their preparation for their candidacy examinations. This begins at the time a student first enrolls in the PhD program and continues until candidacy requirements have been completed. Students are expected to complete all required coursework and comprehensive exams within 25 months after entering the PhD program.

**Grading:** INP, COM, N, F

**SOCI 699 - PhD Dissertation**
Prerequisite(s): SOCI 693.

**Grading:** INP, COM, N, F

**SOCI 505 - Advanced Child Welfare Seminar**
Explores topics of special interest in the development of child welfare practice from a critical, anti-oppressive and social justice perspective. Students are expected to conduct an analysis on a current child welfare topic they select in conjunction with the instructor.

**Notes:**
- Credit will be granted for only one of SOCI 505, SOCI 525, and INP 525.
- Offered as resources permit.

**SOCI 506 - Advanced Practicum**
A minimum of 450 hours of advanced social work practice and demonstration of the application of critical analysis to practice are required. Faculty of Human and Social Development regulations concerning practica apply to the MSW practicum.

**Prerequisite(s):**
- 6 units of coursework (4.5 units of Advanced Program core courses plus 1.5 units of elective); and
- admission to MSW Advanced program.

**Grading:** INP, COM, N, F

**SOCI 506A - MSWI Practicum**
A minimum of 450 hours of social work practice and demonstration of the application of critical analysis to practice are required. Faculty of Human and Social Development regulations concerning practica apply to the MSWI practicum.

**Prerequisite(s):**
- 6 units of coursework (4.5 units of Advanced Program core courses plus 1.5 units of elective); and
- admission to MSW Advanced program.

**Grading:** INP, COM, N, F

**SOCI 510 - Policy Context of Practice**
Also: SPP 510

**Grading:** INP, COM, N, F

**SOCI 511 - Contemporary Debates and Ethical Dilemmas in Social Work**
Examines and critiques current debates, ideas and discourses relating to social work knowledge and practice, with a specific focus on ethics. Emphasis is placed on postmodern, feminist, anti-racist and Indigenous perspectives as they challenge prevailing assumptions about individualism, meritocracy, professionalism and philanthropy. Specifically looks at the contributions of these perspectives to a critical theorizing of professional practice and ethics.

**Note:** Credit will be granted for only one of SOCI 511, SOCI 501, SOCI 518.

**SOCI 512 - Knowledge and Inquiry: Re-Theorizing Social Work**
Takes as its starting point the idea that responsible and effective professional and scholarly practice begins with a critical examination of how relations of power shape knowledge production. Over the term, assumptions underlying the creation of knowledge and different approaches to knowing authoritatively will be investigated. Questions of ‘how we come to know’ and ‘how we go about asking’ are explored through poststructural, postcolonial and critical race lenses.

**Note:** Credit will be granted for only one of SOCI 512, SPP 502, HSD 502.

**SOCI 515 - Transnational Social Work**
Transnational feminist theorists argue that transnationalism links contemporary notions of nationality, gender, race and class to earlier histories of colonization and present day imperialism. Students examine the practices of the secularized, neo-liberal Canadian welfare state towards transnational communities by: (a) understanding transnational feminist theories, (b) analyzing nation-making and global inequality, (c) reviewing practices of transnational feminist social justice activism, and (d) critiquing international social work in view of all of the above.

**SOCI 516 - Research Methodologies**
Also: SPP 516

**Grading:** INP, COM, N, F

**SOCI 517 - Research Seminar**
Focuses on specific methodological, analytical and/or theoretical aspects of research for the thesis or project. Is intended to support graduate students in the thesis or project research and writing that they undertake following the completion of their coursework. Content varies from year to year, depending on students' interests and needs.

**Prerequisite(s):** SOCI 516.

**Grading:** INP, COM, N, F
SOCW 521 Units: 1.5
Indigenous Perspectives on Knowledge and Research
Explores the dimensions of Indigenous ways of knowing that influence researching activities in Indigenous communities. Students will explore how, and from where, their own knowing emerges as well as critically examine how knowledge is constructed within larger society. Focuses on how power, culture, ethics, protocols, language, place and spirit shape knowledge.

SOCW 522 Units: 1.5
Critical Indigenous Analysis of Social Work Theory
Critical analysis, from an Indigenous perspective, of social work theory. Students critically examine how culture, modernism, class, race, and professionalism have shaped the development of social work practice; and how these characteristics manifest themselves in practice in Indigenous communities.

SOCW 523 Units: 1.5
Self-Conscious Traditionalism in Indigenous Social Work Practice Seminar
Critical exploration of alternative models of Indigenous social work practice drawn from the literature and from their own practice. Concepts and skills of Indigenous leadership are also explored.

SOCW 524 Units: 1.5
Critical Indigenous Analysis of Social Welfare Policy
Critical analysis from an Indigenous perspective of social welfare policy. Students critically examine how capitalism, colonialism, race and class are embedded in social welfare policy. Examples of Indigenous policy development are also examined to explore the components of alternative visions of welfare. Students are expected to apply ideas and concepts from the policy literature to policy development in their own agency.

SOCW 525 Units: 1.5
Seminar in Child Welfare Policy and Practice in Indigenous Communities
Examination of critical issues in family and child welfare policy and practice development in Indigenous Communities. The critical issues to be examined are determined collectively by students and faculty in the context of the literature.

SOCW 526 Units: 1.5
Seminar in Community Health Policy and Practice in Indigenous Communities
Examination of such critical issues in community health as sexual abuse, substance misuse and family violence along with the collective steps that Indigenous (and other) communities have taken to restore health. The critical issues to be examined are determined collectively by students and faculty.

SOCW 527 Units: 1.5
Research Methods
Critically reviews the research methodologies that have proved most productive in the development of Indigenous knowledge. Emphasizes the link between the development of a research question and the selection of methodological approaches. Students are required to apply this understanding to the preparation of a draft research proposal.
Prerequisite(s): All of SOCW 521, SOCW 522, SOCW 523, SOCW 524.

SOCW 528 Units: 1.5
Research Seminar
Provides support to students in the development of their research proposal (thesis or research project) and the conduct of their research.
Prerequisite(s): SOCW 527.
Corequisite(s): One of SOCW 596, SOCW 598, SOCW 599.

SOCW 531 Units: 1.5
Critical Exploration of Leadership Roles for Social Workers in Health Care
Inquiry based opportunity for students to critically examine their leadership styles and develop a foundational knowledge and skill base for effective involvement in organizational change, staff management, coaching and supervision, coordination of inter-professional teams and development of policies to address the social determinants of health.
Note: Offered as resources permit.

SOCW 532 Units: 1.5
Introduction to Social Work in the Health Care Sector
Examines the knowledge and skills required for social workers to be effective advocates while carrying out a range of responsibilities in the health sector within the context of a practice framework that focuses on the social determinants of health. The challenges and opportunities provided by the cultural and organizational contexts of practice in health care will be an important focus of the course for examining the inter-professional nature of practice. Particular aspects of practice such as appropriate documentation, informed consent and community development will be included.
Note: Offered as resources permit.

SOCW 533 Units: 1.5
Working with Trauma
Current theories and practices regarding the neurobiological, psychophysical and socio-cultural components of trauma. Four dimensions of experience will be explored: shock, developmental, accumulated stress, and socially and culturally-produced traumatic stress. Emphasis will be placed on concrete skills and strategies that have applicability to a wide variety of contexts. As well, students will learn to reduce the prevalence of secondary traumatization on themselves, colleagues, agencies and communities.
Note: Credit will be granted for only one of SOCW 533, SOCW 580 (if taken in the same topic).

SOCW 537 Units: 1.5
Environmental Justice and Social Work
Environmentalism has gained prominence in social work scholarship and earlier practice models that ignored the physical environment are now critiqued. Students enter with political allegiance to green issues; educators find compatibility between professional practice and views on spirituality, environmental justice, and social service provision. Fears over environmental destruction and a general sense of disconnection from nature are finding traction. Students will explore these themes through the lenses of race, space, and environmental justice.

SOCW 540 Units: 4.5
Foundation Practicum
A minimum of 450 hours of social work practice and demonstration of the application of critical analysis to practice are required. Faculty of Human and Social Development regulations concerning practice apply to the MSW practicum.
Prerequisite(s):
• SOCW 541; and
• 3 units of SOCW (Foundation program core) courses.
Pre- or Corequisite(s): SOCW 546.
Grading: INP, COM, N, F

SOCW 541 Units: 1.5
Critical Social Work Practice
Introduces strategies for socially just social work through the exploration of Indigenous, feminist, anti-racist, anti-colonialist and post-structural approaches to practice. The development of critical consciousness (historical, socio-cultural and political influences on professional and personal identities and experiences) is emphasized, and shifting sources and forms of professional power and authority are examined. Specific skills will include interpersonal communication, problem solving, and working in alliance and solidarity in the context of increased inequality and diminished resources.

SOCW 543 Units: 1.5
Theorizing Social Difference
How do we come to know who we are and how is this knowledge raced, embodied, engendered and embedded in a material context? These questions underpin social work knowledge and practice. Developing an analysis of social difference is a crucial skill for social workers. In this course students will be introduced to the concepts of marginalization and dominance as they play out in (primarily) North American contexts. The course will look at social work theories and knowledge as a departure point from which to explore interdisciplinary theorizations of concepts core to the profession.

SOCW 544 Units: 1.5
Social Work, the State and Citizenship
Taking the perspective of ‘citizenship as social’ explores the lived realities and experiences of citizenship as it is configured on the basis of geography, class, race, gender, and other identity locations. Using citizenship theories explores the nature of social inclusion and exclusion that mark citizens’ lives in the Canadian Welfare state; examines the emancipatory potential of citizenship-based social work that is grounded in a vision of social justice.

SOCW 545 Units: 1.5
Networks and Communities
Social work practice within communities and social networks. Definitions of community are explored as experienced and conceptualized from various locations. Critical historical and theoretical analysis and ethical dilemmas posed by various approaches to community work are examined. Students have the opportunity to develop theoretical and practical understandings of anti-oppressive, anarcho- and anti-colonial community practice as experiences within their own communities.
SOCW 546 - Collaborative Conversations
Units: 1.5

Focusses on developing social work practice skills with individuals and communities in ways that are both difference-centred and collaborative in nature. Students will critically analyze and develop their own, individual and community development, practice skills in relation to working in various community contexts, within a social justice framework. Students will examine ways to further difference-centred practice to become more effective, participatory and collaborative with clients, social services and civil society.

SOCW 547 - Historizing Social Work: Friendly Visits to Social Justice
Units: 1.5

Critical examination of the constitution of social work practice and theories at different historical and contextual moments and its varying roles in regulating the boundaries between national subjects and ‘others’. Students engage in critical/reflective study of social work responses to so-called ‘problem populations’ in the context of changing political, social, economic, and moral climates and the making of citizenship and nation.

SOCW 548 - Community Research Methods
Units: 1.5

Introduces community research methods; including collaborative, community-based and action research. Emphasizes methodological questions and techniques, both qualitative and quantitative, that are relevant to community-based social work practice and research.

SOCW 549 - Research Foundations
Units: 1.5

This course reviews foundational concepts and strategies of social work research with a focus on the comprehension, critique and utilization of research in social work practice settings. Students critically reflect on examples of research and examine how power shapes knowledge. Research approaches for conducting ethical, emancipatory and socially just research are examined.

SOCW 550 - Social Justice, Social Work and the Law
Units: 1.5

Explores and critiques theories and critical perspectives on law, the legal system and the legal processes that have an impact on professional social work practice. Students will critically examine the interplay between marginalization, structural inequalities, social work, social justice and the Canadian legal system.

SOCW 551 - Indigenous Communities: Practice and Policy
Units: 1.5

Critically examines the historical processes of colonization in Canada and resulting barriers embedded in past and current policy and practices that affect Indigenous peoples. Students will deconstruct colonization, race, class and capitalism as embedded in social welfare. Students will have an opportunity to examine their self-location, ideas, values and beliefs about working with Indigenous peoples and to develop a practice framework, based on social justice, for working with Indigenous communities.

SOCW 571 - MSW Capstone
Units: 1.5

A culminating educational experience to consolidate learning and demonstrate preparation for advanced social work practice. Students will integrate, articulate, and evaluate learning from the courses and practica in the MSW program within the context of their other professional activities and prior academic experiences.

Prerequisite(s): Completion of all required coursework in the MSW program (excluding SOCW 506 or SOCW 506A).

Pre- or Corequisite(s): SOCW 506 or SOCW 506A.

Grading: INP, COM, N, F

SOCW 580 - Special Topics in Social Work and Social Welfare
Units: 1.5 or 3.0

A variable content course that deals with special issues in social welfare and approaches to social work practice.

Notes:
- May be taken more than once for credit in different topics.
- Offered as resources permit.

SOCW 590 - Directed Studies
Units: 1.5 or 3.0

Individual studies under the direct supervision of a social work faculty member. The content, credit value, and method of evaluation must be approved by the instructor and the Graduate Adviser prior to registration.

Notes:
- May be taken more than once for credit in different topics.
- Pro Forma required.

SOCW 596 - Team Graduating Research Project/Report
Units: 3.0

Exploration of creative ways to integrate and disseminate what students have learned from the Master of Social Work program. Students will produce a scholarly paper, present their work, and respond to questions.

Prerequisite(s): 6 units of coursework in the MSW Advanced program (including SOCW 516).

Grading: INP, COM, N, F

SOCW 598 - Individual Graduating Research Project/Report
Units: 3.0

Students working under social work faculty supervision complete a research project. This can include undertaking a research project for a social agency.

Prerequisite(s): 6 units of coursework in the MSW Advanced program (including SOCW 516).

Grading: INP, COM, N, F

SOCW 599 - Thesis
Units: 6.0

Formerly: HSD 599.

Thesis

Specialized research on a topic area chosen in consultation with the student's supervisory committee.

Note: After 16 months of coursework, the student is required to have an approved proposal on file to maintain registration in SOCW 599.

Prerequisite(s):
- Completion of all required coursework in the MSW Advanced program (Thesis option); or
- permission of the school.

Grading: INP, COM, N, F

SPAN - Spanish Department of Hispanic and Italian Studies

Faculty of Humanities

SPAN 500 - Introduction to Bibliography and Methods of Research
Units: 1.5

Grading: INP, COM, N, F

SPAN 502 - Core Reading List Course I
Units: 1.5

Grading: INP, COM, N, F

SPAN 503 - Core Reading List Course II
Units: 1.5

Grading: INP, COM, N, F

SPAN 505 - Medieval Literature
Units: 1.5

Note: May be taken more than once for credit in different topics with permission of the department.

SPAN 507 - Renaissance and Baroque Literature
Units: 1.5

Note: May be taken more than once for credit in different topics with permission of the department.

SPAN 511 - Peninsular Literature from the 20th Century to the Present
Units: 1.5

Formerly: SPAN 509 and 517
Spanish and Latin American Literature of the 19th Century
Units: 1.5

Notes:
- May be taken more than once for credit in different topics with permission of the department.

SPAN 515 - Colonial Latin American Literature
Units: 1.5

Note: May be taken more than once for credit in different topics with permission of the department.

SPAN 519 - Latin American Literature from the 20th Century to the Present
Units: 1.5

May be taken more than once for credit in different topics with permission of the department.

SPAN 590 - Directed Studies
Units: 1.5 or 3.0

Grading: INP, COM, N, F

SPAN 598 - Master's Essay
Units: 3.0

Grading: INP, COM, N, F
STAT 556  Units: 1.5  

Topics in Statistics  
Topics include Analysis of Wildlife Populations, Bayesian Statistics, Bioinformatics, Biostatistics, Optimal design, Robust Statistics, Sampling Methods, Statistical Computing.  

Note: May be taken more than once for credit in different topics with permission of the department.  

STAT 558  Units: 1.5  

Design and Analysis of Experiments  
Basic principles of experimental design; factorial designs; block designs; fractional factorial designs; response surface designs; nested and split-plot designs; optimal designs; techniques of analysis of variance; fixed effects models; random effects models.  

STAT 559  Units: 1.5  

Survival Analysis  
Theory and techniques for censored and truncated data; nonparametric estimation of survival and cumulative hazard functions and associated hypothesis tests; semiparametric proportional hazards regression; survival models; regression diagnostics, inference for parametric regression models.  

STAT 562  Units: 1.5  

Distribution Free Statistics  
Classical distribution free methods: tests based on the binomial distribution, contingency tables, methods based on ranks, statistics of the Kolmogorov-Smirnov type. Computing intensive distribution-free methods: resampling methods and empirical likelihood methods.  

STAT 563  Units: 1.5  

Also: BIOL 563  

Topics in Applied Statistics  
Survival analysis, generalized linear models, multivariate normal models, resampling methods, nonparametric and robust methods, meta-analysis, miscellaneous techniques.  

STAT 568  Units: 1.5  

Generalized Linear Models  
Exponential family of distributions and generalized linear models; maximum likelihood estimation and inference; regression diagnostics; logistic regression; nominal and ordinal logistic regression; Poisson regression and log-linear models; clustered and longitudinal data.  

STAT 589  Units: 1.5  

Statistics Seminar  
Note: May be taken more than once for credit with permission of the department.  

STAT 598  Units: 3.0  

Master's Project  
Grading: INP, COM, N, F  

STAT 599  Units: 6.0  

Master's Thesis  
Grading: INP, COM, N, F  

STAT 693  Units: 3.0  

Candidacy Examination  
Grading: INP, COM, N, F  

STAT 699  Units: 21.0-30.0  

Dissertation  
Corequisite(s): STAT 693  
Grading: INP, COM, N, F  

THEA 500  Units: 1.5 or 3.0  
Methods and Materials of Theatre Research  

THEA 501  Units: 1.5 or 3.0  
Seminar in History and Criticism of Tragedy  

THEA 502  Units: 1.5 or 3.0  
Seminar in History and Criticism of Comedy  

THEA 503  Units: 1.5 or 3.0  
Seminar in European Theatre History  

THEA 504  Units: 1.5 or 3.0  
Seminar in North American Theatre History  

THEA 505  Units: 1.5 or 3.0  
Seminar in Theatrical Styles  

THEA 508  Units: 1.5 or 3.0  
Scene Design  

THEA 509  Units: 1.5 or 3.0  
Lighting Design  

THEA 510  Units: 1.5 or 3.0  
Costume Design  

THEA 511  Units: 1.5 or 3.0  
Production  

THEA 512  Units: 1.5 or 3.0  
Directing  

THEA 513  Units: 1.5 or 3.0  
Seminar in Theatre Aesthetics  

THEA 514  Units: 1.5 or 3.0  
Seminar in Design  

THEA 515  Units: 1.5 or 3.0  
Seminar in Directing  

THEA 516  Units: 1.5 or 3.0  
Seminar in Theatre History  

THEA 520  Units: 1.5 or 3.0  
Advanced Problems in Scene Design  

THEA 521  Units: 1.5 or 3.0  
Advanced Problems in Lighting Design  

THEA 522  Units: 1.5 or 3.0  
Advanced Problems in Costume Design  

THEA 523  Units: 1.5 or 3.0  
Advanced Problems in Directing  

THEA 524  Units: 6.0  
MFA Practicum  
Grading: INP, COM, N, F
THEA 535 Units: 1.5
Research Methods in Applied Theatre
Introduces different methodological approaches to researching and interpreting applied theatre practice, including qualitative and quantitative methods of theatre action research, ethnography and practice as research. Allows first-hand experience of conducting a theatre-based project and/or performance that targets a specific community.

THEA 590 Units: 1.5 or 3.0
Directed Studies
Note: May be taken more than once for credit in different topics with permission of the department.

THEA 598 Units: 4.5
MA Essay
Grading: INP, COM, N, F

THEA 599 Units: 6.0
MA Thesis
Grading: INP, COM, N, F

THEA 690 Units: 1.5-6.0
Directed Studies
Note: May be taken more than once for credit with permission of the department.
Prerequisite(s): Permission of the department.

THEA 693 Units: 3.0
Dissertation Proposal/Candidacy Exam
Grading: INP, COM, N, F

THEA 699 Units: 30.0
Dissertation
Prerequisite(s): THEA 693.
Grading: INP, COM, N, F

WRIT

WRIT 500 Units: 1.5
Graduate Writing Workshop
A workshop in which students will focus on writing and workshopping in one genre: poetry, fiction, creative nonfiction, playwriting or screenwriting.
Note: May be taken more than once for credit in different topics to a maximum of 4.5 units.

WRIT 501 Units: 1.5
Special Topics in Advanced Studies in Writing
A class that focuses on literary models, specific elements of craft, and topics of interest to writers in more than one genre.
Note: WRIT 509 Units: 1.5
Instructional Skill Preparation
A seminar which focuses on pedagogy and teacher training in creative writing.

WRIT 590 Units: 1.5
Directed Studies in Instructional Skills Preparation
A course which focuses on teacher training in creative writing.

WRIT 591 Units: 1.5
Directed Studies in Writing
A course tailored to the needs of a particular student in consultation with the supervisor and in the student's area of studies.

WRIT 598 Units: 9.0
Major Writing Portfolio
The creation of an original creative writing portfolio in one of the following genres: poetry (30-50 pages), creative nonfiction (60-120 pages), fiction (60-120 pages), a stage play (60-100 pages), a film script (60-90 pages) or a production project with script/manuscript in one of the above genres.
Grading: INP, COM, N, F