

# Course Listings

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## Details of Courses 2

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## Course Listings 3

---

Abroad, Study Term, ABROD	3
Accounting, ACCTG	3
Agreement Formal (Registration), AGRMT	3
Agricultural and Resource Economics, AREC	3
American Sign Language, ASL	3
Anglais langue seconde, ALS	4
Anthropology, ANTHR	4
Art, ART	4
Art History, ART H	4
Augustana Faculty - German, AUGER	5
Augustana Faculty - Physical Activity, AUPAC	5
Augustana Faculty - Physical Education, AUPED	5
Augustana Faculty - Religion, AUREL	5
Biochemistry, BIOCH	6
Biology (Biological Sciences), BIOL	6
Business, BUS	6
Business Law, B LAW	7
Cell Biology, CELL	7
Chemical and Materials Engineering, CME	7
Chemical Engineering, CH E	7
Chemistry, CHEM	7
Chinese, CHINA	8
Christian Theology at St Joseph's College, CHRTC	8
Christian Theology at St Stephen's College, CHRTP	8
Civil Engineering, CIV E	8
Classics, CLASS	9
Communication Sciences and Disorders, CSD	9
Communications and Technology, COMM	9
Community Service-Learning, CSL	10
Comparative Literature, CLIT	10
Computing Science, CMPUT	10
Dance, DANCE	11
Dental Hygiene, D HYG	11
Dentistry, DDS	11
Dentistry, DENT	11
Design, DES	11
Drama, DRAMA	11
Earth and Atmospheric Sciences, EAS	12
East Asian Studies, EASIA	12
Economics, ECON	12
Education, EDU	12
Education - Career Technology Studies, EDCT	13
Education - Elementary, EDEL	13
Education - Elementary and Secondary, EDES	14
Education - Field Experience, EDFX	14
Education - Fondements, EDU F	14
Education - Instructional Technology, EDIT	14
Education - Policy Studies, EDPS	15
Education - Psychologie, EDU P	15
Education - Psychology, EDPY	15
Education - Secondary, EDSE	16
English, ENGL	16
English for Academic Purposes, EAP	17
Etudes canadiennes, ETCAN	17
Exchange Program, EXCH	17
Film Studies, FS	18
Finance, FIN	18
Français, FRANÇ	18
French Language and Literature, FREN	18
German, GERM	19
Health Education, HE ED	19
History, HIST	19
Human Ecology, HECOL	19
Human Resource Management, HRM	20
Humanities Computing, HUCO	20
Integrated Petroleum Geosciences, IPG	20
Interdisciplinary Undergraduate & Graduate Courses, INT D	20
Undergraduate Courses	20
Japanese, JAPAN	21
Korean, KOREA	21
Latin, LATIN	21
Law, LAW	21
Library and Information Studies, LIS	22
Linguistics, LING	22
Maintaining Registration, M REG	22
Management Information Systems, MIS	22
Management Science, MGTSC	23
Marine Science (Biological Sciences), MA SC	23
Marketing, MARK	23
Materials Engineering, MAT E	23
Mathematics, MATH	23
Maîtrise ès sciences de l'éducation, M EDU	24
Mechanical Engineering, MEC E	24
Medical Genetics, MDGEN	24
Medical Microbiology and Immunology, MMI	24
Medicine, MED	25
Mining Engineering, MIN E	25
Modern Languages and Cultural Studies, MLCS	25
Music, MUSIC	25
Native Studies, NS	25
Nursing, NURS	26
Nutrition, NUTR	26
Occupational Therapy, OCCTH	26
Oncology, ONCOL	27
Operations Management, OM	27
Paediatrics, PAED	27
Petroleum Engineering, PET E	27
Pharmacy, PHARM	27
Philosophy, PHIL	28
Physical Activity, PAC	29
Physical Education and Sport, PEDS	29
Physical Education, Recreation and Leisure Studies, PERLS	30
Physical Therapy, P THER	30
Physics, PHYS	31
Physiology, PHYSL	31
Plant Science, PL SC	31
Political Science, POL S	31
Portuguese, PORT	32
Psychiatry, PSYCI	32
Psychology, PSYCO	32
Radiation Therapy, RADTH	33
Recreation and Leisure Studies, RLS	34
Rehabilitation Medicine, REHAB	34
Religious Studies, RELIG	34
Renewable Resources, REN R	34
Research, RSCH	34
Scandinavian, SCAND	34
School of Public Health, SPH	35
Science, Technology, and Society, STS	35
Sociologie, SOCIE	35
Sociology, SOC	35
Spanish, SPAN	36
Statistics, STAT	36
Strategic Management and Organization, SMO	36
Thesis, THES	37
Ukrainian, UKR	37
Women's and Gender Studies, WGS	37
Work Experience, WKEXP	38
Writing (Creative Writing), WRITE	38
Writing Studies, WRS	39

## Details of Courses

### 230 Details of Courses

Courses taught at the University of Alberta are listed alphabetically. All courses, except those taught by Faculté Saint-Jean, are described in English.

Each course is designated by its computer abbreviation and a number. Students should use this abbreviation and number when completing any form requiring this information.

Courses are numbered according to the following system:

000-099	Pre-University
100-199	Basic Undergraduate. Normally requires no university-level prerequisites. Designed typically for students in the first year of a program.
200-299	Undergraduate. Prerequisites, if any, are normally at the 100-level. Designed typically for students in the second year of a program.
300-399	Undergraduate. Prerequisites, if any, are normally at the 200-level. Designed typically for students in the third year of a program.
400-499	Advanced Undergraduate. Prerequisites, if any, are normally at the 300-level. Designed typically for students in the fourth year of a program.
500-599	Graduate. Designated for graduate students and certain advanced or honors undergraduate students in their final year.
600-799	Graduate Courses
800-899	Special Registrations
900-999	Graduate Thesis and Project Numbers

For the purposes of program descriptions and prerequisite designation, courses numbered 100-199 are designated as Junior Courses and courses numbered 200-499 are designated as Senior Courses.

**Note:** Some exceptions to the course number system described above have been granted to the Faculty of Law and the Faculty of Medicine and Dentistry.

### Course Description Symbols and Figures

Several symbols and figures are used to indicate the type, duration, and weight of courses.

- (1) ★—Indicates “units of course weight,” and usually follows the course title. The accompanying number indicates the weight of the course as used in computing grade point averages and for meeting degree requirements.

A course which runs throughout the Fall/Winter (i.e., from September through April) is usually weighted ★6. A course that runs for only one term (i.e., Fall: from September to December, or Winter: from January through April) is usually weighted ★3. Certain courses are offered over Fall/Winter or Spring/Summer, or in one term, with weights of ★1, ★2, and ★4. These are considered as one-sixth, one-third, and two-thirds of a Fall/Winter or Spring/Summer course, respectively. Some honors and graduate courses involving research may vary in weight according to the length and difficulty of the project. Some clinical courses may vary in weight according to the length of clinical experience. Some courses, not included in the computation of grade point averages, are offered for credit only and either carry a weight of ★0, or are marked as “Credit.”

Undergraduate students who take courses offered by the Faculty of Engineering but are not registered in Engineering will have a course weight assigned for these courses according to the protocol of their home Faculty.

- (2) *fi*—Denotes: “fee index,” the value used to calculate the instructional fees for each course. The fee index is multiplied by the fee index value (given in the appropriate subsection of §22.2) to give the dollar value of instructional fees for the course.

For normal courses, the fee index is twice the value of the units of course weight; for example, a course with ★3 normally has *fi* 6. In cases where exceptional fees considerations need to be made, the fee index is set differently by the Board of Governors.

Note that certain programs (e.g., MD, DDS, etc.) are assessed on a program fee basis for all or certain years. In these cases, the fee index calculation does not apply.

- (3) (x term, a-b-c)—These figures in parentheses give information on when the course is offered and the hours of instruction required by the course in a week, or in some cases the total time in a term.

In the case of a single-term course, the term in which the course is given is mentioned (item x). The designation “either term” means that the course may be offered either in the first term or in the second term or in each term, at the discretion of the department concerned. The designation

“variable” means that the course may be taught either as a single-term or as a full-session course.

Item **a** indicates lecture hours. Item **b** indicates seminar hour(s), demonstration hours (d), clinic hours (c), or lecture-laboratory hours (L). Item **c** indicates laboratory hours. For two-term courses, the hours of instruction are the same in both terms unless otherwise indicated. The expression 3/2 means 3 hours of instruction every second week; 2s/2 means 2 seminar hours every second week.

Examples:

(first term, 3-0-3): a course taught in first term with 3 hours lecture, no seminar, and 3 hours lab per week.

(second term, 0-1s-2): a course taught in second term with no lectures, 1 seminar hour, and 2 hours of lab per week.

(either term, 3-0-0): a course taught in either first or second term, or each term, with 3 lecture hours per week, no seminar, and no lab.

(two-term, 3-0-3): a course taught over both first and second term with three lecture hours, no seminar, and three hours lab per week.

(variable, 3-0-0): a course which may be taught in either first or second term or over two terms with three lecture hours per week, no seminar, and no lab.

- (4) **Prerequisite**—This provides information on courses which must be successfully completed before registering in the more advanced course.

**Corequisite**—This provides information on courses which must be taken before or at the same time as the course described in the listing.

Note: Departments are authorized to cancel the registration of those students registered in a course offered by the department if they do not meet the prerequisite and/or corequisite requirements stated in the course description in this Calendar.

- (5) **[Department]**— This indicates the department responsible for registration for interdepartmental courses. Normally, courses will be credited to the discipline listed in the square brackets.

- (6) **Open Studies Courses**— **O** indicates a course available to students of Open Studies. **D** indicates that a course is available to Open Studies students on a delayed registration basis only (see §22.0.2).

### Important: Registration Procedures for Two-Term Courses

Students are strongly advised to refer to the Registration and Courses menu at [www.registrarsoffice.ualberta.ca](http://www.registrarsoffice.ualberta.ca) for details. Two-term courses are normally offered over two terms (either Fall/Winter or Spring/Summer). In a few instances, two-term courses are offered within a single term. In all cases these are identifiable in the Class Schedule because they consist of part A and part B (e.g., English 111A and 111B).

To successfully register in a two-term course, students, must do the following:

- Register in both the part A and part B for all types of sections offered (Lectures, Labs, Seminars, etc.);
- Register in the same section numbers for part A and part B of a course (e.g., Lecture A1 for both part A and part B, and Lab E3 for both part A and part B);
- Register in all the appropriate sections on the same day.

All of the above must be done or the course registration is invalid and will be deleted. Invalid registrations will be deleted nightly. It is the student's responsibility to attempt the course registration again, subject to availability.

Example: A student wishes to register in ABCD 101, a two-term course. It has a lecture and a lab section. Based on the student's timetable planning, decides to take Lecture C3 and Lab C8. The student must add

In Fall Term      ABCD 101A Lec C3 and ABCD 101A Lab C8,

and

In Winter Term    ABCD 101B Lec C3 and ABCD 101B Lab C8.

All these sections must be added on the same day to successfully register. Otherwise the registration in ABCD 101 will be deleted overnight and the student's place in the course will be lost.

### Course Renumbering

Over the years many courses have been renumbered. Old numbers can be found within individual course listings of previous Calendar editions.

### Courses on Reserve

Courses not offered in the past four years are removed from this Calendar and placed on Reserve. These courses may be taught again in the future, in which case they would be brought back into the active Course Listings and placed in the Calendar. Information about Reserve Courses is available through the Registrar's Office, the University Secretariat, and Faculty Offices.

## Faculty Specific Regulations Regarding Courses

For specific Faculty regulations relating to courses and for a complete list of subjects taught by a Faculty, please consult the Undergraduate Programs section of the Calendar at the end of each Faculty section.

## Physical Requirements for University Courses

The University has a commitment to the education of all academically qualified students and special services are frequently provided on campus to assist disabled students.

Nevertheless, some courses make certain unavoidable demands on students with respect to the possession of a certain level of physical skill or ability if the academic objectives of the course are to be realized. In case of doubt, students are advised to contact the Department concerned and Specialized Support and Disability Services (SSDS), Office of the Dean of Students.

Because support services cannot be guaranteed for all off-campus courses, instructors may be obliged to refuse registration in such courses.

## Course Availability

The following is a comprehensive course listing of all the approved courses that the University of Alberta may offer. The appearance of a course in this list does not guarantee that the course will actually be offered. The most current information on courses is available on *Bear Tracks* at <https://www.beartracks.ualberta.ca>

# Course Listings

## Abroad, Study Term, ABROD

### Education Abroad Program

### Undergraduate Courses

#### **0** ABROD 800 Study Term Abroad

★0 (*fi 0*) (either term, unassigned). This course is reserved for students who wish to maintain registration while participating in formal University of Alberta managed and approved Study Abroad programs. Students are registered in this course for each approved term of study abroad. The only fees assessed for this registration are the normal registration and transcript fees associated with the term. Students are eligible to register in the course on more than one occasion. Closed to web registration. Contact the Education Abroad Program, University of Alberta International.

## Accounting, ACCTG

### Department of Accounting, Operations and Information Systems Faculty of Business

#### Notes

- (1) Enrolment in all ACCTG courses, except ACCTG 300, is restricted to students registered in the Faculty of Business, or to students registered in specified programs that require Business courses to meet degree requirements and who have obtained prior approval of their Faculty.
- (2) See also Management Information Systems listing.

### Undergraduate Courses

#### **ACCTG 322 Introduction to Accounting for Management Decision Making**

★3 (*fi 6*) (either term, 3-0-0). In contrast to the external orientation of ACCTG 311, this course focuses on how to prepare and use accounting information for management decision making. Major topics include: the role of corporate goals, planning and control concepts, how costs behave and how to analyze and manage them, budgeting and performance measures. Prerequisite: ACCTG 311.

#### **ACCTG 414 Intermediate Financial Accounting I**

★3 (*fi 6*) (either term, 3-0-0). First of two courses covering principles, methods and applications of current and proposed Generally Accepted Accounting Principles (GAAP). Emphasizes accounting for operating and investment assets, and related income measurement and disclosure. Prerequisites: ACCTG 311 and 322. Not open to students with credit in ACCTG 412. There is a consolidated exam for ACCTG 414.

#### **ACCTG 415 Intermediate Financial Accounting II**

★3 (*fi 6*) (either term, 3-0-0). Second of two courses (see ACCTG 414) covering principles, methods and applications of current and proposed Generally Accepted Accounting Principles (GAAP). Emphasizes accounting for financing, liabilities and

equity, related income measurement and disclosure, and cash flow. Prerequisites: FIN 301, and a minimum grade of C- in ACCTG 414 or 412.

#### **ACCTG 424 Intermediate Management Accounting**

★3 (*fi 6*) (either term, 3-0-0). Emphasizes mastery of techniques for implementation and evaluation of cost systems for management and decision making. Cost issues include: accumulating and analyzing costs using actual, standard and activity-based approaches, overhead allocation and cost estimation. Management topics include: pricing, production and investment decisions, revenue analysis, performance evaluation, management incentive systems and strategy analysis. Linear programming and multiple regression may be used. Prerequisites: ACCTG 322 and MGTSC 312. There is a consolidated exam for ACCTG 424.

#### **ACCTG 495 Individual Research Project I**

★3 (*fi 6*) (either term, 3-0-0). Special Study for advanced undergraduates. May be considered as a Group A or Group B elective at the discretion of the Department. Prerequisites: consent of Instructor and Assistant Dean, Undergraduate Program.

## Graduate Courses

#### **ACCTG 614 Intermediate Financial Accounting I**

★3 (*fi 6*) (either term, 3-0-0). First of two courses covering the theory, methods, strengths, and weaknesses of current Generally Accepted Accounting Principles (GAAP). Prerequisite: ACCTG 501. Students may receive credit for only two of ACCTG 610, 614, and 615.

#### **ACCTG 615 Intermediate Financial Accounting II**

★3 (*fi 6*) (either term, 3-0-0). Second of two courses covering theory, methods, strengths, and weaknesses of current Generally Accepted Accounting Principles (GAAP). Prerequisite: ACCTG 614. Students may receive credit for only two of the following three courses: ACCTG 610, 614, and 615.

#### **ACCTG 624 Seminar in Management Accounting**

★3 (*fi 6*) (either term, 3-0-0). Seminar consisting of topics concerned at an advanced level with generating and using accounting and related data in the planning and control functions of organizations. Prerequisite: ACCTG 523.

## Agreement Formal (Registration), AGRMT

### Faculty of Graduate Studies and Research

### Graduate Courses

#### **AGRMT 900 Formal Agreement Registration**

★0 (*fi 0*) (either term, unassigned). This course is reserved for University of Alberta graduate students participating in an approved program administered under a formal agreement between the University of Alberta and other institution(s), who wish to maintain part-time registration at the University of Alberta while studying at an approved partner institution. Closed to web registration. Registration is recommended to the FGSR by the student's home unit.

#### **AGRMT 909 Formal Agreement Registration**

★0 (*fi 0*) (either term, unassigned). This course is reserved for University of Alberta graduate students participating in an approved program administered under a formal agreement between the University of Alberta and other institution(s), who wish to maintain full-time registration at the University of Alberta while studying at an approved partner institution. Closed to web registration. Registration is recommended to the FGSR by the student's home unit.

## Agricultural and Resource Economics, AREC

### Department of Resource Economics and Environmental Sociology Faculty of Agricultural, Life and Environmental Sciences

### Undergraduate Courses

#### **AREC 400 Special Topics**

★3 (*fi 6*) (either term, 0-3s-0). Individual study of a selected topic or problem supervised by a Faculty member, requiring preparation of written reports. Prerequisite: consent of the Department Chair.

## American Sign Language, ASL

### Department of Modern Languages and Cultural Studies Faculty of Arts

### Undergraduate Courses

#### **0** ASL 111 Beginners' American Sign Language I

★3 (*fi 6*) (either term, 5-0-0). Designed to provide basic practical communication

and conversational skill in American Sign Language for students with little or no previous background. Covers material in matriculation-level ASL. Note: Not to be taken by students with native or near native proficiency, or students with credit in ASL 35 or its equivalents in Canada or other countries. Not to be taken by students with credit in EDPY 474 or 565.

### **O** ASL 112 Beginners' American Sign Language II

★3 (fi 6) (either term, 5-0-0). Prerequisite: ASL 111 or consent of Department. Note: Not to be taken by students with native or near native proficiency, or students with credit in ASL 35 or its equivalents in Canada or other countries.

## Anglais langue seconde, ALS

Faculté Saint-Jean

### Cours de 1er cycle

#### ALS 115 Niveau intermédiaire 1

★3 (fi 6) (l'un ou l'autre semestre, 3-0-2). Étude des éléments et des structures complexes de l'anglais parlé et écrit. Note : Anciennement ANGL 113 et ALS 160. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour ANGL 113, ESL ou EAP 140, 145, 150, ALS 120, 125, 160, ANGL 102 ou leurs équivalents. Affectation par test de placement obligatoire ou préalable ALS 110. Veuillez consulter l'article « Test obligatoire pour les étudiants ne présentant pas English 30 ou l'équivalent » dans la section de Faculté Saint-Jean de l'annuaire.

#### ALS 120 Niveau intermédiaire 2

★3 (fi 6) (l'un ou l'autre semestre, 3-0-2). Étude des éléments et des structures complexes de l'anglais parlé et écrit. Note : Anciennement ANGL 113 et ALS 160. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour ESL ou EAP 140, 145, 150, ALS 125, 160, ANGL 102 ou leurs équivalents. Affectation par test de placement obligatoire ou préalable ALS 115. Veuillez consulter l'article « Test obligatoire pour les étudiants ne présentant pas English 30 ou l'équivalent » dans la section de Faculté Saint-Jean de l'annuaire.

#### ALS 125 Introduction à l'anglais écrit, niveau universitaire

★3 (fi 6) (l'un ou l'autre semestre, 3-0-2). Vise à faire acquérir les compétences communicatives écrites nécessaires à l'expression courante de niveau universitaire. Note: Anciennement ANGL 102. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour ESL ou EAP 140, 145, 150, ALS 160, ANGL 102 ou leurs équivalents. Affectation par test de placement obligatoire ou préalable ALS 120. Veuillez consulter l'article « Test obligatoire pour les étudiants ne présentant pas English.

## Anthropology, ANTHR

Department of Anthropology  
Faculty of Arts

Note: Students with credit in ANTHR 202 have the equivalent of ANTHR 101.

### Undergraduate Courses

#### **O** ANTHR 101 Introductory Anthropology

★3 (fi 6) (either term, 3-0-0). Approaches to the study of Anthropology through the study of human biological, cultural and linguistic diversity, past and present.

#### **O** ANTHR 206 Introduction to Archaeology

★3 (fi 6) (either term, 2-0-1). Introduction to the nature, purposes, theory and methods of anthropological archaeology. Emphasis on principles of reconstruction of past societies from archaeological evidence and the explanation of cultural evolution.

#### **O** ANTHR 207 Introduction to Social and Cultural Anthropology

★3 (fi 6) (either term, 2-1s-0). Comparative study of human society and culture, particularly non-Western communities, with special attention to the family, social structure, economics and political institutions, and religion; processes of change.

#### **O** ANTHR 209 Introduction to Biological Anthropology

★3 (fi 6) (either term, 2-0-1). Survey of theory and basic data in human evolution and human variation. Topics include primatology, osteology, hominoid paleontology, variation in modern populations.

#### ANTHR 396 Archaeological Field Training

★6 (fi 12) (Spring/Summer, 3-0-3). Instruction in all practical aspects of archaeological field techniques, including excavation, survey, recording, photography, and conservation. This course can be applied to the Canadian content requirement when held at a Canadian site. Prerequisites: ANTHR 206 or equivalent, and consent of Department. Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

### ANTHR 471 Readings in Anthropology

★3 (fi 6) (either term, 0-3s-0). Individual research project conducted under the direction of a Department faculty member. Prerequisite: consent of Department.

### ANTHR 472 Independent Research

★3 (fi 6) (either term, 0-0-3). Individual research project involving significant laboratory work conducted under the direction of a Department faculty member. Prerequisite: consent of Department.

## Graduate Courses

Note: See also INT D 594 for a course which is offered by more than one department or Faculty and which may be taken as an option or as a course in this discipline.

## Art, ART

Department of Art and Design  
Faculty of Arts

Note: Because presence at lectures and seminars, participation in classroom discussion, and the completion of assignments are important components of most courses, students serve their best interest by regular attendance. This applies particularly to studio courses where attendance is a factor in grading.

### Undergraduate Courses

#### **O** ART 134 Art Fundamentals

★3 (fi 6) (either term, 0-6L-0). Studio-based exploration of both visual and conceptual Fine Art concerns in two- and three-dimensions. Note: ART 134 and DES 135 are required prerequisites for senior level ART or DES courses. Not open to students with credit in ART 131 or 132.

#### **O** ART 240 Drawing I

★3 (fi 6) (either term, 0-6L-0). Introduction to the principles and techniques of drawing. Note: Restricted to BA and BEd Art and Design Majors. Prerequisites: ART 134 and DES 135 and consent of Department. Not open to students with credit in ART 140.

#### **O** ART 337 Special Projects in Studio Disciplines: Introductory

★6 (fi 12) (two term, 0-6L-0). Normally offered in Spring/Summer. Prerequisites: ART 134 and DES 135 or ART 136 and DES 138 and consent of Department.

#### **O** ART 340 Drawing II

★3 (fi 6) (either term, 0-6L-0). Development and application of techniques and concepts of drawing with emphasis on drawing from the life model. Prerequisite: ART 140 or ART 240 and consent of department.

#### ART 362 Sculpture: Introductory Studies in Figurative Sculpture

★3 (fi 6) (either term, 0-6L-0). Foundation studies in figurative sculpture. Prerequisites: ART 134 and DES 135, or ART 136 and DES 138, and consent of Department. Corequisite: Normally ART 361, to be taken in the same academic year.

#### **O** ART 437 Special Projects in Studio Disciplines: Intermediate

★6 (fi 12) (two term, 0-6L-0). Normally offered in Spring/Summer. Prerequisite: consent of Department.

#### **O** ART 439 Special Projects in Drawing: Intermediate

★6 (fi 12) (two term, 0-6L-0). Normally offered in Spring/Summer. Prerequisites: ART 340, or 339 and consent of Department.

#### ART 465 Sculpture: Intermediate Studies I

★3 (fi 6) (first term, 0-6L-0). Intermediate studies in sculpture. Prerequisites: ART 361 and 362 and/or consent of the Department. Note: Not open to students with credit in ART 462 (★6).

#### **O** ART 537 Special Projects in Studio Disciplines: Advanced

★6 (fi 12) (two term, 0-6L-0). Normally offered in Spring/Summer. Prerequisite: consent of Department.

#### **O** ART 539 Special Projects in Drawing: Advanced

★6 (fi 12) (two term, 0-6L-0). Normally offered in Spring/Summer. Prerequisites: ART 439, or ART 440 and 441, and consent of Department.

## Art History, ART H

Department of Art and Design  
Faculty of Arts

Note: Since presence at lectures and seminars, participation in classroom discussion, and the completion of assignments are important components of most courses, students serve their best interest by regular attendance. This particularly applies to seminars in the history of art and design, where attendance is a factor in grading.

## Undergraduate Courses

### **0** ART H 102 History of Art, Design and Visual Culture II

★3 (fi 6) (either term, 3-0-0). Introduction to Western Art, Design and Visual Culture from the 15th century to the present.

### ART H 206 Early 20th-Century Art

★3 (fi 6) (either term, 3-0-0). History of the visual arts up to World War II in Europe and North America.

### ART H 210 History of Photography

★3 (fi 6) (either term, 3-0-0). A study of photography from its invention in the 19th century to its impact in the 20th and 21st centuries.

### ART H 211 Special Topics in the History of Art, Design and Visual Culture

★3 (fi 6) (either term, 3-0-0). Variable content course which may be repeated if topic(s) vary. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

## Augustana Faculty - German, AUGER

Department of Fine Arts  
Augustana Faculty

### Undergraduate Courses

#### AUGER 200 Intermediate German I and II

★6 (fi 12) (Spring/Summer, variable). Intensive course designed to develop further the comprehension, speaking, writing, reading skills acquired in Beginners' German through classroom instruction, excursions, and immersion experience, including living in a German home. Improvement in overall fluency, enhanced knowledge of the culture of the German-speaking countries and review of key grammatical concepts are integral to the course. Prerequisite: One of AUGER 102, demonstration of AUGER 102 equivalency by means of a placement exam administered by the instructor, one year Beginners' German at a Canadian university. Note: Credit may be obtained for only one of AUGER 200, 201, 202. Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

#### AUGER 300 Advanced German I and II

★6 (fi 12) (Spring/Summer, variable). Intensive course designed to develop further the comprehension, speaking, writing, reading skills acquired in Intermediate German through classroom instruction, excursions, and immersion experience, including living in a German home. Improvement in overall fluency, enhanced knowledge of the culture of the German-speaking countries and review of key grammatical concepts are integral to the course. Prerequisite: AUGER 200 or 202; or two years of German study at a Canadian university, including one year Beginners' level and one year Intermediate level. Note: Credit may be obtained for only one of AUGER 300, 301 and 302. Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

#### AUGER 400 Advanced German III and IV

★6 (fi 12) (Spring/Summer, variable). Intensive course designed to develop further the comprehension, speaking, writing, reading skills acquired in Advanced German through classroom instruction, excursions, and immersion experience, including living in a German home. Improvement in overall fluency, enhanced knowledge of the culture of the German-speaking countries and review of key grammatical concepts are integral to the course. Prerequisite: AUGER 300 or 302; or three years of German study at a Canadian university, including one year Beginners' level, one year Intermediate level and one year Advanced level. Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

#### AUGER 415 German Immersion Community Service-Learning

★3 (fi 6) (Spring/Summer, variable). Students provide 50 hours of community service to participants in the Canadian Summer School in Germany program in the form of supervised classroom support and peer consultation. They also critically reflect on curriculum as planned, taught, and interpreted and language teacher-student professional interpersonal relations. Prerequisite: Having participated in the Canadian Summer School in Germany and having completed AUGER 200, 300, or 400 and consent of the instructor. Note: Students enrolling in this course must be able to demonstrate a high level of German language proficiency.

#### AUGER 425 German Language Teaching and Learning

★6 (fi 12) (Spring/Summer, variable). Intensive blended course designed to improve students' understanding and application of second language acquisition theories and pedagogical content knowledge through online and classroom instruction as well as an immersion experience. This course will examine approaches such as content and language integrated learning, drama pedagogy, intercultural ethnography, and task-based language teaching in an immersion setting. Students will also enhance

their own German language skills, specifically as relating to everyday interaction, classroom language, and language awareness. Further development of knowledge about German culture, society, and/or history for the purpose of instruction in Canada is also integral to this course. The course materials, instruction and assignments will be in English and German; the immersion component will be entirely in German. Prerequisite: a working knowledge of German and consent of Department. Note: Students enrolling in this course must be able to demonstrate a high level of German language proficiency. This course is intended for pre-service teachers.

#### AUGER 525 German Language Teaching and Learning

★6 (fi 12) (Spring/Summer, variable). Intensive blended course designed to improve students' understanding and application of second language acquisition theories and pedagogical content knowledge through online and classroom instruction as well as an immersion experience. This course will examine approaches such as content and language integrated learning, drama pedagogy, intercultural ethnography, and task-based language teaching in an immersion setting. Students will also enhance their own German language skills, specifically as relating to everyday interaction, classroom language, and language awareness. Further development of knowledge about German culture, society, and/or history for the purpose of instruction in Canada is also integral to this course. The course materials, instruction and assignments will be in English and German; the immersion component will be entirely in German. Prerequisite: a working knowledge of German and consent of Department. Note: Students enrolling in this course must be able to demonstrate a high level of German language proficiency. This course is intended primarily for in-service teachers.

## Augustana Faculty - Physical Activity, AUPAC

Department of Social Sciences  
Augustana Faculty

### Undergraduate Courses

#### AUPAC 226 Moving Water Canoeing: Skill Development

★3 (fi 6) (spring/summer, 0-3L-0). Corequisite: AUPED 286. Note: Credit may be obtained for only one of AUPAC 226 and AUPAC 326. Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

#### AUPAC 326 Moving Water Canoeing: Skill and Instructional Development

★3 (fi 6) (spring/summer, 0-3L-0). Prerequisite: AUPAC 125 or AUPED 184 or consent of instructor. Credit may be obtained for only one of AUPAC 226 or 326.

## Augustana Faculty - Physical Education, AUPED

Department of Social Sciences  
Augustana Faculty

### Undergraduate Courses

#### AUPED 286 Outdoor Education and Leadership

★3 (fi 6) (spring/summer, variable). Opportunity for self-awareness and personal and group leadership development through extended outdoor tripping and small-group living. The skills associated with intermediate/advanced backpacking, wilderness navigation, white water canoeing, and Leave No Trace camping are developed and practised. Prerequisites: AUPED 184 or equivalent, and consent of the instructor. Corequisite: AUPAC 226 or 326. Notes: The course requires participation in field trips. A student must furnish his or her own outdoor clothing, footwear, and sleeping bag. Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

## Augustana Faculty - Religion, AUREL

Department of Fine Arts  
Augustana Faculty

### Undergraduate Courses

#### AUREL 266 India Tour

★3 (fi 6) (Spring/Summer, variable). Three-week study tour of India that focuses on a chosen region of India in order to examine the intersection between religious belief and practice and development challenges. Students will be exposed to various development projects as well as an array of religious sites. It is expected that students will gain an in depth understanding of India, its cultural and religious diversity, and the challenges it faces in the 21st century. Students will be exposed

to both rural and urban life. Prerequisite: AUREL 260 or AUECO 252. Notes: Costs associated with this India Tour course and applicable tuition are the responsibility of the students. Enrolment is limited to 15 students. Credit may be obtained for only one of AUREL 266 and AUECO 254. Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

## Biochemistry, BIOCH

Department of Biochemistry  
Faculty of Medicine and Dentistry

### Undergraduate Courses

Notes:

- (1) BIOCH 203 and 205 can be used by students in the Faculty of Science as science courses.
- (2) Program note to common first year in Biological Sciences: Students in the Department of Biological Sciences who wish to enrol in a Biochemistry program after Year 1 or wish to take BIOCH 203 and 205 are advised that BIOCH 203 requires a prerequisite of ★6 of Organic Chemistry and ★3 of General Chemistry.

#### **O** BIOCH 200 Introductory Biochemistry

★3 (fi 6) (either term, 3-0-0). An introduction to the fundamental principles of biochemistry. Protein structure and function; lipids and the structure of biological membranes; nucleotides and the structure of nucleic acids; bioenergetics and the metabolism of carbohydrates, lipids, and nitrogen; the integration and regulation of cellular metabolism. Prerequisites: CHEM 101 and CHEM 261 or 164, or SCI 100. CHEM 261 may be taken as a corequisite with permission of the department. Notes: (1) This course is designed for students who require a one-term introduction to the fundamental principles of biochemistry and for students who intend to take further courses in biochemistry. (2) BIOCH 200 may not be taken for credit if credit has already been obtained in any of BIOCH 203, 205, or 220.

#### **O** BIOCH 310 Bioenergetics and Metabolism

★3 (fi 6) (either term, 3-0-0). This course is designed to enable rigorous study of the molecular mechanisms in bioenergetics and metabolism. It covers: the principles of bioenergetics; the reactions and pathways of carbohydrate, lipid, and nitrogen metabolism, and their regulation; oxidative phosphorylation; the integration and hormonal regulation of mammalian metabolism. Prerequisites: BIOCH 200, CHEM 102 (or SCI 100) and CHEM 263 with a minimum GPA of 2.70 for these three courses. This course may not be taken for credit if credit has already been obtained in BIOCH 203 or 205. In the case of over-subscription, preference will be given to students enrolled in programs with a requirement for this course.

#### **O** BIOCH 320 Structure and Catalysis

★3 (fi 6) (either term, 3-0-0). This course is designed to illustrate, in detail, the relationships between structure and function in biological molecules. It covers: the structure of proteins; experimental techniques used to study proteins; selected illustrations of protein function; enzyme catalysis, kinetics, and regulation; structural carbohydrates and glycobiology; the structure of lipids; biological membranes and mechanisms of transport. Prerequisites: BIOCH 200, CHEM 102 (or SCI 100) and CHEM 263 with a minimum GPA of 2.70 for these three courses. This course may not be taken for credit if credit has already been obtained in BIOCH 203. In the case of over-subscription, preference will be given to students enrolled in programs with a requirement for this course.

#### **O** BIOCH 330 Nucleic Acids and Molecular Biology

★3 (fi 6) (either term, 3-0-0). This course is designed to provide students with a comprehensive introduction to the biochemistry of nucleic acids. It covers: the structure and properties of nucleotides and nucleic acids; DNA-based information technologies; genes and chromosome structure; molecular mechanisms in DNA replication, repair, and recombination; RNA metabolism; protein synthesis and targeting; the regulation of gene expression. Prerequisites: BIOCH 200, CHEM 102 (or SCI 100), and CHEM 263, with a minimum GPA of 2.70 for these three courses. This course may not be taken for credit if credit has already been obtained in BIOCH 205. In the case of over-subscription, preference will be given to students enrolled in programs with a requirement for this course.

#### **O** BIOCH 398 Research Project

★3 (fi 6) (either term, 0-0-8). Supervised research within a laboratory in the Department of Biochemistry. The results of the research project will be presented in a poster. This course is available only as a six week Spring or Summer session course. Prerequisites: Credit in at least one 300-level BIOCH course and consent of the Department. BIOCH 398 may not be taken for credit if credit has been obtained in BIOCH 498 or 499.

#### **O** BIOCH 401 Biochemistry Laboratory

★6 (fi 12) (two term, 0-0-8). Laboratory course in modern biochemical techniques. Designed for Biochemistry Honors and Specialization students in their third or fourth year. Other interested students may enrol subject to space limitations.

Prerequisites: BIOCH 320 and 330, or BIOCH 203 and 205, all with a minimum grade of B-, and consent of Department.

#### **O** BIOCH 497 International Directed Research Project

★6 (fi 12) (either term, variable). Supervised research within an international laboratory assigned by the Department of Biochemistry, to be carried out over one term (Spring or Summer). The results of the research project will be presented in an oral presentation. Can be taken as a science elective but not as a substitute for required courses in biochemistry. Can be taken for credit in addition to BIOCH 498 and BIOCH 499. Prerequisites: BIOCH 401 and consent of the Department.

## Biology (Biological Sciences), BIOL

Department of Biological Sciences  
Faculty of Science

### Undergraduate Courses

#### **O** BIOL 207 Molecular Genetics and Heredity

★3 (fi 6) (either term, 3-1s-3). The chromosomal and molecular basis for the transmission and function of genes. The construction of genetic and physical maps of genes and genomes. Strategies for the isolation of specific genes. Examples of regulatory mechanisms for the expression of the genetic material in both prokaryotes and eukaryotes. Prerequisite: BIOL 107 or SCI 100.

#### **O** BIOL 366 Northern Ecology

★3 (fi 6) (second term, 3-0-0). Examines the ecology of boreal and arctic ecosystems, including postglacial history, climate, geology, nutrient cycling and energy flow in forests, wetlands, lakes and marine systems, animal and plant adaptations to cold and current human impacts. Prerequisite: BIOL 208. Credit cannot be obtained for BIOL 366 and any of the following courses: REN R 365, 463, 466.

## Business, BUS

Department of Strategic Management and Organization  
Faculty of Business

Note: Enrolment in all BUS courses is restricted to students registered in the Faculty of Business, or to students registered in specified programs that require Business courses to meet degree requirements and who have obtained prior approval of their Faculty.

### Graduate Courses

#### **O** BUS 505 Ethics and Corporate Social Responsibility with Communications

★3 (fi 6) (either term, 3-0-0). This course focuses on the application of moral principles and models for ethical decision making to individuals and businesses in the 21st century. Contemporary ethical and social issues will be examined through the use of case studies, class discussions and presentations. Topics include concepts of individual ethics, workplace issues, corporate compliance and social and environmental responsibility. While examining ethical issues, emphasis will be placed on improving students' proficiency levels in verbal and written business communication.

#### **O** BUS 601 Business Practicum

★3 (fi 6) (two term, 3-0-0). Students are divided into groups and the groups are assigned a project in either a business or government organization. At the end of the course each group is required to write a report and to make a presentation derived from the project to the other groups in the course. Prerequisite: All required Year 1 MBA core courses.

#### **O** BUS 640 Strategic Supply Chain Management

★3 (fi 6) (either term, 3-0-0). This course introduces students to the fundamentals of Supply Chain Management and how it relates to a firm's competitiveness. Emphasis will be placed on the role of SCM in transforming global business practices and relations. SCM informs how a firm would source, design, produce, and market its products in today's global environment. Topics will include global business trends, current supply chain practices, international procurement, logistics and inventory management, performance assessment, supply management and SCM strategy in a global environment. Prerequisite: BUEC 503.

#### **O** BUS 715 Experimental Design for Behavioural Science

★3 (fi 6) (either term, 3-0-0). The objective of this course is to provide students with an understanding of the essential principles and techniques for conducting scientific experiments on human behavior. It is tailored for individuals with an interest in doing research using experimental methods in areas such as psychology, judgment and decision making, consumer behavior, behavioral economics and finance, organizational behavior, and human performance. Classes are conducted in an interactive seminar format, with extensive discussion of concrete examples, challenges, and solutions. Prerequisites: Registration in the Business PhD Program

or permission of instructor. Approval of the Associate Dean for the Business PhD Program also required for non-PhD students.

## Business Law, B LAW

Departments of Marketing, Business Economics, and Law  
Faculty of Business

Note: Enrolment in all B LAW courses, except B LAW 301, is restricted to students registered in the Faculty of Business, or to students registered in specified programs that require Business courses to meet degree requirements and who have obtained prior approval of their Faculty.

### Undergraduate Courses

#### B LAW 301 Legal Foundations of the Canadian Economy

★3 (*fi 6*) (either term, 3-0-0). Synoptic view of Canadian legal system, with emphasis on underlying considerations of social policy. While considering the nature, sources, philosophy, and policy objectives of the law, selected topics from the fields of tort and contract will be analyzed. Credit will be granted for only one of B LAW 301 and ENGG 420.

#### B LAW 402 Business Contracts

★3 (*fi 6*) (either term, 3-0-0). Examination of the special types of contracts that are encountered in business and commercial life. Topics include contract of sale, agency, negotiable instruments, insurance, bailment, employment contracts and contracts involving land as well as societal regulation of the freedom of contract. Prerequisite: B LAW 301 or ENGG 420.

#### B LAW 422 Law of Business Organizations

★3 (*fi 6*) (either term, 3-0-0). Introduction to the role of the corporation in the business and commercial life of Canada and Alberta, with emphasis on the small private company. Topics include characteristics of corporate existence, process of incorporation, forming a private company, relationship with third parties, distinction between management and ownership, duties of directors and officers, and shareholder rights. Prerequisite: B LAW 301 or ENGG 420.

#### B LAW 442 International Business Law

★3 (*fi 6*) (either term, 3-0-0). Study of the law regulating the conduct of international business transactions. This includes trade law (GATT, commodity agreements, economic integration, national rules); finance law (IMF, OECD, ICSID, multinationals, promotion and financing of world trade); and commercial law (payment mechanisms, international commercial contracts, UN Convention on the International Sale of Goods, settlement procedures, pertinent national and international laws). Prerequisite: Open to third-year and fourth-year students.

#### B LAW 495 Individual Research Project I

★3 (*fi 6*) (either term, 3-0-0). Special study for advanced undergraduates. Prerequisites: consent of Instructor and Assistant Dean, Undergraduate Program.

## Cell Biology, CELL

Departments of Biological Sciences and Cell Biology  
Faculties of Medicine and Dentistry; Science

### Undergraduate Courses

#### CELL 398 Research Project

★3 (*fi 6*) (either term, 0-0-3). Directed research carried out in the laboratory of an assigned member of a department participating in the Cell Biology Program. Credit may be obtained for this course only once. Successful completion requires a written report. Prerequisites: Open only to third year students. Pre or corequisite: Any 300-level Science course (CELL 300 recommended) or consent of the department. Students with a 300-level Biological Sciences or Biochemistry course may be considered at the discretion of the Cell Biology Undergraduate Advisor. Closed to Bear Tracks registration. Go to Department website for project information. This course can also be taken as a six week Spring/Summer session course. www.ualberta.ca/cellbiology

#### CELL 498 Research Project

★3 (*fi 6*) (either term, 0-0-6). Directed research carried out in the laboratory of an assigned member of a department participating in the Cell Biology Program. Credit may be obtained for this course more than once. Successful completion requires a written report. Prerequisites: A 300-level CELL, Biological Sciences, or Biochemistry course and the consent of the Cell Biology Undergraduate Advisor. Go to Department website for project information. This course can also be taken as a six week Spring/Summer session course. www.ualberta.ca/cellbiology.

#### CELL 499 Research Project

★6 (*fi 12*) (two term, 0-0-6). Directed research carried out in the laboratory of an assigned member of a department participating in the Cell Biology Program. The project normally continues through both the Fall and Winter Terms. Successful

completion of this course requires a written report and oral presentation on the research project. Prerequisite: A 300-level CELL, Biological Sciences, or Biochemistry course and the consent of the Cell Biology Undergraduate Advisor. Go to Department website for project information www.ualberta.ca/cellbiology

## Chemical and Materials Engineering, CME

Department of Chemical and Materials Engineering  
Faculty of Engineering

### Graduate Courses

#### CME 900 Directed Research

★3 (*fi 6*) (variable, unassigned). An engineering project for students registered in a Master of Engineering program.

## Chemical Engineering, CH E

Department of Chemical and Materials Engineering  
Faculty of Engineering

### Undergraduate Courses

Note: The Chemical and Materials Engineering Department offers a regular academic term from May-August. Courses designated as "Spring/Summer" in this section of the Calendar are part of this academic term and normally run for the full May-August period.

#### CH E 314 Heat Transfer

★3.5 (*fi 8*) (either term or Spring/Summer, 3-1s-0). Principles of conduction, convection and radiation heat transfer. Design and performance analysis of thermal systems based on these principles. Prerequisites: MATH 201, CH E 312. Corequisite CH E 374.

#### CH E 318 Mass Transfer

★4 (*fi 8*) (either term or Spring/Summer, 3-0-2). Molecular and turbulent diffusion; mass transfer coefficients; mass transfer equipment design including absorption and cooling towers, adsorption and ion exchange. Prerequisites: CME 265, CH E 312 and 343. Corequisite: CH E 314. Credit may not be obtained in this course if previous credit has been obtained for CH E 418.

#### CH E 345 Chemical Reactor Analysis I

★3.5 (*fi 8*) (either term or Spring/Summer, 3-1s-0). Kinetics of chemical reactions and design of ideal chemical reactors. Prerequisites: CME 265, CH E 343 and 374. Credit may not be obtained in this course if previous credit has been obtained for CH E 434.

#### CH E 358 Process Data Analysis

★5 (*fi 8*) (either term or Spring/Summer, 3-0-4). Statistical analysis of process data from chemical process plants and course laboratory experiments. Topics covered include least squares regression, analysis of variance, propagation of error, and design of experiments. Prerequisites: CH E 351 and STAT 235. Corequisites: CH E 314 and 345.

#### CH E 454 Chemical Engineering Project Laboratory

★3 (*fi 8*) (second term, 1-0-4). Experiments in kinetics and mass transfer. Prerequisites: CH E 318, 345, 358, and 416.

## Chemistry, CHEM

Department of Chemistry  
Faculty of Science

### Undergraduate Courses

#### CHEM 101 Introductory University Chemistry I

★3 (*fi 6*) (either term, 3-1s-3). Atoms and molecules, states of matter, chemistry of the elements. Prerequisite: Chemistry 30, or equivalent.

#### CHEM 102 Introductory University Chemistry II

★3 (*fi 6*) (either term, 3-1s-3). Rates of reactions, thermodynamics and equilibrium, electro-chemistry, modern applications of chemistry. Prerequisite: CHEM 101.

#### CHEM 103 Introductory University Chemistry I

★4.3 (*fi 6*) (either term, 3-1s-3/2). Atoms and molecules, states of matter, chemistry of the elements. Prerequisite: Chemistry 30, or equivalent. Note: Restricted to Engineering students only. Other students who take this course will receive ★3.0.

#### CHEM 105 Introductory University Chemistry II

★3.8 (*fi 6*) (either term, 3-0-3/2). Rates of reactions, thermodynamics and equilibrium, electrochemistry, modern applications of chemistry. Prerequisite:

CHEM 103. Note: Restricted to Engineering students only. Other students who take this course will receive ★3.0.

#### CHEM 261 Organic Chemistry I

★3 (fi 6) (either term, 3-0-3). The correlation of structure and chemical bonding in carbon compounds with the physical properties and chemical reactivity of organic molecules. Discussion will be based on functional groups with emphasis on hydrocarbons and derivatives that contain halogens, oxygen, sulfur, and the hydroxy group. Introduction to stereochemistry, three dimensional structure, reaction mechanisms, especially addition to double bonds, nucleophilic substitution and elimination reactions. Prerequisite: CHEM 101 or 103. Note: Students who have obtained credit for CHEM 161 or 164 cannot take CHEM 261 for credit. Engineering students who take this course will receive ★4.5.

#### CHEM 263 Organic Chemistry II

★3 (fi 6) (either term, 3-0-3). Continuation of the structural and chemical properties of the basic functional groups of organic compounds including alkynes, aromatic compounds, aldehydes, ketones, carboxylic acids and their derivatives and amines. Illustration of these functional groups in natural products such as carbohydrates, amino acids and proteins, nucleic acids and lipids. Discussion of the application of spectroscopic methods for the structure determination in simple organic molecules. Prerequisites: CHEM 161 or 164 or 261 or SCI 100. Note: Students who have obtained credit for CHEM 163 cannot take CHEM 263 for credit.

## Chinese, CHINA

Department of East Asian Studies  
Faculty of Arts

### Undergraduate Courses

#### CHINA 101 Basic Chinese I

★3 (fi 6) (either term, 5-0-0). A non-intensive introduction to Mandarin Chinese. Note: Not open to students with matriculation in Chinese, i.e., CHINA 30 or equivalent.

#### CHINA 102 Basic Chinese II

★3 (fi 6) (either term, 5-0-0). A continuation of CHINA 101. Prerequisite: CHINA 101. Note: Not open to students with matriculation in Chinese, i.e., CHINA 30 or equivalent.

## Christian Theology at St Joseph's College, CHRTC

St Joseph's College

Note: The following courses can be used as Arts options.

### Undergraduate Courses

#### CHRTC 100 The Bible: An Introduction

★3 (fi 6) (either term, 3-0-0). The history and theology of the Old Testament and New Testament.

#### CHRTC 220 Sport and Religion

★3 (fi 6) (either term, 3-0-0). An investigation into past and contemporary interplay between sport and religion from a Christian perspective.

#### CHRTC 250 The Theological Education of the Catholic Teacher

★3 (fi 6) (either term, 3-0-0). The components that make up the education of the Catholic teacher. Issues include credal statements, the moral and social teachings of the Church, liturgical practices, a general theology and theory of Catholic education.

#### CHRTC 264 Dimensions of the Christian Faith

★3 (fi 6) (either term, 3-0-0). What is Christianity? An introduction to the major dimensions of Christianity, such as revelation, faith, Scripture, God, Jesus as Lord and Saviour, with reflection on them in light of contemporary human experience. Formerly CHRTC 364.

#### CHRTC 309 Topics in the Christian Tradition

★3 (fi 6) (either term, 3-0-0).

#### CHRTC 339 International Service Learning

★3 (fi 6) (either term, 3-0-0). Supervised international work experience in selected Christian social agencies. Evaluation based on experience and seminars. Prerequisite: Consent of the College.

#### CHRTC 342 Tolkien: The Theology of Middle Earth

★3 (fi 6) (either term, 3-0-0). An exploration of J.R.R. Tolkien's writings on the world of Middle Earth as they relate to his Catholic faith. This course seeks to critically appreciate the artistic vocation and theological vision of J.R.R. Tolkien while exploring a major work of 20th century literature.

#### CHRTC 350 Science and Religion: Christian Perspectives

★3 (fi 6) (either term, 3-0-0). An examination of relationships between science and religion. Topics may include Galileo affair, geology and Noah's flood, Darwin's religious beliefs, evolution vs creation debate, intelligent design, natural evil, interpretations of Genesis 1-11.

#### CHRTC 380 Christian Religious Education and the Child

★3 (fi 6) (either term, 3-0-0). Key themes relevant to the faith life of children, such as: the presence of God, a sense of belonging, the need for community. Examination of selected Alberta school curriculum topics.

#### CHRTC 381 Christian Religious Education and the Adolescent/Young Adult

★3 (fi 6) (either term, 3-0-0). Key themes relevant to the faith search of adolescents/young adults, such as: the life and teachings of Jesus, the challenge of the Gospel in our culture, and the meaning of belonging and commitment to Church. Examination of selected Alberta school curriculum topics.

#### CHRTC 407 Topics in Christian Religious Education

★3 (fi 6) (either term, 0-3s-0). Prerequisite: CHRTC 380 or 381 or consent of the College.

#### CHRTC 450 Directed Readings in Catholic Theology

★3 (fi 6) (either term, 0-3s-0). An intensive directed readings course on a topic selected by the student in consultation with one of the faculty. A major term paper is required. Prerequisites: One course in Christian theology and permission of the College.

### Graduate Courses

#### CHRTC 501 Directed Reading in Catholic Theology

★3 (fi 6) (either term, 0-3s-0). Prerequisite: consent of College.

#### CHRTC 609 Topics in Christian Tradition

★3 (fi 6) (either term, 0-3s-0).

## Christian Theology at St Stephen's College, CH RTP

St Stephen's College

Note: The following courses can be used as Arts options.

### Undergraduate Courses

#### CH RTP 411 Independent Study in Theology

★3 (fi 6) (either term or Spring/Summer, 0-3s-0). Directed reading or research in a chosen area of theology.

### Graduate Courses

#### CH RTP 511 Independent Study in Theology

★3 (fi 6) (either term or Spring/Summer, 0-3s-0). Directed reading or research in a chosen area of theology.

## Civil Engineering, CIV E

Department of Civil and Environmental Engineering  
Faculty of Engineering

### Undergraduate Courses

#### CIV E 251 Survey School

★1.5 (fi 4) (second term or Spring/Summer, 1 week). Practical exercises in field methods; project type of assignments; field astronomy; electronic distance measuring instruments. Note: Survey School is held off campus. Prerequisite: CIV E 250.

### Graduate Courses

#### CIV E 729 Advanced Topics in Environmental Engineering

★3 (fi 6) (either term, 3-0-0).

#### CIV E 799 Advanced Topics in Soil Mechanics

★3 (fi 6) (either term, 3-0-0).

#### CIV E 900 Directed Research Project

★3 (fi 6) (variable, unassigned). An engineering project for students registered in a Masters of Engineering program.

#### CIV E 910 Directed Research

★6 (fi 12) (variable, unassigned). An engineering project for students registered in the joint MBA/MEng program.

## Classics, CLASS

Department of History and Classics  
Faculty of Arts

Notes:

- (1) None of the courses under this heading will fulfil the language-other-than-English requirement of the BA degree.
- (2) All 200- and 300-level courses under this heading are survey courses designed primarily for the non-specialist and may be taken by students with no knowledge of Greek or Latin.
- (3) The Classics Department does not permit first-year students, regardless of their faculty, to take its 300-level courses. It permits only third- and fourth-year students, regardless of their faculty, to take its 400-level courses.
- (4) The courses numbered 460 through 500, are designed for fourth-year, Honors, and graduate students. No Greek or Latin is required at the 400-level, but may be required at the 500-level. The precise topics covered in any given course may vary from year to year. Some account, therefore, may be taken of the particular interests of students within the framework of the course. Normally, students who take these courses are expected to have at least one senior course in ancient history or literature; if they do not, they must obtain the consent of Department to their registration, and the Department will consider their special needs. Note: Details of the topics to be offered in any given year may be obtained from the Department. For additional related courses see Greek and Latin listings.

### Undergraduate Courses

#### **O** CLASS 102 Greek and Roman Mythology

★3 (fi 6) (either term, 3-0-0). A survey of classical mythology with readings in translation from various ancient authors as well as from modern scholarly works.

#### CLASS 103 Introduction to Ancient Greece

★3 (fi 6) (either term, 3-0-0). Formerly CLASS 270.

#### CLASS 104 Introduction to Ancient Rome

★3 (fi 6) (either term, 3-0-0). Formerly CLASS 271.

#### **O** CLASS 110 The Ancient World

★3 (fi 6) (either term, 3-0-0). World history from the beginning of written records to the sixth century AD. The ancient history of the Mediterranean world, with particular emphasis on Egypt, Greece and Rome and compares developments in civilization in these areas with those in Persia, India and China.

#### **O** CLASS 475 Techniques of Classical Field Archaeology

★3-6 (variable) (variable, 0-10L-0). The techniques of survey, excavation and recording in Classical Archaeology. Prerequisites: Students must be either Classics majors or in a Classics graduate program. Note: Offered only for fieldwork in the archaeology of the Greek and Roman world and restricted to those participating in a fieldwork program sponsored by the Department. Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

#### **O** CLASS 476 Advanced Field Techniques in Classical Archaeology

★3-6 (variable) (variable, 0-10L-0). Advanced field application of Classical Archaeological Theory. Prerequisites: CLASS 475 or equivalent. Note: Offered only for fieldwork in the archaeology of the Greek and Roman world and restricted to those participating in a fieldwork program sponsored by the Department. Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

### Graduate Courses

#### CLASS 601 Studies in Classical Archaeology I

★3 (fi 6) (either term, 0-3s-0). Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

#### CLASS 602 Studies in Classical Archaeology II

★3 (fi 6) (either term, 0-3s-0). Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

#### CLASS 900 Directed Research Project

★3-9 (variable) (either term, unassigned).

## Communication Sciences and Disorders, CSD

Communication Sciences and Disorders Department  
Faculty of Rehabilitation Medicine

Note: CSD courses are open to CSD students only.

### Undergraduate Courses

#### **O** CSD 200 Introduction to Communication Sciences and Disorders

★3 (fi 6) (either term or Spring/Summer, 3-0-0). An overview of the scientific study of communication, major types of speech, language, and hearing disorders, and the work of professionals in speech-language pathology and audiology. Sections offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students.

#### **O** CSD 211 Language Development in Children and Adolescents

★3 (fi 6) (either term or Spring/Summer, 0-3L-0). Introduction to the study of the development of all aspects of language, from sounds to social interaction, from birth through adolescence. Includes a review of theories and current research as well as practice with analyses of children's language. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students. Consent of Department required. Prerequisite: LING 101 or equivalent. Note: Credit cannot be received for both CSD 211 and LING 319.

### Graduate Courses

#### CSD 516 Diagnosis and Appraisal of Communication Disorders

★3 (fi 6) (either term, 0-3L-0). A study of the principles underlying the evaluative and management procedures in communication disorders. History taking, report writing, recording observations, analysis of tests relevant to the clinical process and test procedure administration will be covered. Corequisite: CSD 524. (Restricted to MScSLP students only.) Not open to students with credit in SPA 516.

#### CSD 523 Augmentative/Alternative Communication Systems

★1.5 (fi 3) (either term, 0-2L-0). This course will provide a description of various augmentative/alternative communication systems, including microcomputers. It will address assessment questions and the intervention process for individual users with communication disorders. Prerequisite: CSD 518. (Restricted to MScSLP students only.) Not open to students with credit in SPA 523.

#### CSD 524 Introduction to Clinical Practicum I

★7.5 (fi 15) (two term, 0-8c-2). Credit. Practical application of clinical procedures under direct supervision. Normally, students will possess an academic background enabling them to assume direct treatment responsibilities with children and adults having disorders of articulation and/or language. A minimum of 48 direct contact hours as well as simulated and indirect contact hours will be accrued. Seminar content will include topics of clinical and/or professional significance such as ethics, health law, private practice, goal setting and data collection. Flexibility in seminar topics will accommodate new topics as they arise. Prerequisites: At least six MScSLP courses including CSD 507, 511, 518. Corequisite: CSD 516. (Restricted to MScSLPs students only.) Not open to students with credit in SPA 524.

#### CSD 540 Advanced Clinical Practicum

★4.5 (fi 9) (either term, 0-12c-0). Credit. Full-time supervised clinical practice normally for a period of six weeks in an approved clinical service facility. Students will have completed all academic course work and will be prepared to work with a broad range of communication disorders under reduced supervision. A minimum of 75 direct contact hours as well as simulated and indirect contact hours will be accrued. Prerequisites: CSD 532 and 533. (Restricted to MScSLP students only.) Not open to students with credit in SPA 540.

#### CSD 541 Advanced Clinical Practicum

★4.5 (fi 9) (either term, 0-12c-0). Credit. Full-time supervised clinical practice normally for a period of six weeks in an approved clinical service facility. Students will have completed all academic course work and will be prepared to work with a broad range of communication disorders under reduced supervision. A minimum of 75 direct contact hours as well as simulated and indirect contact hours will be accrued. Prerequisites: CSD 532 and 533. (Restricted to MScSLP students only.) Not open to students with credit in SPA 541.

#### CSD 597 Advanced Clinical Practicum

★1-4.5 (variable) (either term, variable). May be repeated. Credit. Full-time supervised clinical practice for a period varying from four to twelve weeks in an approved clinical service facility. Students will have completed all academic course work and will be prepared to work with a broad range of communication disorders under reduced supervision. Direct contact hours as well as simulated and indirect contact hours will be accrued. Prerequisites: CSD 516 and 524 and permission of the department. (Restricted to MScSLP students only.)

## Communications and Technology, COMM

Faculty of Extension

### Graduate Courses

#### COMM 501 Applied Research in Communications and Technology

★3 (fi 6) (either term, 3-0-0). Introduction to quantitative and qualitative approaches for conducting research into technology-mediated communications. Guides students

in their topic selection and development for their culminating project. Restricted to MACT students, normally in the second year. Students may not receive credit for both EXT 501 and COMM 501. Prerequisite: COMM 502 and COMM 503 or consent of the Department.

#### COMM 502 Human Communication

★3 (*fi 6*) (Spring/Summer, 3-0-0). Survey of classic theories and emerging perspectives in communication studies. Emphasizes the development of skills for analyzing and understanding communication in context. Restricted to MACT students, normally in the first year. Offered during the Spring Institute. Students may not receive credit for both EXT 502 and COMM 502.

#### COMM 503 Social Impact of Digital Communications

★3 (*fi 6*) (Spring/Summer, 3-0-0). This course explores the social impact of digital communications, with a specific focus on new and emerging social media and networks. Course themes cover a broad range of topics on the history and development of digital communications including social networks, virtual communities, and participatory culture. This course also touches on legal, ethical, and practical dimensions of digital communications as they relate to a range of personal and professional contexts. Restricted to MACT students, normally in the first year. Offered during the Spring Institute. Students may not receive credit for both EXT 503 and COMM 503.

#### COMM 506 Strategic Communications in a Digital World

★3 (*fi 6*) (either term, 3-0-0). The conceptual and practical foundations for effective strategic communications management will be examined, providing professionals with the insights and skills needed to integrate digital media into strategic communications planning for a range of organizations including non-profit, education, government, health, and private sector. Restricted to MACT students. Students may not receive credit for both EXT 506 and COMM 506. Prerequisites: COMM 502 and COMM 503 or consent of the Department.

#### COMM 508 Culminating Project

★6 (*fi 12*) (two term, unassigned). Under supervision, students undertake a project that addresses some practical problem, issue, or objective related to communications and technology. Restricted to MACT students. Course delivered by asynchronous Internet communication. Not available to students admitted to the program after May 2010.

#### COMM 550 Introduction to Electronic Commerce

★3 (*fi 6*) (either term, unassigned). An introduction to the concepts, technologies, and functions of electronic commerce. Considers the organizational implications of electronic commerce as a broad shift in how transactions are completed in the marketplace. Offered by asynchronous Internet communication. Students may not receive credit for both EXT 555 and COMM 550.

#### COMM 554 Risk Communication

★3 (*fi 6*) (either term, 3-0-0). The theory, research, and practice of risk communication are explored through the introduction of models of risk communication and risk assessment in various contexts which may include environmental issues, public health and safety, occupational hazards, and consumer products. Students may not receive credit for both COMM 597 (Case Studies in Risk Communication) and COMM 554.

#### COMM 590 Conference Course in Communications and Technology

★3 (*fi 6*) (either term, unassigned). Offered by asynchronous Internet communication, in the classroom, or as a tutorial.

#### COMM 598 Directed Study in Communications and Technology

★3 (*fi 6*) (either term, unassigned). An elective course to be completed under the direction of a faculty member. Requires the approval of the Director. Offered by asynchronous Internet communication.

#### COMM 900 Directed Research Project

★6 (*fi 12*) (two term, unassigned). Offered by asynchronous Internet communication. Restricted to MACT students. Students may not receive credit for both COMM 508 and COMM 900.

## Community Service-Learning, CSL

Office of Interdisciplinary Studies  
Faculty of Arts

### Undergraduate Courses

#### CSL 370 Topics in Community Issues

★3 (*fi 6*) (either term, variable). Content varies from year to year. Prerequisite: consent of Program. Repeatable if topic(s) vary.

#### CSL 480 Individual Study in Community Service-Learning

★3 (*fi 6*) (variable, unassigned). Individual study opportunity on topics for which no specific course is currently offered. Prerequisites: Consent of Community Service - Learning Director, consent of instructor, and completion of a 3 credit course with a CSL component.

## Graduate Courses

### CSL 550 Selected Topics in Community Service-Learning

★1-6 (*variable*) (variable, unassigned). Content varies from year to year. Topics and credit value announced prior to registration period. Prerequisite: consent of instructor. This course may require payment of an additional miscellaneous fee.

## Comparative Literature, C LIT

Department of Modern Languages and Cultural Studies  
Faculty of Arts

Note: Courses in Comparative Literature teach a number of literatures from an international perspective with the help of translations as necessary.

### Undergraduate Courses

#### C LIT 101 World Literature I

★3 (*fi 6*) (either term, 3-0-0). An introduction to major works of the world's literary heritage, presented in their historical, social, and cultural contexts. Covers the period from the beginnings of literary civilizations until the 17th century. Not open to students with C LIT 100.

#### C LIT 102 World Literature II

★3 (*fi 6*) (either term, 3-0-0). An introduction to major works of the world's literary heritage, presented in their historical, social, and cultural contexts. Covers the period from the 17th century through the present day. Not open to students with credit in C LIT 100.

#### C LIT 220 Mythology and Literature

★3 (*fi 6*) (either term, 3-0-0). Examines how world mythologies have been given literary expression, both in ancient texts and modern reworkings.

#### C LIT 243 Fairy Tales and Folk Tales

★3 (*fi 6*) (either term, 3-0-0). A survey of European fairy tales and an introduction to critical and theoretical approaches to the folk tale in general and the fairy tale in particular.

## Computing Science, CMPUT

Department of Computing Science  
Faculty of Science

### Notes

- (1) Students with appropriate academic standing, and who are enrolled in any Faculty of Science Honors, Specialization, or Computing Science minor programs, will be given preference in registering for computing science courses required in these four-year programs.
- (2) Students with no previous computing experience should enrol in CMPUT 101 instead of CMPUT 114. Students should seek advice from a departmental advisor.
- (3) Students who enrol in CMPUT 101 must complete CMPUT 114 and 115 in order to apply to Specialization or Honors programs.

The following is a list of courses which, for the most part, are available when resources permit, to any student who satisfies the prerequisite and corequisite requirements. Any special restrictions are specified within the course description.

### Undergraduate Courses

#### CMPUT 174 Introduction to the Foundations of Computation I

★3 (*fi 6*) (either term, 3-0-3). CMPUT 174 and 175 use a problem-driven approach to introduce the fundamental ideas of Computing Science. Emphasis is on the underlying process behind the solution, independent of programming language or style. Basic notions of state, control flow, data structures, recursion, modularization, and testing are introduced through solving simple problems in a variety of domains such as text analysis, map navigation, game search, simulation, and cryptography. Students learn to program by reading and modifying existing programs as well as writing new ones. No prior programming experience is necessary. Prerequisite: Math 30 or 30-1. See Note (1) above.

#### CMPUT 175 Introduction to the Foundations of Computation II

★3 (*fi 6*) (either term, 3-0-3). A continuation of CMPUT 174, revisiting topics of greater depth and complexity. More sophisticated notions such as objects, functional programming, time and memory consumption, and user interface building are explored. Upon completion of this two course sequence, students from any discipline should be able to build programs to solve basic problems in their area, and will be prepared to take more advanced Computing Science courses. Prerequisite: CMPUT 174 or SCI 100.

## Graduate Courses

Students entering the graduate program are expected to have an adequate background in computing science. Students lacking adequate background may be required to take one or more of the following undergraduate courses in addition to their regular graduate program: CMPUT 304, 340, 379, 391, 401, 411, 418, 429, 466, 474, 485 (see \$201.44).

Thesis-based students are expected to take a minimum of three 600-level courses (excluding 601 and 603). Course-based students are expected to take a minimum of five 600-level courses (excluding 601).

Note: In all cases where prerequisite courses are specified, the phrase “or equivalent courses taken at the University of Alberta or at another university” is understood. Where students are uncertain whether they meet prerequisite requirements, they should consult with their program advisor, and if necessary, with the instructor of the graduate course.

## Dance, DANCE

Faculty of Physical Education and Recreation

### Undergraduate Courses

#### **DANCE 340 Modern Dance**

★3 (fi 6) (either term, 0-3L-0). The study of creative dance techniques, improvisation, composition, and performance through theory and practical experience.

## Dental Hygiene, D HYG

Department of Dentistry  
Faculty of Medicine and Dentistry

### Undergraduate Courses

#### **D HYG 431 Topics in Dental Hygiene**

★3 (fi 6) (either term, 39 hours). The topics will focus on any aspect of dental hygiene practice and may vary from year to year depending on current and relevant issues arising in the dental hygiene profession.

## Dentistry, DDS

Department of Dentistry  
Faculty of Medicine and Dentistry

### Undergraduate Courses

#### **DDS 800 Special Registration**

★0 (fi 0) (either term, unassigned). Dentistry undergraduate and postgraduate students who have been admitted to the University of Alberta Faculty of Medicine and Dentistry as a Visiting Student in accordance with the Faculty guidelines will be required to register in this course for the purpose of entitlement to registration in the Alberta Dental Association and College Education Register if applicable.

#### **DDS 829 Introduction to DDS Advanced Placement**

★12 (fi 38) (Spring/Summer, 3-0-0). Students begin studying all phases of clinical dentistry including diagnosis and treatment planning, anaesthesia, periodontics, endodontics, operative dentistry, prosthodontics and orthodontics. Students receive an introduction to ethics in dentistry. Students perform tasks mainly in a pre-clinical (laboratory) environment and have a brief introduction to the clinic with limited diagnosis and treatment of patients. Offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar. Restricted to candidates registered as Special Students in the DDS Advanced Placement Program.

## Dentistry, DENT

Department of Dentistry  
Faculty of Medicine and Dentistry

### Graduate Courses

#### **DENT 566 Systematic Reviews in Dentistry**

★2 (fi 4) (either term, 26 hours). This course focuses on the general principles of Systematic Review and Meta-Analysis in Dentistry. It will cover principles, procedures, problems and limitations in Systematic Reviews. Different types of Systematic Reviews would be analyzed. Use of Meta-Analysis as a statistical tool in Systematic Reviews will also be covered. Having a systematic review ready

for submission to a peer reviewed journal is a course requirement. Prerequisite: DENT 565.

#### **DENT 607 Radiology**

★2 (fi 4) (first term, 14 hours). This lecture and seminar course will review the application of the various imaging modalities, including advanced modalities, in oral and maxillofacial radiology. Emphasis will be placed on the interpretation of abnormalities of the oral and maxillofacial region that may be encountered in the dental specialties.

## Design, DES

Department of Art and Design  
Faculty of Arts

Note: Since presence at lectures and seminars, participation in classroom discussion, and the completion of assignments are important components of most courses, students will serve their best interest by regular attendance.

This particularly applies to studio courses where attendance will be a factor in grading.

### Undergraduate Courses

#### **DES 135 Design Fundamentals**

★3 (fi 6) (either term, 0-6L-0). Studio-based introduction to the conceptual and practical concerns of the design disciplines. Two- and three-dimensional design-related studies. Note: ART 134 and DES 135 are required prerequisites for senior level ART or DES courses. Not open to students with credit in ART 131 or ART 132.

#### **DES 337 Special Projects in Studio Disciplines: Introductory**

★6 (fi 12) (two term, 0-6L-0). Normally offered in spring/summer. Prerequisites: ART 134 and DES 135 or ART 136 and DES 138, and consent of Department. Formerly DES 339.

#### **DES 338 Special Projects in Studio Disciplines: Introductory**

★3 (fi 6) (either term, 0-6L-0). Normally offered in spring/summer. Prerequisites: ART 134 and DES 135 or ART 136 and DES 138 and consent of Department.

#### **DES 437 Special Projects in Studio Disciplines: Intermediate**

★6 (fi 12) (two term, 0-6L-0). Normally offered in spring/summer. Prerequisite: consent of Department. Formerly DES 439.

#### **DES 438 Special Projects in Studio Disciplines: Intermediate**

★3 (fi 6) (either term, 0-6L-0). Normally offered in spring/summer. Prerequisite: Consent of Department.

#### **DES 537 Special Projects in Studio Disciplines: Advanced**

★6 (fi 12) (two term, 0-6L-0). Normally offered in spring/summer. Prerequisite: consent of Department. Formerly DES 539.

#### **DES 538 Special Projects in Studio Disciplines: Advanced**

★3 (fi 6) (either term, 0-6L-0). Normally offered in spring/summer. Prerequisite: consent of Department.

## Drama, DRAMA

Department of Drama  
Faculty of Arts

### Undergraduate Courses

#### **DRAMA 102 Play Analysis**

★3 (fi 6) (either term, 3-0-0). Understanding of Drama through critical analysis of plays and its application to creative solutions in their production. Note: Not to be taken by BA Drama Majors, BA (Honors) Drama students, or BEd (Secondary) Drama Majors.

#### **DRAMA 149 Dramatic Process I**

★3 (fi 6) (either term, 0-6L-0). Speech and movement improvisation with an emphasis on imaginative development; introduction to the process of acting and to dramatic form. Note: Designed for students with little or no previous background in Drama. Not to be taken by BA Drama majors, BA (Honors) Drama students, or BEd (Secondary) Drama Majors.

#### **DRAMA 247 Introduction to Oral Communication**

★3 (fi 6) (either term, 0-6L-0). Exploration of basic techniques of oral communication and oral interpretation drawing from various forms of literature. Note: Not to be taken by BA Drama majors, BA (Honors) Drama students, or BEd (Secondary) Drama Majors.

#### **DRAMA 407 Studies in Drama II**

★3 (fi 6) (either term, 0-6L-0). May require payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University

Regulations and Information for Students section of the Calendar. Prerequisite: consent of Department.

### **O** DRAMA 492 Running Crew Projects

★3 (*fi 6*) (either term, 0-0-6). Production organization: experience in preparing and running of a play in performance. Prerequisites: DRAMA 191, or 391 and/or consent of Department.

### **DRAMA 507 Senior Projects**

★3 (*fi 6*) (either term, 0-6L-0). May require payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar. Prerequisite: consent of Department.

## Earth and Atmospheric Sciences, EAS

Department of Earth and Atmospheric Sciences  
Faculty of Science

### Undergraduate Courses

#### **EAS 426 Undergraduate Thesis**

★6 (*fi 12*) (variable, 3-0-0). Required for Honors students in their final year. Restricted to honors and specialization students in EAS. Prerequisite: Any 300-level EAS course. [Faculty of Science]

#### **EAS 427 Directed Study I**

★3 (*fi 6*) (variable, 3-0-0). EAS 427 and 428 provide a means whereby Specialization and Honors students in their fourth year of the EAS program may undertake a research project supervised by a faculty member. Prerequisite: Any 300-level EAS course. [Faculty of Science]

## East Asian Studies, EASIA

Department of East Asian Studies  
Faculty of Arts

### Undergraduate Courses

#### **EASIA 101 Understanding East Asia**

★3 (*fi 6*) (either term, 3-0-0). Important aspects of pre-modern and modern Asia from a broad interdisciplinary perspective.

## Economics, ECON

Department of Economics  
Faculty of Arts

### Undergraduate Courses

#### **O** ECON 101 Introduction to Microeconomics

★3 (*fi 6*) (either term, 3-0-0). How markets and governments determine which products are produced and how income is distributed in the Canadian economy. Not open to students with credit in ECON 204.

#### **O** ECON 102 Introduction to Macroeconomics

★3 (*fi 6*) (either term, 3-0-0). Employment, inflation, international payments, monetary policy, and fiscal policy, all in the Canadian economy. Prerequisite: ECON 101 or consent of Department. Not open to students with credit in ECON 204.

#### **ECON 213 An Introduction to the Economics of Developing Countries**

★3 (*fi 6*) (either term, 3-0-0). A survey of the major approaches to and problems of economic development in the less developed countries with particular emphasis on issues relating to savings and investment, income distribution, employment and population growth, and trade and aid. Prerequisite: ECON 101 and 102 or equivalent.

#### **O** ECON 281 Intermediate Microeconomic Theory I

★3 (*fi 6*) (either term, 3-0-0). The theory of consumer behavior; theory of production and cost; price and output determination under competition, monopoly and other market structures. Prerequisite: ECON 101 or equivalent.

#### **O** ECON 282 Intermediate Macroeconomic Theory I

★3 (*fi 6*) (either term, 3-0-0). Models of price, interest rate, output, and employment determination; the impact of fiscal, monetary, and supply shocks; open economy macroeconomics with fixed and flexible exchange rates, and prices as well as international capital mobility. Prerequisite: ECON 101 and 102 or consent of Department.

## Graduate Courses

### **ECON 999 Directed Research Project**

★3 (*fi 6*) (Spring/Summer, 3-0-0). Prerequisites: ECON 503, 581, 598, and 599.

## Education, EDU

Faculty of Education

### Undergraduate Courses

#### **O** EDU 100 Contexts of Education

★3 (*fi 6*) (either term, 3-0-0). This course focuses on the different contexts of professional practice within education. It critically examines the complex social relationships among educators as professionals and learners as participants in educational institutions. Teacher identity will be explored as a dynamic, reformative process in response to competing tensions that require an awareness of the positionality of educators. Preservice teachers will learn about the relationships between education and practice that are nested in social relations of learning that are also economic, political, and cultural. Engagement from a variety of perspectives they will develop professional knowledge for critical reconstructive practice. This course may not be taken for credit if credit has already been obtained in EDU 250, 300 or equivalent. [Department of Elementary Education, Department of Secondary Education]

#### **EDU 210 Introduction to Educational Technology**

★3 (*fi 6*) (either term, 3-0-3). This course examines frameworks, trends, issues and futuristic scenarios on the role of technology in education. Students will gain hands-on experience of using technology, with a special emphasis on strategies for integrating technology into the school curriculum. Students may not receive credit for both EDU 210 and EDIT 202. Prerequisite for students in the Secondary route: EDU 100. Note: This prerequisite does not apply to Elementary and Secondary After Degree students. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar. [Department of Educational Psychology]

#### **EDU 211 Aboriginal Education and Contexts for Professional and Personal Engagement**

★3 (*fi 6*) (either term, 1.5-1.5s-0). In this course, preservice teachers will continue to develop knowledge of Aboriginal peoples' histories, educational experiences, and knowledge systems, ways of knowing and being and will further develop an understanding of the implications of this knowledge to the professional roles and obligations for teachers. Students will engage in a learning process of self-and-other awareness, and will be supported by Indigenous educators, Faculty members and Elders. Prerequisite: EDU 100. Note: This prerequisite does not apply to Elementary and Secondary After Degree students. [Department of Educational Policy Studies]

#### **EDU 300 Contexts of Education**

★3 (*fi 6*) (either term, 3-0-0). This course focuses on the different contexts of professional practice within education. It critically examines the complex social relationships among educators as professionals and learners as participants in educational institutions. Teacher identity will be explored as a dynamic, reformative process in response to competing tensions that require an awareness of the positionality of educators. Preservice teachers will learn about the relationships between education and practice that are nested in social relations of learning that are also economic, political, and cultural. Engagement from a variety of perspectives they will develop professional knowledge for critical reconstructive practice. Note: EDU 300 is for After Degree students only. This course may not be taken for credit if credit has already been obtained in EDU 100, 250 or equivalent. [Department of Elementary Education, Department of Secondary Education]

## Graduate Courses

### **EDU 511 Introduction to School Improvement**

★3 (*fi 6*) (Spring/Summer, 3-0-0). Introduces the current state of knowledge, research and theory in the field of education. Focuses upon teaching and learning within schools and other educational organizations in ways that synthesize educational experience with professional research knowledge. Studies educational change that improves organizations. Prerequisite: Registration in the Master of Education in Educational Studies program. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

### **EDU 512 Leadership in Educational Settings**

★3 (*fi 6*) (Spring/Summer, 3-0-0). Examines the historical context of current thinking about educational leadership. Explores how leadership literature informs practice, while critically examining that literature from both theoretical and practical perspectives. Analyzes values and ethical principles in school leadership; complex dilemmas of educational leadership; and, works to develop a personal philosophy of educational leadership. Prerequisite: Registration in the Master of Education in

Educational Studies program. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

### EDU 513 Leadership for Educational Change

★3 (fi 6) (Spring/Summer, 3-0-0). Introduces the relationship of research to educational leadership. Focuses upon synthesizing extant research literature and the need to address a specific leadership need within a school site using appropriate research methods. Studies how educational research can inform leaders in carrying out school improvement and bringing about educational change. Prerequisite: Registration in the Master of Education in Educational Studies program. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

### EDU 514 Planning for Educational Change

★3 (fi 6) (Spring/Summer, 3-0-0). Introduces how educational research can enhance educational change toward school improvement. Focuses on utilizing appropriate research methods to create a site-based research proposal for a specific school site. Focuses on planning educational research that improves schools. Prerequisite: Registration in the Master of Education in Educational Studies program. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

### EDU 593 Special Seminar in Educational Studies: Selected Topics

★3 (fi 6) (either term, variable). Content varies from term to term. Topics announced prior to registration period. The student's transcript carries title descriptive of content. May be repeated. Prerequisite: Registration in Master of Education in Educational Studies Program. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

### EDU 900 Program Synthesis

★3 (fi 6) (either term, 3-0-0). A reflection and synthesize of learning from the Master of Education in Educational Studies in relation to the concepts of leadership and school/educational improvement that are the foundations of the program. Prerequisite: Registration in the Master of Education in Educational Studies program. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

## Education - Career Technology Studies, EDCT

Department of Secondary Education  
Faculty of Education

Note: the course prefix for Education (Career Technology) has changed from EDCTS to EDCT.

### Undergraduate Courses

#### EDCT 400 Conference Seminar

★1-12 (variable) (either term, variable). Content varies. Topics are announced prior to registration. The transcript will carry a title descriptive of content. Prerequisite: consent of Department.

### Graduate Courses

#### EDCT 500 Conference Seminar

★1-3 (variable) (either term, variable). Content varies. Topics are announced prior to registration. The transcript will carry a title descriptive of content. Prerequisite: consent of Department.

## Education - Elementary, EDEL

Department of Elementary Education  
Faculty of Education

### Undergraduate Courses

#### EDEL 302 Curriculum and Pedagogy in Elementary School Art

★3 (fi 6) (either term, 3-0-0). Formerly ED EL 200. This course provides an introduction to visual arts education for elementary schools. It is comprised of lectures, discussions, audio visual presentations, and hands-on media experiences. No visual arts background necessary. Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar. Prerequisite or corequisite EDEL 305.

#### EDEL 305 Language Arts in the Elementary School

★3 (fi 6) (either term, 3-0-3). This course will introduce the language arts

curriculum and will give a broad overview of the knowledge and skills required to implement a language arts program in the elementary school, including oral language, reading and writing. Prerequisite: successful completion of ★42 of the required ★51 of the non-education courses; EDU 100, 210, 211 or registration in the Elementary After Degree program. EDEL 305 is offered as part of the requirements of Year 3 of the Elementary Program Route. Course is open to Elementary Education students only.

#### EDEL 306 Introduction to Language and Literacy Development

★3 (fi 6) (either term, 3-0-0). This course provides students with the background in language and literacy development needed to work with Indigenous children from diverse language and literacy backgrounds. The focus is on planning for language teaching and supporting Indigenous languages in the classroom.

#### EDEL 321 Introduction to Curriculum and Pedagogy in Elementary School Physical Education

★3 (fi 6) (either term, 3-0-0). This course is designed to prepare students to teach Physical Education effectively in an elementary school setting. The goals to this end integrate understanding of child development, physical education, health, curriculum and pedagogy and making curricula links. Prerequisite or corequisite EDEL 305.

#### EDEL 325 Curriculum and Pedagogy in Elementary School Music

★3 (fi 6) (either term, 3-0-0). An introduction to the theory and practice of teaching music in the elementary classroom. Special emphasis on hands-on experience with techniques, strategies, and materials appropriate for K-6. No previous experience with music notation necessary. Prerequisite or corequisite EDEL 305.

#### EDEL 330 Curriculum and Pedagogy in Elementary School Science

★3 (fi 6) (either term, 3-0-0). This course provides an introduction to teaching elementary children about science and 'design and make' technology. Such themes as children's learning, science/technology/society connections, the Alberta program, planning and instruction and assessing children's progress will be explored. Students may not receive credit for both EDEL 330 and EDEL 372. Prerequisite or corequisite EDEL 305.

#### EDEL 335 Curriculum and Pedagogy in Elementary School Social Studies

★3 (fi 6) (either term, 3-0-0). An introduction to planning, resources, curriculum and strategies for meeting students' needs through social studies. Prerequisite or corequisite EDEL 305.

#### EDEL 404 Developing Literacy: Pre-School to Grade Three

★3 (fi 6) (either term, 3-0-0). This senior education course focuses on the teaching and learning of literacy in Early Childhood settings (pre-school to grade three). The course explores instructional strategies, materials and classroom organization, based on contemporary theory and research. Prerequisite: EDEL 305 or equivalent introductory course in language arts education.

#### EDEL 407 Reading in the Elementary School

★3 (fi 6) (either term, 3-0-0). This course addresses the nature of the reading process. The development of children's reading abilities, organizing an environment for instruction in reading, teaching, reading strategies, the reading-writing connections, reading across curriculum, and the assessment of reading. Prerequisite: An introductory curriculum and instruction course in language learning; or consent of Department.

#### EDEL 411 Literacy Development through Drama and Literature

★3 (fi 6) (either term, 3-0-0). This course elucidates the role of drama as a teaching/learning medium in an elementary school program studies. Students sample and question current writing in the field and actively participate in various drama modes. Prerequisite: An introductory curriculum and instruction course in language learning; or consent of Department.

#### EDEL 415 Issues in Elementary Mathematics Education

★3 (fi 6) (either term, 3-0-0). Focus is on current issues in mathematics education related to teacher and student roles, mathematical tasks and tools, and the learning environment. Prerequisite: An introductory curriculum and instruction course in mathematics education; or consent of Department.

#### EDEL 420 Curriculum and Pedagogy in Elementary School Physical Education

★3 (fi 6) (either term, 3-0-0). Prerequisites: An introductory curriculum and pedagogy course in elementary school physical education; or consent of Department.

#### EDEL 433 Pedagogical Content Knowledge for Elementary Science II

★3 (fi 6) (either term, 3-0-0). This course consists of children's conceptions of the earth and sky and ways teachers can design teaching strategies to assist children in restructuring these conceptions. Specific topics include air and aerodynamics; sky science; weather watch; and rocks and minerals. Prerequisite: EDEL 330.

#### EDEL 460 Sustaining Language and Culture through Traditional Knowledge and Practices

★3 (fi 6) (either term, 3-0-0). This course examines approaches to Indigenous language and culture revitalization and their application to everyday life. Topics include traditional worldviews, the life cycle, rites of passage, community feasts, cultural celebrations, and festivals (but nothing of a sacred nature). The aim of

this course is to create awareness about strategies Indigenous people are taking to sustain, preserve, and protect traditional practices. Elders serve as resources in the class. Prerequisites: EDEL 306 or consent of Department.

**O EDEL 461 Second Language Acquisition: Teaching Indigenous Languages in an Immersion Context**

★3 (*fi 6*) (either term, 3-0-0). The course addresses current principles underlying second language teaching and learning in an immersion context. Foundations in oral language learning, methods, and strategies will be discussed in relation to children and adults learning an Indigenous language as a second language. Prerequisite: EDEL 306 or consent of the Department.

**O EDEL 462 Developing Class Materials and Curriculum for Indigenous Languages**

★3 (*fi 6*) (either term, 3-0-0). Provides teachers with practical tools and hands-on experience in developing a wide range of material for Indigenous language classrooms and will improve their ability to use the language for communicative purposes. Grounded on research on effective language pedagogy and second language acquisition, this course will focus on holistic approaches to teaching language. Prerequisite: EDEL 306 and/or consent of the Department.

**O EDEL 463 Assessment in Indigenous Language Classrooms**

★3 (*fi 6*) (either term, 3-0-0). This course will examine the assessment of Indigenous language learning in bilingual, immersion, and core language classrooms. A range of theoretical perspectives will be examined in the field of child language acquisition and techniques for assessing Indigenous language learning. Prerequisite: EDEL 306 or consent of the Department.

**EDEL 490 Supervised Independent Study in Elementary Education II**

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: consent of Department.

**EDEL 495 Seminar in Group Projects in Elementary Education II**

★1-12 (*variable*) (either term, variable). Prerequisite: consent of Department. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students.

**O EDEL 496 Group Projects in Elementary Education II**

★3 (*fi 6*) (either term, 0-3s-0). Prerequisite: consent of Department.

## Graduate Courses

**EDEL 511 Leadership in Language Arts**

★3 (*fi 6*) (either term, 3-0-0). Explores the development and implementation of elementary language arts programs in schools. The roles played by teachers, consultants and administrators in developing, implementing, refining and monitoring language arts programs are analyzed in relation to concepts of leadership in language arts. Prerequisite: EDEL 505 or consent of Department. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students.

**EDEL 544 Introduction to Emerging Technologies**

★3 (*fi 6*) (either term, 3-0-0). Explores and critically evaluates the use of emerging technologies in schools and school libraries with an emphasis on how they might be used in personal, professional and teaching and learning situations. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students.

**EDEL 561 Processes of Curriculum Development**

★3 (*fi 6*) (either term, 3-0-0). A study of the ways in which curricula are produced, implemented, and evaluated. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students.

**EDEL 567 Introduction to Educational Research**

★3 (*fi 6*) (either term, 0-3s-0). This introductory research methodology course is intended to support graduate students' understanding of the many ways in which educational research is conceptualized and conducted. Students will develop their ability to read educational research critically and with understanding in order to support their work as researchers and practicing professionals. Prerequisite: consent of Department. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students.

**EDEL 595 Special Seminar in Elementary Education: Selected Topics**

★3 (*fi 6*) (either term, 0-3s-0). Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students.

**O EDEL 597 Special Seminar in Elementary Education**

★1-12 (*variable*) (variable, variable).

**EDEL 599 Capstone Exercise**

★0 (*fi 1*) (either term, 12 hours). The required capping exercise for the course-based MEd program will consist of a presentation based on one piece of work

that students select from their course assignments completed during the MEd program. The piece of work and type of presentation is chosen in consultation with their advisor according to departmental guidelines. Students will register in this course in the final term of their coursework.

**EDEL 900 Directed Research Project**

★3 (*fi 6*) (variable, unassigned).

## Education - Elementary and Secondary, EDES

Department of Elementary Education  
Department of Secondary Education  
Faculty of Education

### Undergraduate Courses

**EDES 348 Reading in the Junior and Senior High School**

★3 (*fi 6*) (either term, 3-0-0). This course focuses on reading strategies for learning all subject areas, with an emphasis on comprehension and critical-thinking.

**O EDES 401 Conference Seminar**

★3 (*fi 6*) (either term, 0-3s-0).

### Graduate Courses

**O EDES 501 Conference Seminar**

★3 (*fi 6*) (either term, 0-3s-0).

## Education - Field Experience, EDFX

Division of Field Experiences  
Faculty of Education

Note: Field Experience courses other than EDFX 475 and 476 are normally not offered in Spring/Summer.

### Undergraduate Courses

**EDFX 490 Additional Placement in an Education Related and/or Outside Alberta Context**

★1-6 (*variable*) (variable, variable). Prerequisites: Introductory Field Experience and permission of the Assistant Dean, Field Experiences. Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

## Education - Fondements, EDU F

Faculté Saint-Jean

### Cours de 1er cycle

**EDU F 235 École et société**

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Ce cours examine les rapports entre les écoles, les salles de classe, les communautés et la société. Il vise à sensibiliser les étudiants aux enjeux de l'équité et à mieux comprendre les processus d'inclusion et d'exclusion en milieu scolaire. Ce cours offre aux étudiants l'option de faire un stage de bénévolat de 20 heures avec un organisme communautaire à but non lucratif dans le cadre du programme « Community Service-Learning ». Note : Ce cours n'est pas accessible aux étudiants ayant des crédits pour FO ED 200.

## Education - Instructional Technology, EDIT

Department of Educational Psychology  
Faculty of Education

### Undergraduate Courses

**O EDIT 486 Interactive Multimedia**

★3 (*fi 6*) (either term, 3-0-3). This course emphasizes students as builders of video games as opposed to players of video games and addresses the pedagogy of using this process to teach K-12 students. Lectures will focus on educational theory, specifically, social constructivist and constructionist frameworks and their relevance to current learners and their perspectives on technology use. The lab components will explore various game development environments which are designed for K-12 students. Through the construction of video games, students will learn how to promote problem-solving skills and critical thinking in their own students. May contain alternate delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

## Education - Policy Studies, EDPS

Department of Educational Policy Studies  
Faculty of Education

### Undergraduate Courses

#### EDPS 341 Concepts of Childhood in History

★3 (fi 6) (either term, 3-0-0). A study of those views of childhood which have exerted a significant influence on educational theory and practice over the last 200 years. Students may not receive credit for both EDPS 341 and EDFDN 341.

#### EDPS 360 Society and Education

★3 (fi 6) (either term, 3-0-0). The changing function and structures of education, with special reference to contemporary Canadian society. Students may not receive credit for both EDFN 360 and EDPS 360.

#### EDPS 402 Directed Study in Educational Policy Studies

★3 (fi 6) (either term, 3-0-0). Prerequisite: consent of Department.

#### EDPS 410 Ethics and Law in Teaching

★3 (fi 6) (either term, 3-0-0). This course will examine the ethical and legal responsibilities of teachers. Among the topics addressed will be the following: punishment and child abuse; freedom of speech and academic freedom in schools; parents' rights and teachers' professional autonomy; issues of quality such as inclusive education and the problems of racism and sexism; fairness in assessment and evaluation; teachers' private lives and public obligations; indoctrination and the teaching of value. It is recommended that students take EDU 100 (EDU 300 for After Degree students), 210, and 211 prior to taking this course. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

#### EDPS 432 The Education of Native Peoples in Canada: An Historical Study

★3 (fi 6) (either term, 3-0-0). An historical examination of the formal education provided Indian, Métis, and Inuit peoples with special attention to Aboriginal, missionary, and federal-provincial educational programs. Students may not receive credit for both EDPS 432 and EDFDN 432.

### Graduate Courses

#### EDPS 501 Conference Course on Selected Topics

★3 (fi 6) (either term, 3-0-0). Prerequisite: consent of Department.

#### EDPS 506 Individual Directed Study

★3 (fi 6) (either term, 3-0-0). Prerequisite: consent of Department.

#### EDPS 507 Individual Directed Study

★3 (fi 6) (either term, 3-0-0).

#### EDPS 553 Legal Aspects of Educational Administration

★3 (fi 6) (either term, 3-0-0). Students may not receive credit for both EDAL 553 and EDPS 553. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

#### EDPS 580 Contemporary Issues in Education: Perspectives on Policy and Practice

★3 (fi 6) (either term, 3-0-0). Introduces students to foundational approaches to contemporary issues in Canadian and international education contexts. Introduces multidimensional approaches associated with the history, sociology, and philosophy of education to help students understand and critically assess educational policy and practice. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

#### EDPS 581 Introduction to Evaluating Educational Research

★3 (fi 6) (either term, 3-0-0). Introduces students to a critical interpretation and evaluation of research in the specializations within the Department of Educational Policy Studies, using a wide range of orientations and approaches. Students may not receive credit for both EDPS 508 and EDPS 581. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

#### EDPS 595 The School Principalship: Seminars and Simulations

★3 (fi 6) (either term, 3-0-1). Applied activities and academic studies which enable the student to learn skills and knowledge pertinent to the responsibilities of the principal, by disciplined reflection on their performance in simulated administrative situations. Prerequisites: EDAL 501 and 502 or EDPS 511 and 512 or consent of Department. Students may not receive credit for both EDAL 595 and EDPS 595. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

#### EDPS 606 Supervised Individual Study I

★3 (fi 6) (either term, 3-0-0).

#### EDPS 900 Directed Research Project

★3 (fi 6) (either term, unassigned). May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

## Education - Psychologie, EDU P

Faculté Saint-Jean

### Cours de 1er cycle

#### EDU P 433 La communication et la gestion en salle de classe

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Étude approfondie des modèles théoriques et pratiques de gestion en salle de classe. L'application de certaines stratégies de gestion sera aussi abordée. Nous nous pencherons aussi sur la communication avec les parents ayant des enfants manifestant des comportements inadaptés. Préalables : EDU F 200 et EDU M 232. Note : Ce cours n'est pas accessible aux étudiants ayant des crédits pour EDU E 433 ou EDUC 300.

## Education - Psychology, EDPY

Department of Educational Psychology  
Faculty of Education

Note: The course prefix for Education (Psychology) courses has changed from EDPYSY to EDPY.

### Undergraduate Courses

#### EDPY 301 Inclusive Education: Adapting Instruction for Students with Special Needs

★3 (fi 6) (either term, 1.5-1.5s-0). This course provides an introduction to teaching students with diverse needs within the inclusive education context. Course content focuses on adapting classroom instruction and classroom environments to enhance learning for all students. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

#### EDPY 442 Introduction to Counselling

★3 (fi 6) (either term, 1.5-1.5s-0). Provides an overview of the field of Counselling Psychology, including its theoretical foundations, applications, and counselling skills. Prerequisite: EDPY 302 or 304, or equivalent.

#### EDPY 474 Introduction to American Sign Language

★3 (fi 6) (either term, 2-1s-1). This is a practical course to develop basic skills in American Sign Language. Students may not receive credit for both EDPY 474 and EDPYSY 451. Not to be taken by students with credit in ASL 111.

#### EDPY 497 Senior Seminars

★1-3 (variable) (either term, variable). Content varies from year to year. Topics announced prior to registration period. Prerequisite: consent of Department.

#### EDPY 499 Directed Individual Study in Educational Psychology

★3 (fi 6) (either term, 3-0-0). Prerequisite: consent of Department.

### Graduate Courses

Note: consent of Department is required for all 500- and 600-level courses.

#### EDPY 500 Introduction to Data Analysis in Educational Research

★3 (fi 6) (either term, 3-0-3). Prerequisite: consent of Department. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

#### EDPY 521 Foundations of Psychological Assessment

★3 (fi 6) (either term, 3-0-0). This course deals with psychological and psycho-educational assessment and covers the basic principles and skills needed to administer and interpret standardized measures of cognitive abilities and academic achievement. Restricted to students enrolled in the School and Clinical Child Psychology or Counselling Psychology programs. Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and information for Students section of the Calendar.

#### EDPY 531 Developing an Effective School Counselling Program

★3 (fi 6) (either term, 3-0-0). Addresses methods of needs evaluation, counselling program design, and program evaluation within school counselling settings. Includes key issues such as parent conferences, counsellor roles, and professional consultations. Priority given to students in School Counselling program.

#### EDPY 544 Principles of Psychological Testing and Assessment

★3 (fi 6) (either term, 3-0-1). Prerequisite: consent of Department.

#### EDPY 556 Problems and Issues in Special Education: Prevalence of Exceptionalities and Professional Practice

★3 (fi 6) (first term, 3-0-0). Aspects of theory, research and professional practice

within the field of special education will be examined in this class. All special needs and developmental disorders are considered, particularly in the realm of theory/practice relationships. Such issues as program evaluation, integration, personnel preparation, and the identification of special needs will be considered. Validity of current practices and beliefs will be addressed through reviews of research, theory, and legislation/policy and the relationship between these areas and professional practice. Prerequisite: consent of Department.

#### EDPY 597 Special Seminars

★1-6 (*variable*) (either term, variable). Content varies from year to year. Topics announced prior to registration period. The student's transcript carries title descriptive of content. May be repeated. Prerequisite: consent of Department.

#### EDPY 599 Individual Directed Reading and Research

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: consent of Department.

#### EDPY 699 Individual Directed Reading and Research

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: consent of Department.

#### EDPY 903 Directed Research Project

★3 (*fi 6*) (either term, variable).

## Education - Secondary, EDSE

(Curriculum and Instruction)

Department of Secondary Education

Faculty of Education

Note: The course prefix for Education (Secondary) courses has changed from EDSEC to EDSE.

### Undergraduate Courses

#### EDSE 305 Curriculum and Teaching in Secondary Schools

★3 (*fi 6*) (either term, 3-0-0). This course is intended to help educators learn about themselves as a secondary school teacher, planning for teaching in a secondary school, ideas and policies that impact the planning for teaching in a secondary school; and their role in contributing to the teaching profession. Prerequisite: EDU 100, 210, 211. Note: Not open to first year students.

#### EDSE 328 Curriculum and Teaching for Secondary School English Language Arts Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisites: EDU 100, 210, 211 and ★9 in the Minor subject area. Note: Not open to first year students or students whose Major is English Language Arts.

#### EDSE 338 Curriculum and Teaching for Secondary School Mathematics Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisites: EDU 100, 210, 211 and ★9 in the Minor subject area. Note: Not open to first year students or students whose Major is Mathematics.

#### EDSE 348 Curriculum and Teaching for Secondary School Physical Education Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisites: EDU 100, 210, 211 and ★9 in the Minor subject area. Note: Not open to first year students or students whose Major is Physical Education.

#### EDSE 353 Curriculum and Teaching for Secondary School Biological Sciences Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisites: EDU 100, 210, 211 and ★9 in the Minor subject area. Note: Not open to first year students or students whose Major is Biological Sciences, Chemistry, General Sciences, Physical Sciences or Physics.

#### EDSE 361 Curriculum and Teaching for Secondary School General Sciences Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisites: EDU 100, 210, 211 and ★9 in the Minor subject area. Note: Not open to first year students or students whose Major is Biological Sciences, Chemistry, General Sciences, Physical Sciences or Physics.

#### EDSE 366 Curriculum and Teaching for Secondary School Physical Sciences Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisites: EDU 100, 210, 211 and ★9 in the Minor subject area. Note: Not open to first year students or students whose Major is Biological Sciences, Chemistry, General Sciences, Physical Sciences or Physics.

#### EDSE 374 Curriculum and Teaching for Secondary School Social Studies Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisites: EDU 100, 210, 211 and ★9 in the Minor subject area. Note: Not open to first year students or students whose Major is Social Studies.

#### EDSE 401 Conference Seminar

★1-3 (*variable*) (either term, variable). May require payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

#### EDSE 402 Guided Individual Study in Secondary Education

★3 (*fi 6*) (either term, 3-0-0). May be offered over two terms. Prerequisites: consent of instructor and Department.

#### EDSE 430 Teaching Composition, Language and Culture to Adolescents

★3 (*fi 6*) (either term, 3-0-0). This senior undergraduate course offers pedagogical strategies and experiences for teaching writing in the context of New Literacies for students from a range of backgrounds in junior and senior high schools. The course focuses on questions of composition, language and culture and encourages participants to see themselves as writers as well as teachers of writing.

#### EDSE 439 Specialized Methods in Secondary School Mathematics Teaching

★3 (*fi 6*) (either term, 3-0-0). This course explores a range of particular methods relevant to the teaching of secondary school mathematics. Prerequisite: Introductory Professional Term or consent of the Department.

#### EDSE 442 The Use of Computers in the Teaching and Learning of Mathematics

★3 (*fi 6*) (either term, 3-0-1). This course explores the uses of technology in the teaching and learning of secondary school mathematics. Prerequisite: Introductory Professional Term or consent of the Department.

#### EDSE 495 Curriculum and Teaching in Secondary School Career Education

★3 (*fi 6*) (either term, 3-0-0). Students will explore and engage with curriculum and teaching of career-related education and investigate a variety of ways and resources to help their future students think about strategic career planning, and occupational and educational opportunities. Sections may be offered in an alternate delivery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

### Graduate Courses

#### EDSE 501 Conference Seminar

★3 (*fi 6*) (either term, variable). Prerequisites: consent of Instructor and Department. May include alternate delivery sections; may require payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

#### EDSE 502 Advanced Level Guided Individual Study in Secondary Education

★1-3 (*variable*) (either term, variable). May be offered over two terms. Prerequisites: consent of instructor and Department.

#### EDSE 503 Curriculum Foundations

★3 (*fi 6*) (first term, 3-0-0). This course focuses on the bases of current curriculum theories and their relationship to current educational practices. May contain alternate delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

#### EDSE 504 Curriculum Inquiry

★3 (*fi 6*) (second term, 3-0-0). This course focuses on curriculum perspectives and possibilities. Prerequisite: EDSE 503. May contain alternate delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

#### EDSE 505 An Introduction to Curriculum Studies

★3 (*fi 6*) (either term, 3-0-0). This course is intended as an introduction to the major discourses and themes that define the field of curriculum studies. It is primarily focused on the Albertan and Canadian contexts. EDSE 505 cannot be taken for credit if credit has already been received for EDSE 405 or EDSE 503.

#### EDSE 602 Advanced Level Guided Individual Study in Secondary Education

★1-3 (*variable*) (either term, variable). Prerequisites: consent of Instructor and Department.

#### EDSE 900 Directed Research Project

★3 (*fi 6*) (either term, unassigned).

## English, ENGL

Department of English and Film Studies

Faculty of Arts

Note: Courses in the Department of English teach the English language and its several literatures; some works may be taught in translation as necessary to fulfill the primary goal of understanding English literature.

See also WRITE.

THIS NOTE GOES BEFORE 2XX Level ENGL courses

Note: All senior courses have as a prerequisite ENGL 100, 101 or equivalent.

## Undergraduate Courses

Notes:

- (1) Most students will take ENGL 111, 112, 113, or 114, any of which will serve as the prerequisite to all senior English courses, or will fulfill degree requirements for faculties that require ★6 of first-year English. All four of these full year courses study selected works from a range of genres (poetry, drama, fiction or nonfiction). Students with credit in ENGL 100 or 101 may not take current ENGL 111, 112, 113, or 114. Transfer students to the Faculty of Arts who have received credit in ★3 in junior-level English are permitted to take either ENGL 104 or 105 in lieu of the ENGL 111/112/113/114 requirement.
- (2) No more than ★6 in junior English, or equivalent, may be taken for credit in an undergraduate program.
- (3) Junior English courses require a substantial amount of writing in essays and tests, and devote a minimum of 30% of class time to writing instruction.
- (4) All senior courses have as prerequisite ENGL 111, 112, 113, 114 or equivalent; prerequisites for 400-level courses are ★12 of senior ENGL, ★6 of which must be at the 300-level (as numbered in this edition of the Calendar, including any specific course prerequisites in the individual course descriptions).
- (5) Courses at the 200 level need not be tied to any one national literature or historical period.
- (6) Not all senior courses are offered in any given year.

### 0 ENGL 121 Literature in Historical Perspective

★3 (fi 6) (either term, 3-0-0). An introduction to the social, historical and formal dimensions of literature. A variety of traditions written in English may be taught in this course. Not to be taken by students with ★6 in approved junior English.

### 0 ENGL 122 Texts and Contexts

★3 (fi 6) (either term, 3-0-0). This course explores a specific issue using a variety of genres and media. Not to be taken by students with ★6 in approved junior English. Note: Sections reserved for student in the TYP Program include a 3 hour seminar component in addition to the 3 hour lecture component.

### 0 ENGL 123 Literature in Global Perspective

★3 (fi 6) (either term, 3-0-0). Studies in the literatures of the English-speaking world. Not to be taken by students with ★6 in approved junior English.

### 0 ENGL 124 Literary Analysis

★3 (fi 6) (either term, 3-0-0). This course is designed to familiarize students with key literary terms and practices. Not to be taken by students with ★6 in approved junior English.

### ENGL 199 Essentials of Writing for Engineering Students

★3 (fi 6) (either term, 3-0-0). This course is designed to develop the student's ability to write the narrative, descriptive, expository, and persuasive prose fundamental to all written communication. Instruction and practice will be integrated with the study of prose models drawn from modern essayists. A review of basic grammar will be included. Note: Restricted to students in the Faculty of Engineering only.

### ENGL 222 Reading Politics: Race and Ethnicity

★3 (fi 6) (either term, 3-0-0). An introduction to dynamics of race and ethnicity in literary and other cultural texts, and to the critical concepts and methods key to their study. Prerequisite: ★6 of junior English, or ★3 of junior English plus WRS 101.

### ENGL 339 Early Modern Literature and Culture: Studies in Shakespeare

★3 (fi 6) (either term, 3-0-0). Prerequisite: ★6 of junior English, or ★3 of junior English plus WRS 101. Note: Not to be taken by students with credit in ENGL 338.

### ENGL 376 Canadian Literature and Culture: Late 20th-Century Texts

★3 (fi 6) (either term, 3-0-0). Selected works from the Canadian context since mid-century. Prerequisite: ★6 of junior English, or ★3 of junior English plus WRS 101. Note: not to be taken by students with credit in ENGL 372.

### ENGL 384 Popular Culture: Reading Popular Texts

★3 (fi 6) (either term, 3-0-0). Studies in the popular tradition. Content and period focus may vary. Note: not to be taken by students with credit in the former ENGL 383. Prerequisite: ★6 of junior English, or ★3 of junior English plus WRS 101.

### ENGL 389 Children's Literature and Culture: Print Traditions

★3 (fi 6) (either term, 3-0-0). Studies in texts from the print traditions, including picture books, historical, critical and theoretical approaches to print texts. Content and period focus may vary. Prerequisite: ★6 of junior English, or ★3 of junior English plus WRS 101.

### ENGL 407 Studies in Texts and Cultures

★3 (fi 6) (either term, 3-0-0). Prerequisites: ★6 of junior English or ★3 of junior English plus WRS 101; and ★12 of senior-level English, ★6 of which must be at the 300 level. Note: variable content course which may be repeated.

### ENGL 533 Directed Reading in Fourth-Year Honors English

★3 (fi 6) (either term, 3-0-0). Note: Students may take this directed-reading course no more than once during their program.

## Graduate Courses

Note: Selected courses from the following list will be offered each year. Details of each year's program may be obtained early in the preceding spring from the Department.

### ENGL 554 Directed Reading

★3 (fi 6) (first term, 3-0-0).

### ENGL 555 Directed Reading

★3 (fi 6) (second term, 3-0-0).

### ENGL 679 20th-Century Texts

★3 (fi 6) (either term, 3-0-0).

### ENGL 900 Directed Research Project

★3 (fi 6) (either term, unassigned).

## English for Academic Purposes, EAP

English as a Second Language Program  
Faculty of Extension

### Undergraduate Courses

#### EAP 135 Introduction to Academic English

★0 (fi 19) (either term, 132 hours). Focuses on the development of language fluency and accuracy and on building the necessary vocabulary for further studies within an academic environment. Listening, reading, speaking, and writing skills are emphasized by engaging students in a variety of academic activities. This course, which precedes EAP 140, will enable students to lay the foundations for successful academic writing. Students will be introduced to language learning strategies and will develop study skills that are crucial to their success in an English-medium university. Prerequisite: Minimum TOEFL score of 65 (internet based) or 500 (paper-based), a score of at least 5.0 on the IELTS.

#### EAP 140 English for Academic Purposes

★3 (fi 19) (either term, 132 hours). Provides students with the opportunity to improve their academic listening, speaking, reading and writing skills. Upon completion of EAP 140, students are able to analyze academic materials critically and to express themselves fluently, accurately and logically, both orally and in writing. Prerequisites: EAP 135 or minimum scores of 70 on TOEFL iBT (530 on TOEFL paper-based) or appropriate cut-off scores for other standardized academic proficiency tests recognized by the Office of the Registrar. Credit will be granted for only one of ESL 140 or EAP 140.

#### EAP 145 English for Academic Purposes

★3 (fi 19) (either term, 132 hours). A continuation of EAP 140. Students further develop their abilities to collect and synthesize information from a variety of academic sources; analyze and critique materials; and present their ideas in a variety of media in accordance with the academic standards found at the first-year university level. EAP 140 and 145 thoroughly prepare students for study at the undergraduate university level. Prerequisite: EAP 140. Credit will be granted for only one of ESL 145 or EAP 145

## Etudes canadiennes, ETCAN

Faculté Saint-Jean

### Cours de 1er cycle

#### ETCAN 332 Les francophonies canadiennes et acadiennes II: perspectives idéologiques et politiques.

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). La civilisation et la culture du Canada français et de l'Acadie, du Régime français à nos jours, par l'étude des idéologies politiques et des procédés juridiques régissant leur développement et leurs modes de communication collective. Le statut ambivalent de majoritaire/minoritaire vu à travers le prisme du post- colonialisme et du multiculturalisme. Note : Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour ETCAN 322 et CA FR 322.

## Exchange Program, EXCH

Education Abroad Program  
Examinations and Timetabling

### Undergraduate Courses

#### 0 EXCH 810 Exchange Program

★0 (fi 24) (Spring/Summer, unassigned).

**EXCH 811 Exchange Program**

★0 (fi 12) (either term or Spring/Summer, unassigned).

**EXCH 812 Exchange Program**

★0 (fi 6) (either term or Spring/Summer, unassigned).

**EXCH 813 Exchange Program**

★0 (fi 18) (either term or Spring/Summer, unassigned).

**Graduate Courses****EXCH 802 Exchange Program**

★0 (fi 6) (either term, unassigned).

**EXCH 803 Exchange Program**

★0 (fi 12) (either term, unassigned).

**EXCH 804 Exchange Program**

★0 (fi 18) (either term, unassigned).

**EXCH 805 Exchange Program**

★0 (fi 24) (either term, unassigned).

**Film Studies, FS**Department of English and Film Studies  
Faculty of Arts**Undergraduate Courses****FS 100 Introduction to Film Study**

★3 (fi 6) (either term, 3-0-3). Introduction to basic formal concepts in film analysis including mise-en-scène, cinematographic properties, editing, and sound, as well as narrative qualities.

**Finance, FIN**Department of Finance and Statistical Analysis  
Faculty of Business

Note: Enrolment in all FIN courses is restricted to students registered in the Faculty of Business, or to students registered in specified programs that require Business courses to meet degree requirements and who have obtained prior approval of their Faculty.

**Undergraduate Courses****FIN 412 Investment Principles**

★3 (fi 6) (either term, 3-0-0). This course examines securities and securities markets with emphasis on stocks and bonds. Topics include information, interest rates, risk-return relationships, efficient markets, diversification, portfolio performance measurement, and the application of financial theory to investment decisions. Prerequisite: FIN 301 and MGTS 312. Students may not receive credit for both FIN 412 and ECON 442.

**FIN 413 Risk Management**

★3 (fi 6) (either term, 3-0-0). This course examines the markets and valuation models for options and future contracts, and their application to hedging and the valuation of the other financial contracts. Prerequisite: FIN 301.

**FIN 495 Individual Research Project I**

★3 (fi 6) (either term, 3-0-0). Special study for advanced undergraduates. Prerequisites: consent of Instructor and Assistant Dean, Undergraduate Program.

**Graduate Courses****FIN 604 The Practice of Investment Banking**

★3 (fi 6) (either term, 3-0-0). This course is concerned with the organization, evolution and structure of, and functions performed by, investment banks. Specifically, the course will cover topics such as the offering of securities to the public, the underwriting process, normal course and short form prospectus offerings, and private placements. In addition, exchange listings, maintaining exchange trading status, the role of research analysts and insider trading regulation will be studied. Co-requisite: FIN 501 or FIN 503.

**FIN 635 Venture Capital**

★3 (fi 6) (either term, 3-0-0). Covers the theory and practice of venture capital financing of entrepreneurial firms. Topics to be discussed include, but are not limited to, the following areas: venture capital fundraising (labour-sponsored venture capital corporations, limited partnerships and corporate venture capital) characteristics of entrepreneurial ventures (including agency problems, firm valuation) at different stages of development (seed, start-up, expansion, mezzanine, buyout, turnaround), the structure of venture capital financial contracts (staging,

syndication, forms of finance), restrictive covenants, investment duration, and venture capital exits (IPOs, acquisitions, secondary sales, buybacks, write-offs). Prerequisite: FIN 501 or 503.

**Français, FRANC**

Faculté Saint-Jean

Notes

- (1) Le tableau ci-dessus indique les cours obligatoires suivant la voie dans laquelle est orienté un étudiant et le moment où ils doivent être pris.
- (2) Un étudiant ayant réussi des cours de la voie avancée ne peut se réorienter vers la voie intermédiaire ou postuler des crédits pour les cours de cette voie et vice versa.
- (3) Un seul cours de français au niveau 100 peut être crédité, sauf pour les étudiants dans la voie intermédiaire.

**Cours de 1er cycle****FRANC 226 Maîtrise du français**

★3 (fi 6) (l'un ou l'autre semestre, 0-4.5L-0). Axé sur les formes d'expression dans la pratique et l'académique, le cours vise à compléter le cheminement qui mène à la maîtrise de la langue française dans toutes ses nuances et complexités, tant à l'oral qu'à l'écrit. Préalable (s): FRANC 213 ou 216 ou 217 ou affectation par l'évaluation initiale obligatoire (Veuillez consulter l'article \$183.5.1). Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FRANC 221.

**FRANC 227 Consolidation du français II**

★3 (fi 6) (l'un ou l'autre semestre, 0-4.5L-0). Consolidation des éléments travaillés au FRANC 226. Préalable: FRANC 226.

**FRANC 232 Techniques de rédaction**

★3 (fi 6) (l'un ou l'autre semestre, 0-3L-0). Pratique de la rédaction technique, journalistique et de la vulgarisation scientifique. Préalable: FRANC 226.

**FRANC 322 Pratique de la dissertation**

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). La compréhension, l'analyse et la synthèse d'informations. L'étude et la manipulation du raisonnement logique. La recherche et l'exploitation des arguments. L'élaboration et la mise en forme de la dissertation comme texte clair, cohérent et convaincant. Travaux pratiques. Cours obligatoire pour l'obtention du diplôme de la Faculté. Ce cours présuppose une bonne connaissance et une maîtrise de la langue française aux plans grammatical, syntaxique et lexical. Préalable(s): FRANC 226 ou 227 ou affectation par l'évaluation initiale obligatoire (Veuillez consulter l'article \$183.5.1).

**French Language and Literature, FREN**Department of Modern Languages and Cultural Studies  
Faculty of Arts

Note: Students with very good formal or informal background in French should consult the Department for proper placement. See Notes 1 - 3 under French listings in the University Calendar.

**Undergraduate Courses****FRAN 111 Beginners' French I**

★3 (fi 6) (either term, 5-0-0). Designed for students with little or no previous background in French. Covers material in matriculation-level French and allows students to proceed into the study of French at the University level. Note: not to be taken by students with credit in FREN 100, or with native or near native proficiency, or with French 30 or its equivalents in Canada and other countries.

**FRAN 112 Beginners' French II**

★3 (fi 6) (either term, 5-0-0). Prerequisite: FREN 111 or consent of Department. Note: not to be taken by students with credit in FREN 100, or with native or near native proficiency, or with French 30 or its equivalents in Canada and other countries.

**FRAN 211 Intermediate French I**

★3 (fi 6) (either term, 5-0-0). Spoken and written French, including grammar, composition, and literature. Prerequisite: French 30 (or equivalent) or FREN 112 or consent of Department. Note: not to be taken by students with credit in FREN 150.

**FRAN 212 Intermediate French II**

★3 (fi 6) (either term, 5-0-0). Prerequisite: FREN 211 or consent of Department. Note: not to be taken by students with credit in FREN 150.

**FRAN 298 Advanced French II**

★3 (fi 6) (either term, 3-0-2). Emphasis on the improvement of writing and speaking skills by means of numerous compositions based on texts read and discussed in

class. Prerequisite: FREN 297 or consent of Department. Note: not to be taken by students with credit in FREN 252 or FRAN 165, 166, 210, 211.

### **O FREN 333 French Cultural Moments**

★3 (*fi 6*) (either term, 3-0-0). Uses the study of various intellectual and historical events to provide students with a window into the French world. Prerequisite: FREN 297 or consent of Department. Offered in La Rochelle, France only. Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

### **O FREN 499 Special Topics**

★3 (*fi 6*) (either term, 3-0-0).

## German, GERM

Department of Modern Languages and Cultural Studies  
Faculty of Arts

Note: Students with very good formal or informal background in German should consult the Department for proper placement. See Notes 1 - 3 under German listings in the University Calendar.

### Undergraduate Courses

#### **O GERM 111 Beginners' German I**

★3 (*fi 6*) (either term, 5-0-0). Intended for students with no previous knowledge of the language and designed to develop basic skills: listening, reading, speaking, writing, and intercultural competence. Note: not to be taken by students with native or near native proficiency, or with German 30 or its equivalents in Canada and other countries. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students.

#### **O GERM 112 Beginners' German II**

★3 (*fi 6*) (either term, 5-0-0). Prerequisite: GERM 111 or consent of Department. Note: not to be taken by students with native or near native proficiency, or with German 30 or its equivalents in Canada and other countries. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students.

## Health Education, HE ED

Faculty of Physical Education and Recreation

### Undergraduate Courses

#### **O HE ED 110 Introduction to Personal Health and Well-Being**

★3 (*fi 6*) (either term, 3-0-0). An individual-based analysis of physical fitness and personal health and wellness. Emphasis is on planning and managing one's own lifestyle for health and well-being within the context of the current health care system. Open to all students.

#### **O HE ED 221 Population Health**

★3 (*fi 6*) (either term, 3-0-0). The course focuses on the role of physical activity and other health behaviours in the primary prevention of chronic diseases across the lifespan. An epidemiological approach will be used to examine determinants, health behaviours, health outcomes, and interventions at a population-level in Canada and around the world. Prerequisites: HE ED 110 or 220, PEDS 101 and 103.

#### **O HE ED 321 Psychological Dimensions of Health Promotion**

★3 (*fi 6*) (either term, 3-0-0). An individual-based analysis of health-related behavior and behavior change. Emphasis will be placed upon social psychological approaches to understanding and changing such health-related behaviors as physical activity involvement, dietary practices, smoking, alcohol and drug abuse within a social context.

#### **HE ED 499 Directed Studies**

★3 (*fi 6*) (either term, variable). A course designed to meet the needs of individual students. Prerequisite: Consent of Faculty.

## History, HIST

Department of History and Classics  
Faculty of Arts

The courses listed below represent an extensive reorganization and modification of the Department's offerings. Because of changes in course numbers and/or content, students should compare their new course selections with courses previously taken, so as to avoid duplication or overlap. For Ancient History, see Classics listing.

Note: HIST 110, 111, 112, and 120 are designed to provide a foundation for senior and advanced history courses, and also background for studies in related humanities and social sciences.

### Undergraduate Courses

#### **O HIST 110 The Pre-Modern World**

★3 (*fi 6*) (either term, 3-0-0). World history from the end of the 6th century to the 15th century.

#### **O HIST 112 The Modern World**

★3 (*fi 6*) (either term, 3-0-0). The world since the beginning of the 19th century. Not open to students with credit in HIST 120.

#### **HIST 115 Technology and History**

★3 (*fi 6*) (either term, 3-0-0). The role of technology in historical developments around the world.

#### **O HIST 260 Pre-Confederation Canada**

★3 (*fi 6*) (either term, 3-0-0).

#### **O HIST 280 East Asia to 1500**

★3 (*fi 6*) (either term, 3-0-0). Survey of history of East Asia (China, Korea, Japan, Vietnam) to 1500.

#### **O HIST 281 East Asia from 1500**

★3 (*fi 6*) (either term, 3-0-0). Survey of the history of East Asia (China, Korea, Japan, Vietnam) from 1500 to the present.

#### **O HIST 290 Introduction to Historiography**

★3 (*fi 6*) (either term, 2-1s-0). Introduction to the basic concepts of historical inquiry and techniques of research and writing in History. Required for History majors. Prerequisite: A previous course in History and/or consent of the Department.

#### **O HIST 296 World War Two**

★3 (*fi 6*) (either term, 3-0-0). Emphasis on social and political aspects.

#### **O HIST 300 Topics in European History**

★3 (*fi 6*) (either term, 3-0-0).

#### **HIST 494 Topics in Comparative History**

★3 (*fi 6*) (either term, 0-3s-0). Prerequisite: ★3 in HIST at the 300-level or consent of Department.

#### **HIST 498 Directed Study**

★3 (*fi 6*) (either term, 0-3s-0). Prerequisite: ★3 in HIST at the 300-level or consent of Department.

### Graduate Courses

Note: Previous study in the area is prerequisite for each course.

## Human Ecology, HECOL

Department of Human Ecology  
Faculty of Agricultural, Life and Environmental Sciences

### Undergraduate Courses

#### **O HECOL 210 Intimate Relationships**

★3 (*fi 6*) (either term, 3-0-0). A consideration of the sociological, psychological, and personal factors affecting the development, maintenance and dissolution of intimate relationships today.

#### **O HECOL 211 Human Sexuality**

★3 (*fi 6*) (either term, 3-0-0). An inquiry into the nature of sexual behavior, its personal and cultural sources, and the personal, familial and societal implications.

#### **HECOL 321 Introduction to Family Finance**

★3 (*fi 6*) (either term, 3-0-0). An introduction to the principles of money management for individuals, households, and families. Students learn basic financial literacy skills and tools required to make key financial decisions by identifying financial goals, assessing current resources, developing and implementing a financial plan and evaluating financial progress. It is also expected that students will be able to apply these tools in their professional work to enhance clients' financial literacy and their ability to resolve financial management challenges. Prerequisites: ECON 101; it is recommended that students have completed both ECON 101 and 102. Offered in alternate years.

#### **HECOL 409 Practicum in Human Ecology**

★6 (*fi 12*) (either term, 0-0-16). Supervised field experience. Students are placed in professional settings appropriate to their academic background and career goals. Participation in a weekly online seminar is required. Open to Human Ecology students who have completed ★105. Prerequisite: HECOL 408. Application required (see description of HECOL 408). Requires payment of additional student

instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

#### **O** HECOL 492 Selected Topics in Family Ecology

★3 (*fi 6*) (either term, variable). Normally offered in Spring or Summer. Can be taken for credit more than once if the topics are different. Prerequisite: successful completion of ★60 or consent of Instructor.

#### **O** HECOL 493 Selected Topics in Textiles and Clothing

★3 (*fi 6*) (either term, variable). Normally offered in Spring or Summer. Can be taken for credit more than once if the topics are different. Prerequisite: successful completion of ★60 or consent of Instructor. Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

### Graduate Courses

#### **HECOL 501 Independent Project in Human Ecology**

★3 (*fi 6*) (either term, 0-0-6). Independent study of a topic in human ecology planned by the student in consultation with the Instructor. Independent studies may be taken more than once for credit.

#### **HECOL 613 Graduate Practicum in Human Ecology**

★3-6 (*variable*) (variable, variable). Selected practicum placements to integrate theory and practice in a variety of agencies. When used as the capping exercise for the course-based Master's program, requirements include a written report and an oral presentation to the Department and/or where appropriate to relevant agency staff. Prerequisites: consent of Supervisor and Department.

#### **HECOL 654 Research Project in Human Ecology**

★3-6 (*variable*) (either term, variable). An original research project, conducted with guidance from a faculty member, typically resulting in the preparation of a research report and a submission to a professional academic conference for a poster or paper presentation OR the preparation of a manuscript that is submitted to a scholarly journal for publication. May be taken more than once for credit.

#### **HECOL 900 Directed Research Project**

★6 (*fi 12*) (variable, 0-0-6). Comprises the capping exercise for the course-based Masters programs. Requirements include conducting an applied research project, and both a written project report and an oral presentation to the Department, and where appropriate, to relevant practising professionals.

## Human Resource Management, HRM

Department of Strategic Management and Organization  
Faculty of Business

Note: Enrolment in all HRM courses is restricted to students registered in the Faculty of Business, or to students registered in specified programs that require Business courses to meet degree requirements and who have obtained prior approval of their Faculty.

Students who have completed IND R courses are not allowed to register in a HRM course with the same number.

## Humanities Computing, HUCO

Office of Interdisciplinary Studies  
Faculty of Arts

### Graduate Courses

#### **HUCO 618 Directed Reading in Humanities Computing**

★3 (*fi 6*) (either term, 0-3s-0).

## Integrated Petroleum Geosciences, IPG

Department of Earth and Atmospheric Sciences  
Faculty of Science

### Graduate Courses

#### **IPG 601 Independent Research Project**

★6 (*fi 12*) (two term, 0-0-3). The integrated independent research project may incorporate a variety of aspects of modern geosciences as practised in industry. Students sponsored by a company may use data from industry in these projects. Prerequisites: IPG 510, 512, 514, 516, 518 and ★12 in EAS and/or GEOPH at the 500-level. [Faculty of Science]

## Interdisciplinary Undergraduate & Graduate Courses, INT D

### Undergraduate Courses

#### Faculty of Arts Courses

##### Notes

- (1) Courses listed below are the joint concern of the departments stated in the course descriptions. Instructions will be offered by members of one or more of the departments or Faculties listed. Responsibility for registration is with the department shown in square brackets at the end of the description.
- (2) Unless otherwise indicated in the course description, an INT D course may be applied toward either the major or the minor or as an option if it appears under the department's course listings.
- (3) Note that ★6 at the 400-level in INT D cannot constitute a minor in the BA program. Normally, a maximum of ★3 at the 400-level in INT D may be applied toward the minor requirement, unless otherwise approved by the minor department.

#### **INT D 325 Topics in Interdisciplinary Studies**

★3-6 (*variable*) (variable, variable). Offered by various departments depending upon the content of the course in a given year. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar. [Faculty of Arts, Office of Interdisciplinary Studies]

### Faculty of Education Courses

#### **O** INT D 404 Global Citizenship: Contemporary Issues and Perspectives

★3 (*fi 6*) (either term, 3-0-0). This course aims to provide students the opportunity to engage with current literature and experts, and to extend their own research skills as they strive to understand how global citizenship might frame the roles of individuals and communities with which they will interact in increasingly diverse social, economic, and political contexts that are not restricted by geographical or social boundaries. This course will examine select theories and case studies that focus on the constructions of global citizenship, and how citizenship is (has been) lived, denied, recreated and/or re-imagined. [Educational Policy Studies]

### Faculty of Extension Courses

#### **INT D 345 Rural Environments**

★3 (*fi 6*) (either term, 0-3s-0). The characteristics of rural environments that relate to current planning challenges and land use pressures will be examined. Topics such as: changing agricultural practices, rural health issues, planning for rural sustainability and the role of legislation at provincial, regional and intermunicipal levels will be discussed. Many case examples will be used throughout the course. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students. Open to students in the Undergraduate Program in Planning or consent of the Instructor.

### Faculty of Nursing Courses

#### **INT D 375 Intercultural Exploration of Health and Practice in Italy**

★3 (*fi 6*) (Spring/Summer, 9-3s-4 in 3 weeks). This course provides a cross-cultural interprofessional learning experience that explores the impact of differences in diet, lifestyle, and food security on patient health and practice. The students also develop an understanding of how education and citizenship influence professional identity and practice. The interdisciplinary course is taught in Italy. Available to Faculty of Nursing students who have completed the second year or third year of the Collaborative nursing program with a minimum GPA of 2.5 in the Fall term of their second or third year; and Faculty of Pharmacy students who have completed the third year of the Pharmacy program with a minimum GPA of 2.5 in the Fall term of their third year. Prerequisite: Department consent. Sections offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students. (Offered jointly by the Faculty of Nursing and the Faculty of Pharmacy and Pharmaceutical Sciences.)

### Faculty of Pharmacy and Pharmaceutical Sciences Courses

#### **INT D 375 Intercultural Exploration of Health and Practice in Italy**

★3 (*fi 6*) (Spring/Summer, 9-3s-4 in 3 weeks). This course provides a cross-cultural interprofessional learning experience that explores the impact of differences in diet, lifestyle, and food security on patient health and practice. The students also develop an understanding of how education and citizenship influence professional identity and practice. The interdisciplinary course is taught in Italy. Available to

Faculty of Nursing students who have completed the second year or third year of the Collaborative nursing program with a minimum GPA of 2.5 in the Fall term of their second or third year; and Faculty of Pharmacy students who have completed the third year of the Pharmacy program with a minimum GPA of 2.5 in the Fall term of their third year. Prerequisite: Department consent. Sections offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students. (Offered jointly by the Faculty of Nursing and the Faculty of Pharmacy and Pharmaceutical Sciences.)

## Graduate Courses

### Faculty of Medicine and Dentistry Courses

#### INT D 570 Healthcare Ethics

★3 (fi 6) (either term, 0-3s-0). An interdisciplinary course exploring selected topics in bioethics. Includes examination of ethical theories and principles within the context of clinical practice (nursing, medicine, rehabilitation medicine, dentistry, pharmacy) and learning experiences to improve moral reasoning and ethical decision making. Prerequisite: consent of Instructors. [Faculty of Nursing, Faculty of Medicine and Dentistry, John Dossetor Health Ethics Centre]

#### INT D 670 Research Ethics

★3 (fi 6) (either term, 0-3s-0). Examines the ethical issues which arise in research involving human subjects. Research methods studied may include clinical trials, surveys, secondary analysis of stored data, and the observation of public behavior. Problems encountered in studying particular populations, such as children or persons with dementia, will also be studied. Prerequisite: consent of Instructor. [Faculty of Nursing, Faculty of Medicine and Dentistry, John Dossetor Health Ethics Centre].

### Faculty of Nursing Courses

#### INT D 570 Healthcare Ethics

★3 (fi 6) (either term, 0-3s-0). An interdisciplinary course exploring selected topics in bioethics. Includes examination of ethical theories and principles within the context of clinical practice (nursing, medicine, rehabilitation medicine, dentistry, pharmacy) and learning experiences to improve moral reasoning and ethical decision making. Prerequisite: consent of Instructors. [Faculty of Nursing, Faculty of Medicine and Dentistry, John Dossetor Health Ethics Centre]

#### 0 INT D 577 Spiritual Assessment in the Promotion of Health

★3 (fi 6) (either term, 0-3s-0). As an element of whole person health assessment, "spiritual assessment" is of interest to a broad spectrum of health as well as ministry professionals. Emphasis is placed on consideration of theories and skills needed for the practice of spiritual assessment. The course provides a context for interdisciplinary reflection on understandings of the human person, health, health promotion, spirituality, spiritual needs, and spiritual care. Students are invited to explore their own spirituality and various approaches to assessing the spiritual based on a variety of definitions and understandings of spirituality. Specific models and tools for spiritual assessment will be considered, two will be looked at in depth, and students will have opportunities to bring theory as well as experience together in both group and individual exercises of spiritual assessment rooted in their ministry/health practice.

#### INT D 670 Research Ethics

★3 (fi 6) (either term, 0-3s-0). Examines the ethical issues which arise in research involving human subjects. Research methods studied may include clinical trials, surveys, secondary analysis of stored data, and the observation of public behavior. Problems encountered in studying particular populations, such as children or persons with dementia, will also be studied. Prerequisite: consent of Instructor. [Faculty of Nursing, Faculty of Medicine and Dentistry, John Dossetor Health Ethics Centre].

## Japanese, JAPAN

Department of East Asian Studies  
Faculty of Arts

### Undergraduate Courses

#### 0 JAPAN 101 Basic Japanese I

★3 (fi 6) (either term, 5-0-0). A non-intensive written course designed to develop basic skills in spoken and written Japanese. Note: Not open to students with credit in Japanese 30, 35, JAPAN 150 or equivalent.

#### 0 JAPAN 102 Basic Japanese II

★3 (fi 6) (either term, 5-0-0). A continuation of JAPAN 101. Prerequisite: JAPAN 101 or equivalent. Note: Not open to students with credit in Japanese 30, 35, JAPAN 150 or equivalent.

#### 0 JAPAN 201 Basic Japanese III

★3 (fi 6) (either term, 5-0-0). A non-intensive course designed to develop further basic skills in spoken and written Japanese. Prerequisite: JAPAN 102 or 150 with a minimum grade of C+, or consent of Department.

#### 0 JAPAN 202 Basic Japanese IV

★3 (fi 6) (either term, 5-0-0). A continuation of JAPAN 201. Prerequisite: JAPAN 201 with a minimum grade of C+, or consent of Department.

## Korean, KOREA

Department of East Asian Studies  
Faculty of Arts

### Undergraduate Courses

#### 0 KOREA 101 Basic Korean I

★3 (fi 6) (either term, 5-0-0). Introduction to Korean. Note: Designed for beginners and not open to students with previous knowledge of Korean.

#### 0 KOREA 102 Basic Korean II

★3 (fi 6) (either term, 5-0-0). A continuation of KOREA 101. Prerequisite: KOREA 101 or consent of Department. Note: Designed for beginners and not open to students with previous knowledge of Korean.

#### 0 KOREA 201 Basic Korean III

★3 (fi 6) (either term, 5-0-0). Basic communication in modern Korean, integrating speaking, listening, reading and writing. Prerequisite: KOREA 102 or consent of Department.

#### 0 KOREA 202 Basic Korean IV

★3 (fi 6) (either term, 5-0-0). A continuation of KOREA 201. Prerequisite: KOREA 201 or consent of Department.

## Latin, LATIN

Department of History and Classics  
Faculty of Arts

Note: For additional related courses see Classics (CLASS) listings.

### Undergraduate Courses

#### LATIN 499 Individual Study in Latin Authors

★3 (fi 6) (either term, 3-0-0).

## Law, LAW

Faculty of Law

### Undergraduate Courses

#### LAW 526 Independent Research Paper

★3 (fi 6) (either term, 3-0-0). Selected students are afforded the opportunity to undertake an independent research project on an approved topic under the direct supervision of a full-time Faculty member resulting in the submission of a research paper of 8,000 to 10,000 words. In addition to advanced knowledge; the course is designed to enhance problem solving skills, legal research methodologies and techniques and legal writing and communication skills. Material submitted for assessment in another course cannot be used in an independent research project.

#### LAW 599 Seminars on Specialized Legal Topics

★3 (fi 6) (either term, 0-3s-0). These seminars will cover specialized topics of emerging importance in the law at a senior level. The particular topic covered would vary dependent on the availability of Faculty with necessary teaching competence, student interest, and the needs of the legal profession. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students.

### Graduate Courses

#### LAW 690 Course-Based LLM Major Research Paper

★3 (fi 6) (either term, 3-0-0). Comprises the capstone major research paper requirement for the course-based LLM, enabling course-based LLM students to conduct advanced independent research under the supervision of a full-time member of the Faculty of Law. The paper will apply and further develop graduate-level research and writing skills learned during the course-based LLM program. The topic of the paper shall be approved by the course instructor and the Associate Dean (Graduate Studies), Faculty of Law. The paper shall be approximately 40 to 60 pages (10,000 to 15,000) words in length, inclusive of footnotes or endnotes.

Material that has been submitted for assessment in another course may not form part of the major research paper.

#### LAW 695 Research Paper

★3 (fi 6) (either term, 3-0-0). This course enables graduate students to gain advanced knowledge within a chosen field and develop graduate-level legal research and writing skills. Independent research on an approved topic will be conducted under the supervision of a full-time member of the Faculty of Law, resulting in the submission of a written research paper of approximately 32 to 40 pages (8,000 to 10,000) words in length, inclusive of footnotes or endnotes. The research topic is subject to the prior approval of the course instructor. Material that has been submitted for assessment in another course may not form part of the independent research paper. When the student is enrolled in the thesis-based LLM, the research paper topic shall be different from the thesis topic.

#### LAW 710 Topics in Constitutional Law 2

★3 (fi 6) (either term, 3-0-0).

#### LAW 733 Topics in Oil, Gas, and Natural Resources Law 1

★3 (fi 6) (either term, 3-0-0).

#### LAW 737 Topics in International Law 1

★3 (fi 6) (either term, 3-0-0).

## Library and Information Studies, LIS

School of Library and Information Studies  
Faculty of Education

Note: All the following courses are restricted to MLIS students except for LIS 402 & 518.

### Graduate Courses

#### LIS 518 Comic Books and Graphic Novels in Schools and Public Libraries

★3 (fi 6) (either term, 3-0-0). Examines the history and contemporary reality of comic book publishing and readership in Canada, Great Britain, Japan and the United States, and issues related to perception of the format by educators, librarians, and readers. Focus on collection development, censorship concerns and challenges, gender issues in both readership and content, genres, and impact of the Internet. Open to MLIS students and other graduate students. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students. Pre or corequisite: LIS 501 or consent of instructor.

#### LIS 531 Collection Management

★3 (fi 6) (either term, 3-0-0). An analytical approach to collection management including the acquisition, review and evaluation of collections. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students. Prerequisites: LIS 501, 502, 503, 504, and 505, or consent of instructor.

#### LIS 533 Database Design for Information Management

★3 (fi 6) (either term, 3-0-0). An introduction to core concepts, principles, and techniques of database design for information management, from user requirement analysis, to data and information modeling and querying. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students. Pre or corequisite: LIS 501 or consent of instructor.

#### LIS 546 Marketing Library and Information Services

★3 (fi 6) (either term, 3-0-0). The principles of marketing and public relations for nonprofit organizations, with an emphasis on library and information services. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students. Prerequisites: LIS 501, 502, and 503, or consent of instructor.

#### LIS 590 Practicum

★3 (fi 6) (either term, 100 hours). The application of LIS theories and principles through experiential learning in a library, archives, records management and other services settings. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students. Prerequisites: LIS 501, 502, 504, 505, and an additional ★6 in LIS electives, or consent of instructor.

#### LIS 600 Capping Exercise

★0 (fi 1) (either term, 12 hours). The required capping exercise for the MLIS degree is an ePortfolio representing examples of the student's course work, leadership and innovation potential, communication skills, and involvement in professional life. Normally students are expected to begin developing their ePortfolio during their second semester. The ePortfolio must be completed and submitted during their final term of coursework. It will demonstrate that the student has met the Program Level Learning Outcomes (PLLOs) of the MLIS degree.

#### LIS 699 Directed Study

★3 (fi 6) (either term, 0-3s-0). Further study at the doctoral level of special topics and issues, based on knowledge acquired in previous courses or on significant prior experience. Topics must be approved by the School.

## Linguistics, LING

Department of Linguistics  
Faculty of Arts

### Undergraduate Courses

#### LING 101 Introduction to Linguistic Analysis

★3 (fi 6) (either term, 3-0-0). Central concepts of linguistics: linguistic categories and structure (phonetics, phonology, morphology, syntax, semantics). Note: May not be taken by students with credit in LING 111.

#### LING 102 Introduction to Linguistics II

★3 (fi 6) (either term, 3-0-0). An introduction to cross-disciplinary and applied areas in linguistics (e.g. language change, language acquisition, language in society). Pre- or corequisite: LING 101. Not to be taken by students with credit in LING 100.

#### LING 204 English Syntax

★3 (fi 6) (either term, 3-0-0). Linguistic analysis of the syntax of modern English. Prerequisite: LING 101.

#### LING 205 Phonetics

★3 (fi 6) (either term, 3-0-0). Recognizing, transcribing, and producing speech sounds using the International Phonetic Alphabet; problems in phonetic analysis; elementary acoustic phonetics; techniques for describing the sound system of an unfamiliar language. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar. Prerequisite: LING 101.

#### LING 320 Second Language Acquisition

★3 (fi 6) (either term, 3-0-0). Application of linguistics to theoretical issues in second-language acquisition: properties of language, problems of languages in contact, psycholinguistic aspects of bilingualism. Prerequisite: LING 101. Recommended: LING 204.

#### LING 375 Linguistics Directed Research I

★3 (fi 6) (either term, 0-3s-0). Independent study of a particular sub-area of linguistics. Normally offered as a reading course and directed research practicum through special prior arrangement. Prerequisite: Consent of Instructor.

## Maintaining Registration, M REG

University of Alberta

### Graduate Courses

#### M REG 800 Maintaining Registration

★0 (fi 6) (either term, unassigned). Maintaining registration in a graduate program and status as a graduate student. Graduate students who do not plan to register either in courses or in Theses or a project course but who wish to maintain their position in a program and their status as graduate students can register in M REG.

## Management Information Systems, MIS

### Undergraduate Courses

#### MIS 311 Management Information Systems

★3 (fi 6) (either term, 3-0-1). Introduction to all major areas of information systems. Technology and file systems, organizational and behavioral issues, datamodeling, databases, expert systems, systems analysis, systems development life cycle, etc. Development of analytical skills which can be brought to bear on MIS problems. Notes: Students are expected to have basic familiarity with microcomputer applications (word processing, spreadsheets, personal data base, presentation graphics, personal information manager, email, web browser). The lab component will be taught for up to 10 weeks.

### Graduate Courses

#### MIS 611 Seminar in Information Systems

★3 (fi 6) (either term, 3-0-1). Introduction to all major areas of information systems. Technology and file systems, organizational and behavioral issues, data modeling, databases, expert systems, systems analysis, systems development life cycle, etc. Development of analytical skills which can be brought to bear on MIS

problems. Notes: Students are expected to have basic familiarity with microcomputer applications. There will be a lab component during the term.

## Management Science, MGTSC

Department of Finance and Statistical Analysis  
Faculty of Business

Note: Enrolment in all MGTSC courses is restricted to students registered in the Faculty of Business, or to students registered in specified programs that require Business courses to meet degree requirements and who have obtained prior approval of their Faculty.

## Marine Science (Biological Sciences), MA SC

Department of Biological Sciences  
Faculty of Science

Notes

- (1) Courses are offered at Bamfield Marine Station (BMS). Details are available from the Department of Biological Sciences.
- (2) Prerequisite for all of the following courses is consent of the Department of Biological Sciences.

### Undergraduate Courses

#### MA SC 402 Special Topics in Marine Biology

★3 (fi 6) (either term, 0-0-6). Offered, as opportunities arise, by selected scientists who are working at the Bamfield Marine Sciences Centre and are prepared to offer a course extending over a three-week period. Course will be of a specialized nature. Credit for this course may be obtained more than once.

#### MA SC 410 Marine Invertebrate Zoology

★6 (fi 12) (two term, 0-0-6). A survey of the marine phyla, with emphasis on the benthic fauna in the vicinity of the Bamfield Marine Sciences Centre. The course includes lectures, laboratory exercises, field collection, identification, and observation. Emphasis is placed on the study of living specimens in the laboratory and in the field.

#### MA SC 430 Marine Ecology

★6 (fi 12) (two term, 0-0-6). An analytical approach to biotic associations in the marine environment. Opportunities will be provided for study of the intertidal realm in exposed and protected areas and of beaches and estuaries in the vicinity of the Bamfield Marine Sciences Centre.

### Graduate Courses

#### MA SC 502 Graduate Level Special Topics

★3 (fi 6) (two term, 0-0-6). Courses offered as opportunities arise, by distinguished scientists who are visiting at Bamfield Marine Station and are prepared to offer a course extending over a three-week period. The course will carry graduate credit.

## Marketing, MARK

Departments of Marketing, Business Economics, and Law  
Faculty of Business

Note: Enrolment in all MARK courses is restricted to students registered in the Faculty of Business, or to students registered in specified programs that require Business courses to meet degree requirements and who have obtained prior approval of their Faculty.

### Undergraduate Courses

#### MARK 301 Introduction to Marketing

★3 (fi 6) (either term, 3-0-0). Students are introduced to the marketing concept and the role of marketing within the overall business framework. The basic tools of marketing are introduced: market segmentation, positioning, product, price, distribution, and promotion, together with marketing research, consumer behavior, planning, and global marketing. A critical theme of the course is the need for the marketing mix to fit with the requirements of consumers, the competitive environment, company strengths, and community expectations. These issues are considered from strategic and tactical perspectives. Prerequisites: ECON 101 and 102, MATH 113 or equivalent.

#### MARK 472 Product Management and Pricing

★3 (fi 6) (either term, 3-0-0). Development, management and pricing of interrelated goods and services. New product development, managing a product portfolio, bundling of goods and services, and tailoring price and product to different segments. Prerequisites: MARK 301 and BUEC 311.

#### MARK 488 Selected Topics in Marketing

★3 (fi 6) (either term, 3-0-0). Normally restricted to third- and fourth- year Business students. Prerequisites: MARK 301 or consent of Department. Additional prerequisites may be required.

#### MARK 495 Individual Research Project I

★3 (fi 6) (either term, 3-0-0). Special study for advanced undergraduates. Prerequisites: MARK 312 or equivalent, consent of Instructor and Associate Dean Undergraduate Program.

### Graduate Courses

#### MARK 799 Individual Research

★3 (fi 6) (either term, 3-0-0). Special studies for advanced students. Prerequisites: Registration in the Business PhD Program or permission of instructor. Approval of the Business PhD Program Director is also required for non-PhD students.

## Materials Engineering, MAT E

Department of Chemical and Materials Engineering  
Faculty of Engineering

### Undergraduate Courses

#### MAT E 202 Materials Science II

★3.8 (fi 8) (either term or Spring/Summer, 3-0-3/2). An introduction to the science of materials relating their mechanical, thermal, electronic and chemical properties to atomic, molecular and crystal structure. Ceramic and metallic crystals, glasses, polymers and composite materials. Multi-phase materials, strengthening processes. Laboratories include mechanical properties of metals and polymers, microstructure, heat treatment of steel, corrosion. Credit may not be obtained in this course if previous credit has been obtained in MATE E 252. Prerequisite: CHEM 105 or consent of Department.

## Mathematics, MATH

Department of Mathematical and Statistical Sciences  
Faculty of Science

Note: MATH 101, 201, 209 are open to Engineering students only.

### Undergraduate Courses

#### MATH 114 Elementary Calculus I

★3 (fi 6) (either term, 3-0-0). The course description is the same as for MATH 113. Prerequisites: Pure Mathematics 30 or Mathematics 30-1 or equivalent. See Note (3) at the beginning of the Mathematic course listings. Credit can be obtained in at most one of MATH 100, 113, 114, 117, 144, or SCI 100.

#### MATH 115 Elementary Calculus II

★3 (fi 6) (either term, 3-0-0). Inverse trigonometric functions. Techniques of integration. Improper integrals. Applications of the definite integral. Introduction to differential equations. Prerequisite: MATH 113, 114, or 144, or equivalent. Note: Credit can be obtained in at most one of MATH 101, 115, 118, 146 or SCI 100.

#### MATH 125 Linear Algebra I

★3 (fi 6) (either term, 3-0-0). Systems of linear equations. Vectors in n-space, vector equations of lines and planes. Matrix algebra, inverses and invertibility. Introduction to linear transformations. Subspaces of n-space. Determinants. Introduction to eigenvalues and eigenvectors. The dot product and orthogonality. Applications in a variety of fields, numerical methods. Prerequisites: Mathematics 30-1. Credit can be obtained in at most one of MATH 102, 120, 125 or 127.

#### MATH 160 Higher Arithmetic

★3 (fi 6) (either term, 3-0-0). Elementary Number Theory, Numeration Systems, Number Systems and Elementary Probability Theory. Math Fair. Prerequisite: Mathematics 30-1 or 30-2, or consent of Department. Notes: (1) This course is restricted to Elementary Education students. (2) This course cannot be used for credit towards a Science degree.

#### MATH 214 Intermediate Calculus I

★3 (fi 6) (either term, 3-0-0). Infinite Series. Plane curves and polar coordinates. Three dimensional analytic geometry. Partial derivatives. This course may not be taken for credit if credit has already been obtained in MATH 209 or MATH 217. Prerequisite: MATH 101, 115, 118, 146, or SCI 100 or equivalent.

#### MATH 215 Intermediate Calculus II

★3 (fi 6) (second term, 3-0-0). First order and second order linear differential equations with constant coefficients. Curves, tangent vectors, arc length, integration in two and three dimensions, polar cylindrical and spherical coordinates, line and surface integrals. Green's divergence and Stokes' theorems. Note: This course may not be taken for credit if credit has already been obtained in MATH 209 or 317. Prerequisite: MATH 214 or equivalent.

**M MATH 222 Introduction to Discrete Mathematics**

★3 (fi 6) (either term, 3-0-0). A problem-solving approach to discrete mathematics, covering secret codes, public-key codes, error-correcting codes, enumeration, recurrence relations, induction, graph theory, graph algorithms and parallel algorithms. Prerequisite: Any 100-level mathematics course or SCI 100, MATH 120, 125 or 127 recommended.

**M MATH 225 Linear Algebra II**

★3 (fi 6) (either term, 3-0-0). Vector spaces. Inner product spaces. Examples of n-space and the space of continuous functions. Gram-Schmidt process, QR factorization of a matrix and least squares. Linear transformations, change of basis, similarity and diagonalization. Orthogonal diagonalization, quadratic forms. Applications in a variety of fields, numerical methods. Prerequisites: A 100-level linear algebra course, and one of Mathematics 31 or a 100-level calculus course. Note: Credit can be obtained in at most one of MATH 225 or 227.

**M MATH 228 Algebra: Introduction to Ring Theory**

★3 (fi 6) (either term, 3-0-0). Integers. Mathematical induction. Equivalence relations. Commutative rings, including the integers mod n, complex numbers and polynomials. The Chinese remainder theorem. Fields and integral domains. Euclidean domains, principal ideal domains and unique factorization. Quotient rings and homomorphisms. Construction of finite fields. Applications such as public domain encryption, Latin squares and designs, polynomial error detecting codes, and/or addition and multiplication of large integers. Prerequisite: Any linear algebra course. Credit for MATH 228 cannot be obtained if credit for MATH 326 has been already obtained.

**M MATH 241 Geometry**

★3 (fi 6) (either term, 3-0-0). Basic Euclidean geometry, congruence, parallelism, area, and similarity. Sound axiomatic development with emphasis on problem solving. Constructions and loci, inequalities, maxima and minima, circles, isometries, and additional topics. Prerequisites: Any 100-level Mathematics course or SCI 100.

**M MATH 253 Theory of Interest**

★3 (fi 6) (either term, 3-0-0). Accumulation and amount functions, effective, nominal, simple, and compound rates, force of interest and discount, simple and general annuities certain, variable annuities and perpetuities, amortization schedules and sinking funds, bonds and other securities, applications, installment loans, depreciation, depletion, capitalized cost. Prerequisite: MATH 101, 115, 118, 146, or SCI 100 or equivalent. Corequisite: MATH 209 or 214.

**M MATH 260 Mathematical Reasoning for Teachers**

★3 (fi 6) (either term, 3-0-0). Reasoning and problem solving in the context of logic, algebra, geometry, and combinatorics. Prerequisite: MATH 160, or consent of Department. Notes: (1) This course is restricted to Elementary Education students. (2) This course cannot be used for credit towards a Science degree.

**M MATH 311 Theory of Functions of a Complex Variable**

★3 (fi 6) (either term, 3-0-0). Complex numbers. Complex series. Functions of a complex variable. Cauchy's theorem and contour integration. Residue Theorem and its applications. Prerequisite or corequisite: MATH 209 or 215.

**M MATH 322 Graph Theory**

★3 (fi 6) (first term, 3-0-0). Graphs, paths and cycles, trees, planarity and duality, coloring problems, digraphs, matching problems, matroid theory. Prerequisite: MATH 120 or 125 or equivalent and any 200-level MATH course. MATH 222 recommended.

**M MATH 334 Introduction to Differential Equations**

★3 (fi 6) (either term, 3-0-0). First order equations, linear equations of higher order. Power series solution. Laplace transform methods. Introduction to special functions. Introduction to linear systems. Prerequisites: MATH 125 or 127 and one of MATH 209, 214 or 217. Corequisite: MATH 215 or 317. Note: This course may not be taken for credit if credit has already been obtained in MATH 201.

**M MATH 337 Introduction to Partial Differential Equations**

★3 (fi 6) (second term, 3-0-0). Boundary value problems of classical Math Physics, orthogonal expansions, classical special functions. Advanced transform techniques. Note: This course may not be taken for credit if credit has already been obtained in either MATH 300 or equivalent. Prerequisite: MATH 334 or 336.

**M MATH 373 Mathematical Programming and Optimization I**

★3 (fi 6) (first term, 3-0-0). Introduction to optimization. Problem formulation. Linear programming. The simplex method and its variants (revised Simplex method, dual simplex method). Extreme points of polyhedral sets. Theory of linear inequalities (Farkas Lemma). Complementary slackness and duality. Post-optimality analysis. Interior point methods. Applications (elementary games, transportation problems, networks, etc.). Pre- or corequisites: MATH 120 or 125 or equivalent; any 200-level MATH course.

**Graduate Courses****MATH 900 Directed Research Project**

★6 (fi 12) (variable, unassigned). Open only to students taking the MSc non-thesis option in mathematics.

**Maîtrise ès sciences de l'éducation, M EDU**

Faculté Saint-Jean

**Cours de 2e cycle****M EDU 594 Lectures dirigées**

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0).

**M EDU 599 Étude personnelle dirigée**

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0).

**Mechanical Engineering, MEC E**

Department of Mechanical Engineering

Faculty of Engineering

**Graduate Courses**

Note: The courses ENG M 620, MEC E 630, 640, 670, 680 and 681 normally will be offered annually. Other courses will be offered on a lecture basis when there is sufficient enrolment; otherwise they will be offered on a guided reading basis.

**MEC E 900 Directed Research Project**

★6 (fi 12) (variable, unassigned). Detailed Engineering report in the student's major area of interest.

**MEC E 910 Directed Research Project**

★3 (fi 6) (variable, unassigned). Detailed Engineering Report in the student's major area of interest.

**Medical Genetics, MDGEN**

Department of Medical Genetics

Faculty of Medicine and Dentistry

**Graduate Courses****MDGEN 605 Directed Reading in Medical Genetics**

★3 (fi 6) (either term, 3-0-0). Reading and study of a specific topic related to the student's MSc or PhD Program in the Department of Medical Genetics under the direction of one or more faculty members. Prerequisite: consent of Department.

**Medical Microbiology and Immunology, MMI**

Department of Medical Microbiology and Immunology

Faculty of Medicine and Dentistry

Note: See also IMIN 324, 371, 372 and 452; INT D 409 and 491 for courses offered by more than one department or Faculty and which may be taken as options or as a course in this discipline.

**Undergraduate Courses****MMI 133 Medical Microbiology for Health Care Professionals**

★3 (fi 6) (either term, 3-0-0). Introductory course in medical microbiology designed for students enrolled in health care related programs. The course begins with basic information on microorganisms (bacteria, viruses, fungi, parasites and prions), the immune system, infection control, transmission of infection, epidemiology, antimicrobials, disinfection and sterilization. The later part of the course concentrates on infectious diseases caused by pathogenic microorganisms.

**MMI 391 Current Methods in Molecular Biology**

★3 (fi 6) (first term, 0-0-8). This laboratory course will introduce the student to common techniques in molecular biology. Through a series of experiments, students will clone and express the genes for bioluminescence from the light-emitting bacterium *Vibrio fischeri*. Technical skills will include: preparation and quantification of genomic and plasmid DNAs, screening a genomic library, restriction mapping, amplification of DNA fragments using the polymerase chain reaction, Southern blotting, expression and purification of proteins, and detection of proteins by Western blotting. Prerequisites: IMIN 200 and departmental consent. Priority given to Honors students in the IMIN program. Credit may be obtained for only one of BIOL 391, IMIN 391 or MMI 391.

## Medicine, MED

Department of Medicine  
Faculty of Medicine and Dentistry

### Undergraduate Courses

#### Faculty of Medicine and Dentistry Courses

##### MED 401 Four-Week Medical Elective

★0 (fi 1) (either term, 4 weeks). This represents a contract period of registration with variable start and end dates for undergraduate medical students who are undertaking clinical electives. The type of clinical elective is open to any area of specialization. Prerequisites: enrolment in an MD program and approval by the Electives Coordinator of the Faculty of Medicine.

##### MED 402 Eight-Week Medical Elective

★0 (fi 2) (either term, 8 weeks). This represents a contract period of registration with variable start and end dates for undergraduate medical students who are undertaking clinical electives. The type of clinical elective is open to any area of specialization. Prerequisites: enrolment in an MD program and approval by the Electives Coordinator of the Faculty of Medicine.

##### MED 518 Optional Summer Elective

★1 (fi 2) (variable, variable). An optional elective of variable length, to be developed by the student in consultation with a Faculty supervisor. Open only to students registered in the MD program.

##### MED 528 Optional Summer Elective

★1 (fi 2) (variable, variable). An optional elective of variable length, to be developed by the student in consultation with a Faculty supervisor. Open only to students registered in the MD program.

## Mining Engineering, MIN E

School of Mining and Petroleum Engineering  
Department of Civil and Environmental Engineering  
Faculty of Engineering

Note: See also Materials Engineering (MATE) and Mining and Petroleum Engineering (MPE) listings.

### Graduate Courses

##### MIN E 900 Directed Research

★3 (fi 6) (either term, unassigned). An engineering project for students registered in a Masters of Engineering program.

##### MIN E 910 Directed Research

★6 (fi 12) (variable, unassigned). An engineering project for students registered in the joint MBA/MEng program.

## Modern Languages and Cultural Studies, MLCS

Department of Modern Languages and Cultural Studies  
Faculty of Arts

### Undergraduate Courses

##### MLCS 399 Special Topics

★3 (fi 6) (either term, 3-0-0). Prerequisite: consent of Department.

### Graduate Courses

##### MLCS 901 MA Research Project

★3 (fi 6) (either term, unassigned).

## Music, MUSIC

Department of Music  
Faculty of Arts

### Undergraduate Courses

##### MUSIC 100 Rudiments of Music

★3 (fi 6) (either term, 3-0-0). Fundamentals of music theory approached through aural and written training. Note: Not available for degree credit to students enrolled in a BMus (all routes) degree program.

##### MUSIC 101 Introduction to Western Art Music

★3 (fi 6) (either term, 3-0-0). A study of music literature with an emphasis on listening and analytical tools. A brief survey of the history of Western music will be included. Not available for degree credit to BMus (all routes) students.

##### MUSIC 102 Introduction to World Music

★3 (fi 6) (either term, 3-0-0). Not available to students with credit in MUSIC 165.

##### MUSIC 103 Introduction to Popular Music

★3 (fi 6) (either term, 3-0-0). A survey of popular music's development as a category of musical and cultural practice, an industry and an object of study, during the twentieth century.

##### MUSIC 207 Instruments for Children

★3 (fi 6) (either term, 3-0-0). Laboratory experience with recorder ensemble, small winds, chording and percussion instruments. Prerequisites: MUSIC 150 or 156, and 151.

##### MUSIC 438 Poetry and Performance of the German Lied

★3 (fi 6) (Spring/Summer, 3-3L-0). Available only to students attending the summer master course of the Franz-Schubert-Institut in Baden bei Wien, Austria. Prerequisite: consent of Department and acceptance into the Franz-Schubert-Institut program. MUSIC 438 is graded on a CR/NC basis.

### Graduate Courses

##### MUSIC 538 Poetry and Performance of the German Lied

★3 (fi 6) (Spring/Summer, 3-3L-0). Available only to students attending the summer master course of the Franz-Schubert-Institut in Baden bei Wien, Austria. Prerequisite: consent of Department and acceptance into the Franz-Schubert-Institut program. Music 538 is graded on a CR/NC basis.

##### MUSIC 601 Tutorial Study

★3 (fi 6) (either term, 3-0-0). Prerequisite: consent of Department.

##### MUSIC 903 Directed Research Project

★3 (fi 6) (either term, unassigned). This is a pass/fail course.

## Native Studies, NS

Faculty of Native Studies

### Undergraduate Courses

##### NS 110 Historical Perspectives in Native Studies

★3 (fi 6) (either term, 3-0-0). A thematic introduction to the historical relationships, colonial contexts, and social, economic, political and cultural patterns that have shaped the contemporary situation of Aboriginal peoples in Canada. Not open to students with credit in NS 210. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

##### NS 111 Contemporary Perspectives in Native Studies

★3 (fi 6) (either term, 3-0-0). An introductory survey of current issues affecting Aboriginal peoples in Canada and their efforts to confront their colonial relationships with and within Canadian society. Not open to students with credit in NS 211. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

##### NS 152 Introductory Cree

★6 (fi 12) (two term, 4-0-1). A general introduction to Plains Cree (Y dialect) grammar and vocabulary, with practice in speaking and work in the language laboratory. No prior knowledge of Cree is assumed. Not open to students with matriculation standing in Cree. Note: Students cannot receive credit for NS 152 and NS 153.

##### NS 280 Selected Topics in Native Studies

★3 (fi 6) (either term, 3-0-0).

##### NS 345 Management Issues in Native Communities

★3 (fi 6) (either term, 3-0-0). The course introduces the major management issues commonly faced by contemporary Native communities, public administration, and business organizations as a result of their unique cultural, social, economic, demographic, and political environment. Students will acquire an orientation to the management process and to modern management theory and practices. In addition, opportunities will be made to develop and practice the managerial skills involved in diagnosis, analysis and resolution of management issues frequently encountered in Native organizations. Prerequisites: NS 110, 111 and 240 or 290 or consent of the Faculty. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

**0 NS 380 Selected Topics in Native Studies**

★3 (fi 6) (either term, 3-0-0). Prerequisites: NS 110, 111 and 240 or 290 or consent of the Faculty.

**0 NS 420 Negotiation Strategies**

★3 (fi 6) (either term, 3-0-0). An exploration of the theory and practice of negotiation and mediation from different perspectives, including perspectives from the dominant society and Indigenous peoples. The strategies of litigation, and coercion to overcome conflict and achieve settlements of disputes will also be examined. These negotiation theories will then be applied to concrete dispute situations in Canada, including multi-party disputes over land, governance, development of resources and the environment. This course will be taught in a seminar format. Prerequisite: NS 320 or 340 or consent of the Faculty. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

## Nursing, NURS

Faculty of Nursing

### Undergraduate Courses

**NURS 301 Nursing Research**

★3 (fi 6) (either term, 3-0-0). Introduction to the process of research through a comparative analysis of selected studies exemplifying different theoretical, methodological, and analytical approaches. Emphasis is on the communicability of research, the needs of the research consumer, and the development of skills of critical appraisal.

**NURS 309 Mental Health Nursing Theory**

★6 (fi 12) (either term, variable). Focus is on theory related to the promotion of mental health and the nursing care of people with acute and chronic alterations in mental health. Prerequisites for Collaborative Program students: NURS 201, 202, and 215. Prerequisites for After Degree Program and Bilingual Program students: NURS 215, 307, and 308. Corequisite: NURS 310.

**NURS 310 Mental Health Nursing Practice**

★6 (fi 12) (either term, 0-24c-0 7w; 0-32c-0 5w). Students will have opportunity to apply concepts of mental health nursing to the care of individuals experiencing acute and chronic alterations in mental health in hospital or community settings. Prerequisites for Collaborative Program students: NURS 201, 202, and 215. Prerequisites for After Degree Program and Bilingual Program students: NURS 215, 307, and 308. Corequisite: NURS 309.

**NURS 490 Nursing in Context D**

★5 (fi 10) (either term, 1.5-6s-3 in 6 weeks). A comprehensive approach to primary health care components in the care of clients in complex, ambiguous situations. Case management and multidisciplinary leadership skills are emphasized. Students may have the opportunity to lead a multidisciplinary student group. Prerequisites: NURS 391, 394, and 395.

**NURS 491 Nursing Practice VII**

★7 (fi 14) (either term, 3-26c-2 in 7 weeks). Management and care of clients in ambiguous, complex, situations occurring over a variety of settings. Prerequisites: NURS 391, 394 and 395. Corequisite: NURS 490.

**NURS 494 Nursing in Context D1**

★3 (fi 6) (either term, 0-7s-3 in 4 weeks). Synthesis and focus of nursing knowledge and application of nursing research in a specified area of practice. To be permitted to enroll in this course, students must have passed all courses of their nursing program, except the corequisite NURS 495, or SC INF 495.

**NURS 495 Nursing Practice VIII**

★9 (fi 18) (either term, 1-34c-0 in 10 weeks). Comprehensive and consolidated approach to professional practice of nursing. Corequisite: NURS 494. Note: Available only to nursing students in the Collaborative Program, Honors Program, After Degree Program, and RPN to BScN Program.

### Graduate Courses

**NURS 542 Living with Chronicity: Issues and Concepts**

★3 (fi 6) (either term, 0-3s-0). Students explore how persons with a chronic disease or disability and their families adapt to live with this disease or disability, how society influences that adaptation, and how that adaptation affects the integration of persons with a chronic disease or disability into society. Frameworks consistent with a health promotion perspective will also be examined.

**NURS 684 History and Politics of Nursing**

★3 (fi 6) (either term, 0-3s-0). Exploration of the roots of nursing through analysis of the development of the profession within the larger social context. Examines developments at individual and collective levels including selected organizations, events, and individuals central to the evolution of the profession. Prerequisite: consent of Instructor.

**NURS 900 Guided Scholarly Project**

★3 (fi 6) (either term, unassigned). A guided scholarly project which will focus on such areas as clinical outcomes, evidence-based practice, quality improvement, or knowledge diffusion.

## Nutrition, NUTR

Department of Agricultural, Food and Nutritional Science  
Faculty of Agricultural, Life and Environmental Sciences

Note: See also Nutrition and Food Sciences (NU FS) listings for related courses.

### Undergraduate Courses

**0 NUTR 100 Nutrition and Wellbeing**

★3 (fi 6) (either term, 3-0-0). Principles of nutrition. The need for and functions of the major nutrients for humans. Cannot be taken by students with credit or currently registered in NU FS 305 or other NUTR courses. May contain alternative delivery sections: refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

**NUTR 466 Introduction to Dietetic Practice**

★0 (fi 1) (variable, 3-0-0). Lectures and discussion to improve readiness of students to work independently in the development of professional practice skills in dietetics. Open only to students accepted into the Integrated Dietetic Internship. Required before placement in NUTR 469, 470, 471 or 472. Prerequisites: NU FS 223 and NUTR 468. Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

**NUTR 469 Introductory Professional Practice in Clinical Dietetics**

★0 (fi 1) (variable, 4 weeks). Practical experience in provision of nutrition care, focusing on basic skills of assessment, planning, implementation and evaluation. Continuing care agencies, rural health centres and acute care hospitals. Students may take this course simultaneously with INT D 411. Open only to students accepted into the Integrated Dietetic Internship. Prerequisites: NU FS 223, NUTR 466, and 468. Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

**NUTR 470 Professional Practice in Community Nutrition**

★0 (fi 1) (variable, 12 weeks). Practical experience in assessing needs and planning, implementing and evaluating nutrition programs in a variety of community settings. Open only to students accepted into the Integrated Dietetic Internship. Prerequisite: NU FS 223, 377 and NUTR 466. Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

**NUTR 471 Professional Practice in Foodservice Management**

★0 (fi 1) (variable, 12 weeks). Practical experience in assessment, planning implementation and evaluation of food service systems. Institutional, community and commercial settings. Open only to students accepted into the Integrated Dietetic Internship Program. Prerequisites: (NU FS 363 or 361) and NU FS 461 and (AREC 323 or AG EC 323 or alternate business course). Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

**NUTR 472 Professional Practice in Clinical Dietetics**

★0 (fi 1) (variable, 15 weeks). Practical experience in a variety of acute, continuing care and ambulatory care settings. The student is expected to demonstrate professional competencies in assessment, planning, development and monitoring of nutrition care plans for patients and clients. Open only to students accepted into the Integrated Dietetic Internship. Prerequisites: NUTR 466, 469 and 476. Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

### Graduate Courses

Notes

- (1) NUTR 410 may be taken for credit by graduate students with approval of the student's supervisor or supervisory committee.
- (2) See Agricultural, Food and Nutritional Science (AFNS) listing for related courses.

## Occupational Therapy, OCCTH

Department of Occupational Therapy  
Faculty of Rehabilitation Medicine

Note: All OCCTH courses are open to OT students only except OCCTH 106 which is open to all students.

## Graduate Courses

Note: Open only to graduate students in Occupational Therapy program unless departmental consent is granted.

### OCCTH 525 Fieldwork-Learning in a Practice Context

★3 (fi 6) (either term, 7 weeks). Practical experience and application of Year 1 courses in approved facilities and community agencies. Students will be expected to complete specific projects designed to integrate the core knowledge of occupational therapy theory. Prerequisites: Consent of Department; attendance at mandatory fieldwork session(s); completion of all Year 1 academic courses.

### OCCTH 527 Fieldwork-Learning in a Practice Context

★3 (fi 6) (either term, 7 weeks). Practical experience in approved facilities and community agencies. Prerequisites: Consent of Department; attendance at mandatory fieldwork session(s); completion of all Year 2 academic courses; OCCTH 526.

### OCCTH 543 Student Selected Modules

★1 (fi 2) (either term, 13 hours). Students must successfully complete either a minimum of three modules in different topics or one ★3 Individual Study (OCCTH 599 or equivalent). Note: Course title is variable; course may be repeated.

### OCCTH 558 Enabling Occupation: Community

★3 (fi 6) (either term, 3-0-0). Application and integration of occupational therapy principles and practice in community settings. The focus is on complex care and chronic degenerative conditions.

### OCCTH 567 Research Design and Scholarly Practice

★3 (fi 6) (either term, 3-0-0). Research methodology and design as they apply to the development of a directed Final Project.

### OCCTH 599 Individual Study

★1-4 (either term or Spring/Summer, variable). Designed to allow a student to pursue a topic of interest in more depth than permitted by existing courses. Prerequisite: Departmental approval of plan of study. May be repeated.

### OCCTH 903 Directed Final Project

★3 (fi 6) (variable, unassigned). The synthesis of academic knowledge, with fieldwork experiences and directed to the exploration of a specific topic, relevant to occupational therapy. Students will demonstrate inquiry, reflection and critical thinking through required participation in seminars, a written report and a conference style presentation.

## Oncology, ONCOL

Department of Oncology  
Faculty of Medicine and Dentistry

### Undergraduate Courses

#### ONCOL 255 Introduction to Oncology

★3 (fi 6) (Spring/Summer, 30 hours/week - 4 weeks). Principles and concepts of clinical oncology. Prerequisite: ONCOL 254.

### Graduate Courses

Note: See also PMCOL 505, MED 573, PHYS 475 and PHYS 477.

#### ONCOL 554 Laboratory in Medical Radiation Physics

★2 (fi 4) (Spring/Summer, 0-0-4). Practical aspects of medical physics as applied to radiation therapy. Exposure to the operation of various therapy machines and dose measuring equipment. Application of techniques to measure physical parameters of radiation beams. Introduction to radiation treatment planning with techniques for specific tumor sites. Prerequisite: ONCOL 550. Corequisite: ONCOL 552.

#### ONCOL 556 Laboratory in Imaging

★2 (fi 4) (Spring/Summer, 0-0-4). Provides clinical and practical experience with diagnostic imaging equipment, to adequately provide consultative support required of a clinical medical physicist in imaging. Perform calibration and quality assurance procedures on medical imaging modalities. Prerequisites: ONCOL 550 and 562. Corequisites: ONCOL 568 and 564.

## Operations Management, OM

Department of Accounting, Operations and Information Systems  
Faculty of Business

### Graduate Courses

#### OM 502 Operations Management

★3 (fi 6) (either term, 3-0-0). This course focuses on (1) the competitive advantage that a business unit can derive from innovative and efficient production and delivery of its goods and services and on (2) analytical approaches that are useful in understanding and improving an organization's operations. Specific

modules include process diagramming and analysis; measuring and managing flow times; inventory control and optimization; supply chain coordination and operations strategy. Cases will be used to illustrate operational efficiency and its significance to the profitability of a firm. Prerequisite: MGTSC 501. Not to be taken by students with credit in MGTSC 502.

## Paediatrics, PAED

Department of Paediatrics  
Faculty of Medicine and Dentistry

### Graduate Courses

#### PAED 567 Reading Course in Paediatric Sciences

★3 (fi 6) (either term, 1-0-6). A reading course designed for in-depth, individual study of a specific topic on paediatric medicine related to the student's MSc or PhD Program in the Department of Paediatrics. Prerequisite or Co-requisites: Normally restricted to graduate students in Paediatrics. Consent of the Department required.

## Petroleum Engineering, PET E

School of Mining and Petroleum Engineering  
Department of Civil and Environmental Engineering  
Faculty of Engineering

Note: See also Materials Engineering (MATE); Mining (MIN E), and Petroleum Engineering (PET E) listings.

### Graduate Courses

#### PET E 709 Special Topics in Petroleum Engineering

★3 (fi 6) (either term, 3-0-0). Reading Course. Reading and discussion of selected topics in Petroleum Engineering.

#### PET E 900 Directed Research

★3 (fi 6) (variable, unassigned). An engineering project for students registered in a Masters of Engineering program.

#### PET E 910 Directed Research

★6 (fi 12) (variable, unassigned). An engineering project for students registered in the joint MBA/MEng program.

## Pharmacy, PHARM

Faculty of Pharmacy and Pharmaceutical Sciences

### Undergraduate Courses

#### PHARM 305 Experiential Learning - Part 2

★4 (fi 8) (Spring/Summer, 160 hours). This structured practical learning experience will allow students to integrate the knowledge and skills they have obtained in the classroom to the actual care of patients in community practice sites. Using the patient care process, they will further develop their patient interviewing skills, prepare pharmacy care plans, and provide patient education on the administration of various dosage forms. Students will also answer drug information questions, participate in health promotion activities and begin to adopt the professional ethics, behaviours and attitudes of a pharmacist. Prerequisites: PHARM 300 (Restricted to Pharmacy students.) Course is offered in Spring Term only.

#### PHARM 316 Experiential Learning Part 3

★4 (fi 8) (Spring/Summer, 160 hours). This structured practical learning experience will provide an introduction to hospital pharmacy practice and allow students to apply and integrate the knowledge and skills they have obtained in the classroom to the actual care of patients. This course emphasizes pharmacist roles as care providers, communicators, educators, advocates, managers and collaborators. Prerequisite: PHARM305. (Restricted to Pharmacy students.)

#### PHARM 426 Experiential Learning - Part 4

★8 (fi 16) (either term or Spring/Summer, 320 hours). This structured practical learning experience will allow students to apply and integrate knowledge and skills in community practice settings. Students will develop practical knowledge necessary for the professional role of pharmacists as care providers, communicators, scholars, advocates, managers and collaborators. Students are expected to step into the role of a pharmacist under the guidance of a pharmacist preceptor. Prerequisite: PHARM 315. (Restricted to Pharmacy students.)

#### PHARM 428 Experiential Learning - Part 5

★8 (fi 16) (either term or Spring/Summer, 320 hours). This structured practical learning experience will allow students to apply and integrate knowledge and skills in institutional practice settings. Students will develop practical knowledge necessary for the professional role of pharmacists as care providers, communicators,

scholars, advocates, managers and collaborators. Students are expected to step into the role of a pharmacist under the guidance of a pharmacist preceptor. Prerequisite: PHARM 315. (Restricted to Pharmacy students.)

#### PHARM 453 Intercultural Exploration of Pharmacy and Health

★3 (*fi 6*) (Spring/Summer, 3-0-3). This course explores the relationship between culture, diet, lifestyle and health in a Mediterranean environment. Students will examine factors that influence health, including the geo-political, socioeconomic, and cultural factors. Patient care and pharmacist roles in the prevention and/or management of chronic disease are considered. This course is taught in Italy. Please contact the Faculty for additional information. (Restricted to Pharmacy students entering the fourth year of the program.) Sections offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students.

#### PHARM 455 Specialty Pharmacy Rotation

★3 (*fi 6*) (either term or Spring/Summer, 120 hours). Consists of 120 hours in a practice area, on a full-time or part-time basis. Students are required to prepare a proposal for the placement with desired objectives, activities and an evaluation mechanism. The proposal is to be agreed to by the Course Coordinator and the Rotation Supervisor. The placement will be conducted under the coordination of the Rotation Supervisor at the practice site. The student is also required to prepare a report on the outcomes of the placement in the form of a portfolio. Travel and accommodation costs are the responsibility of the student. Prerequisites: Dependent on specialty and consent of Faculty. This course may be taken during the Spring/Summer Term by special arrangement. This course may be repeated once. (Restricted to Pharmacy students.)

#### PHARM 498 Research and Directed Studies

★3 (*fi 6*) (either term or Spring/Summer, unassigned). Investigational work under the supervision of a member of the Faculty. Preparation of a written report and presentation are required. Prerequisites: consent of the Faculty and the approval of a Faculty member to supervise the research or project. This course may be taken during Spring/Summer by special arrangement. Credit may be obtained for this course more than once.

## Graduate Courses

#### PHARM 505 PharmD Seminars

★1-3 (*variable*) (variable, variable). This capping course is designed to evaluate students' ability to integrate knowledge and skills in pharmacy practice. Provides a forum throughout the program for students to integrate experience gained through coursework with experiential learning. A conference style presentation, poster, paper and professional portfolio are required. Course may be repeated. Sections offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar. (Restricted to PharmD Students or with Faculty consent.)

#### PHARM 511 PharmD Experiential Learning Part 1

★6 (*fi 12*) (either term or Spring/Summer, 240 Hours in 6 Weeks). The PharmD student will be expected to demonstrate professional competencies in the provision of patient care. Direct patient care activities will include health assessment, therapeutic drug monitoring, provision of drug information, and contributing to patient care as part of an interprofessional team. Prerequisites: PHARM 501, 502, 503, 504 or with Faculty consent. Sections offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar. (Restricted to PharmD students.)

#### PHARM 512 PharmD Experiential Learning Part 2

★6 (*fi 12*) (either term or Spring/Summer, 240 Hours in 6 Weeks). The PharmD student will be expected to demonstrate professional competencies in the provision of patient care. Direct patient care activities will include health assessment, therapeutic drug monitoring, provision of drug information, and contributing to patient care in an acute care setting. Prerequisites: PHARM 501, 502, 503, 504 or with Faculty consent. Sections offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar. (Restricted to PharmD students.)

#### PHARM 513 PharmD Experiential Learning Part 3

★6 (*fi 12*) (either term or Spring/Summer, 240 Hours in 6 Weeks). The PharmD student will be expected to demonstrate professional competencies in the provision of patient care. Direct patient care activities will include health assessment, therapeutic drug monitoring, provision of drug information, and contributing to patient care in an ambulatory or community practice setting. Prerequisites: PHARM 501, 502, 503, 504 or with Faculty consent. Sections offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar. (Restricted to PharmD students.)

#### PHARM 514 PharmD Elective Rotation

★6 (*fi 12*) (either term or Spring/Summer, 240 Hours in 6 Weeks). The PharmD

student will complete an experiential learning rotation in a patient-care practice setting as outlined in PHARM 511, 512 or 513. Credit may be obtained more than once. Prerequisites: PHARM 501, 502, 503, 504 or with Faculty consent. Sections offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar. (Restricted to PharmD students.)

#### PHARM 515 PharmD Specialty Elective Rotation

★6 (*fi 12*) (either term or Spring/Summer, 240 hours). PharmD students are required to design and complete a practice-based rotation including objectives, activities and an evaluation mechanism. The proposal is subject to approval by the preceptor and the Director of the PharmD Program. Travel and accommodation costs are the responsibility of the student. Credit may be obtained more than once. Prerequisites: PHARM 501, 502, 503, 504 or with Faculty consent. Sections offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar. (Restricted to PharmD students.)

#### PHARM 694 Directed Project

★3 (*fi 6*) (either term, 0-0-3). Directed studies in pharmaceutical research, using one or more techniques of special interest to individual students. Prerequisites: consent of the Faculty and the supervising faculty member.

#### PHARM 698 Graduate Seminar

★0 (*fi 1*) (either term, 0-1s-0). Seminar presentation based on the student's research. Normally to be taken during the final term, prior to thesis defense. Required of all MSc and PhD students. Prerequisite: PHARM 697.

## Philosophy, PHIL

### Department of Philosophy Faculty of Arts

#### Notes

- (1) No junior course presupposes background in Philosophy. PHIL 101, 102, and 120 are recommended for all students intending to continue in Philosophy. Courses at the 200-level are intended to provide a foundation for further study in Philosophy.
- (2) There are no formal prerequisites for 200- or 300-level courses (except for PHIL 220). Entrance to 400-level courses requires ★6 of prior courses in PHIL, at least three of which must be at the 200-level.

## Undergraduate Courses

#### **O** PHIL 101 Introduction to Philosophy: Values and Society

★3 (*fi 6*) (either term, 2-1s-0). An introduction to the classical problems of philosophy through study and critical discussion of selected philosophical classics and contemporary works. Emphasis will be placed on questions of moral and other values and on the nature of society and justice.

#### **O** PHIL 102 Introduction to Philosophy: Knowledge and Reality

★3 (*fi 6*) (either term, 2-1s-0). An introduction to the classical problems of philosophy through study and critical discussion of selected philosophical classics and contemporary works. Emphasis will be placed on questions of the nature and extent of human knowledge and classic problems about the nature of reality and our place in it.

#### **O** PHIL 120 Symbolic Logic I

★3 (*fi 6*) (either term, 3-0-0). A study of sentential logic, including translation, semantics, decision procedures and natural deduction followed by an introduction to predicate logic, concentrating on translation. Note: Not open to students with credit in PHIL 220.

#### **O** PHIL 125 Practical Logic

★3 (*fi 6*) (either term, 3-0-0). Elementary methods and principles for analyzing reasoning as it occurs in everyday contexts. Topics may include informal fallacies, introduction to scientific method, elementary statistical reasoning, elementary sentential logic, as well as the study of argument in contemporary debates about issues of social concern.

#### **O** PHIL 205 Philosophy of Mind

★3 (*fi 6*) (either term, 3-0-0). Basic questions concerning the mind and our attempts to study it scientifically.

#### **O** PHIL 250 Contemporary Ethical Issues

★3 (*fi 6*) (either term, 3-0-0). An examination of questions of right and wrong, good and evil, and the application of ethical theories to practical issues.

#### **O** PHIL 265 Philosophy of Science

★3 (*fi 6*) (either term, 3-0-0). An introduction to the central issues in contemporary philosophy of science. Topics may include theory evaluation, paradigm shifts and theory change, laws of nature, causation and explanation, the rationality of science and its social and historical setting.

#### **O** PHIL 291 Existentialism

★3 (*fi 6*) (either term, 3-0-0). An introduction to the background and main themes

of existentialist philosophy. Authors such as Kierkegaard, Nietzsche, Heidegger, and Sartre are considered.

#### **PHIL 386 Health Care Ethics**

★3 (fi 6) (either term, 3-0-0). A study of ethical issues that arising in health care and in the practice of health professions.

## Philosophy (from within the Roman Catholic Tradition) St Joseph's College

#### **PHIL 379 Philosophy and Nursing I: Christian Perspectives**

★1.5 (fi 3) (either term, 18 hours). Examining traditional applications of moral philosophy to issues in healthcare from a Christian perspective. Topics may include professionalism, confidentiality, nurse-patient relationships, and principled approaches to bioethics. Note: Open only to students registered in the BScN-Collaborative program. Not available for credit to students who have completed PHIL 388.

#### **PHIL 389 Philosophy and Nursing II: Christian Perspectives**

★1.5 (fi 3) (either term, 18 hours). Examining moral and social issues surrounding the goals of nursing and of healthcare from a Christian perspective, using traditional bioethics principles and complementary approaches (e.g. ethics of care, virtue ethics, etc.). Topics may include death and dying, allocation of scarce resources, issues in paediatric care, and global health issues. Note: Open only to students registered in the BScN-Collaborative program. Not available for credit to students who have completed PHIL 389.

Note: For Christian Theology courses offered by St Joseph's College, see Christian Theology (CHRTC), St Joseph's College (from within the Roman Catholic Tradition).

## Graduate Courses

Note: Only a selection of the courses listed below are offered each year.

## Physical Activity, PAC

### Faculty of Physical Education and Recreation

Goal of PAC Level I:

- (1) Acquisition of basic skills required in the activity and an appreciation of how these skills are used in combination in performance situations.
- (2) Development of the specific theoretical knowledge associated with terminology, history, sociocultural context, rules and organizational aspects, basic strategies and tactics, technique, and other concepts relevant to the activity.

Notes

- (1) Students enrolled in courses offered by the Faculty of Physical Education and Recreation must take responsibility for ensuring that they are physically and medically fit to be taking such courses. If a student has a physical or medical condition that may compromise his/her participation in a course, it is the student's responsibility to so inform the instructor of that course. Students may contact the Faculty for further information on physical activity requirements and are encouraged to seek medical advice if necessary.
- (2) Activity-course dress requirements for first class: Students are expected to attend the first class of any activity course appropriately dressed for activity participation.
- (3) These courses may require the payment of additional miscellaneous fees. See Miscellaneous Fees section for details.

## Undergraduate Courses

#### **PAC 110 Instruction of the Basics of Aquatics**

★3 (fi 6) (either term, 0-3L-0). Acquisition of theoretical knowledge and personal skills used in the instruction of the basics of aquatics. Prerequisite: Aququest Level 8, or RLSS Lifesaving II, or YMCA Level 3, or Red Cross Level Blue, or the ability to swim front and back crawl efficiently.

#### **PAC 135 Instruction of the Basics of Tennis**

★3 (fi 6) (either term, 0-3L-0). Acquisition of theoretical knowledge and personal skills used in the instruction of the basics of tennis. Note: Students must provide their own racquets, balls, and nonmarking tennis shoes.

#### **PAC 137 Instruction of the Basics of Volleyball**

★3 (fi 6) (either term, 0-3L-0). Acquisition of theoretical knowledge and personal skills used in the instruction of the basics of volleyball.

#### **PAC 145 Instruction of the Basics of Golf**

★3 (fi 6) (Spring/Summer, 0-3L-0). Acquisition of theoretical knowledge and personal skills used in the instruction of the basics of golf. Note 1: Students are responsible for the purchase of golf balls at the practice range. Note 2: Students can rent equipment from the local golf course.

#### **PAC 156 Instruction of the Basics of Yoga**

★3 (fi 6) (either term, 0-3L-0). Acquisition of theoretical knowledge and personal skills used in the instruction of the basics of yoga.

#### **PAC 182 Instruction of the Basics of Indoor Wall Climbing**

★3 (fi 6) (either term, 0-3L-0). Acquisition of theoretical knowledge and personal skills used in the instruction of the basics of indoor wall climbing. Note: Equipment is available for rent from Urban Uprising.

#### **PAC 184 Introduction to Mountain Backcountry Field Skills, Canadian Rockies/Columbias**

★3 (fi 6) (either term, 3-0-0). Held in a remote backcountry setting at the Alpine Club of Canada's annual summer mountaineering camp, this field course is an introduction to theoretical, technical, and personal leadership skills used in basic mountain backcountry field operations for scientific research, outdoor recreation, tourism, and/or educational purposes. Students are responsible for their own personal gear (equipment is available to rent through MEC and the UofA Student Outdoors Club). Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar. Prerequisite: Consent from the Faculty of Physical Education and Recreation.

#### **PAC 355 The Theory and Practice of Yoga**

★3 (fi 6) (either term, 0-3L-0). Emphasis on philosophy, scientific basis and unique yoga approach to fitness and stress management along with practice of yoga asanas.

#### **PAC 356 Yoga for Stress Management**

★3 (fi 6) (either term, 0-3L-0). The purpose of the course is to: a) develop an understanding of stress, its causes and its effects on the human body; b) to comprehend the principles of yoga practices and their application in managing stress; and c) to learn and practice specific yoga exercises for stress management.

#### **PAC 365 The Study of Gymnastics for Children and Youth**

★3 (fi 6) (either term, 1-2s-0). A study of a variety of gymnastic programs from the perspective of their potential to meet the needs of children and youth at various ages. Class members will be required to plan, present, and evaluate gymnastic activities for children and youth. Prerequisite: One of PAC 101, PEDS 293 or 294.

#### **PAC 399 Directed Studies**

★3 (fi 6) (either term, 3-0-0). The theory, practice and teaching of the fundamental skills of an individual or team activity. Prerequisite: Consent of Faculty.

#### **PAC 490 Applied Resistance Training**

★3 (fi 6) (either term, 1.5-0-1.5). The scientific examination of resistance training as an applied training methodology for general conditioning and sport-specific enhancement. Emphasis on resistance training techniques, lifting mechanics, program design and implementation will be the core element. Supplementary topics include plyometric training, Olympic lifts, and selected population program modifications. Prerequisite: PEDS 335.

## Physical Education and Sport, PEDS

### Faculty of Physical Education and Recreation

## Undergraduate Courses

#### **PEDS 100 Human Anatomy**

★3 (fi 6) (either term, 3-0-2). Introductory study of human anatomy. Students learn structural and functional components of selected systems of the human body.

#### **PEDS 205 Introduction to Outdoor Environmental Education**

★3 (fi 6) (either term, 0-4L-0). A conceptual and experiential introduction to outdoor environmental education and leadership. In addition to weekly lecture and lab components, the course includes weekend commitments. Note: Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

#### **PEDS 206 Biomechanics**

★3 (fi 6) (either term, 3-0-0). An introduction to the biomechanics of human movement. A qualitative approach is used in the study of key biomechanics concepts and principles as they are applied to sport and exercise. Prerequisite: PEDS 100.

#### **PEDS 207 Physical Growth and Psychomotor Development**

★3 (fi 6) (either term, 3-0-0). A study of the sequential changes in physical growth and motor development with emphasis on individual difference. Note: Credit will be granted for only one of PEDS 207 or 307.

#### **PEDS 240 Introduction to Sports Injury Management**

★3 (fi 6) (either term, 3-0-2). Analysis of practical and theoretical concepts of sports injury. Includes an overview of sports medicine, care and prevention of injuries, and safety in athletics and physical education. Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in

the University Regulations and Information for Students section of the Calendar. Prerequisite: PEDS 100.

### **PEDS 246 Coaching Practicum I**

★3 (fi 6) (variable, variable). Students will be required to coach for a complete season in a program approved by the student's Mentor Coach. The purpose of the practicum is to provide the student with a practical coaching experience under the guidance of a Program Coach. It is intended to introduce the student to the demands of the profession of coaching. Note: at least 100 hours of outside-classroom time is required. Corequisite: PEDS 245 or 345.

### **PEDS 293 Introduction to the Movement Activities of Children**

★3 (fi 6) (either term, 1.5-0-2). A study of developmentally appropriate movement activities for children. Students will participate and work with children in a variety of physical activities in recreational, educational and sport environments.

### **PEDS 303 Psychology of Sport and Physical Activity**

★3 (fi 6) (either term, 3-0-0). This course introduces the student to the field of sport psychology and to select psychological theories as they relate to sport and physical activity. Psychological constructs along with their theoretical perspectives will be viewed within cognitive, emotional, and behavioural frameworks.

### **PEDS 311 Assessment of Fitness and Health**

★3 (fi 6) (either term, 3-0-2). Students will gain knowledge in fitness, health and research appraisal. Emphasis will be given to validity and reliability of various assessments and factors involved in the assessment of performance and health assessment. Prerequisites: PEDS 200 and 109 or 309 or STAT 141 or 151.

### **PEDS 334 Physical Activity, Nutrition and Energy Balance**

★3 (fi 6) (either term, 3-0-0). Emphasis on the components of energy expenditure and energy intake. Other topics include the regulation of body composition, nutritional requirements for athletes, eating disorders, and obesity. Prerequisite: PEDS 200.

### **PEDS 346 Coaching Practicum II**

★3 (fi 6) (variable, variable). Students will be required to coach for a complete season, preferably with High Performance athletes, in a program approved by the student's Mentor Coach. The student should expect to assume more responsibility than in PEDS 246, either in program or athlete development. The guidance of a highly qualified Head Coach is essential. It is intended to introduce the student to the demands of coaching in a High Performance-oriented program. Note: At least 150 hours of outside-classroom time is required. Prerequisite: PEDS 246.

### **PEDS 400 Human Gross Anatomy**

★3 (fi 6) (either term, 3-0-3). The course is designed to provide in-depth information on the structure of the human body. Lectures and laboratories emphasize the anatomical relationship in the extremities and the trunk as they relate to human movement, athletic therapy, and fitness. Lectures are followed by dissections of the human body and prosection demonstrations. Prerequisite: PEDS 100.

### **PEDS 446 Coaching Practicum III**

★6 (fi 12) (variable, variable). Students will be required to coach for a complete season, preferably as a Head Coach, in a program approved by the student's Mentor Coach. The purpose of this practicum is to provide the students with the practical coaching experience of running their own program for one complete season. It is intended to familiarize the students with the demands of being a Head Coach. Note: at least 250 hours of outside-classroom time is required. Prerequisite: PEDS 346.

### **PEDS 490 Professional Practicum**

★6 (fi 12) (variable, variable). A half-time unpaid Professional Practicum of 20 hours per week for 14 weeks, or the equivalent time. Students must arrange placements through the Practicum Supervisor/Instructor. A limited number of placements are available. Note: Students will not be allowed to register in more than ★9 concurrently with PEDS 490 unless approved by the Practicum Supervisor/Instructor.

### **PEDS 492 Professional Practicum**

★9 (fi 18) (variable, variable). A half-time unpaid Professional Practicum of 20 hours per week for 14 weeks, or the equivalent time. Students must arrange placements through the Practicum Supervisor/Instructor. A limited number of placements are available. Note: Students will not be allowed to register in more than ★9 concurrently with PEDS 492 unless approved by the Practicum Supervisor/Instructor.

### **PEDS 493 Professional Practicum**

★15 (fi 30) (variable, variable). A full-time unpaid Professional Practicum of 35-40 hours per week for 14 weeks, or the equivalent time. Students must arrange placements through the Practicum Supervisor/Instructor. Note: Students will not be allowed to register in any other course concurrently with PEDS 493 unless approved by the Practicum Supervisor/Instructor.

### **PEDS 499 Directed Studies**

★3 (fi 6) (either term, variable). A course designed to meet the needs of individual students. Prerequisite: Consent of Faculty.

## Physical Education, Recreation and Leisure Studies, PERLS

Faculty of Physical Education and Recreation

### Undergraduate Courses

#### **0 PERLS 105 Introduction to the Management of Sport, Physical Activity and Recreation Programs**

★3 (fi 6) (either term, 3-0-1). Provides students with an introduction to the management concepts required to successfully administer a sport, recreation or physical activity.

#### **0 PERLS 207 Adapted Physical Activity and Leisure for Diverse Populations**

★3 (fi 6) (either term, 3-0-0). An introduction to research, theory and practice pertaining to participation in physical activity and leisure by persons with impairments. The course explores the intersection of social influences and personal interests on participation in active lifestyles.

#### **0 PERLS 304 Sport and Leisure in Canadian Society: Sociological Perspectives**

★3 (fi 6) (either term, 2-1s-0). What it means to bring a sociological imagination to the study of sport and leisure with particular reference to Canadian society. Prerequisites: PERLS 104 and 204.

#### **0 PERLS 440 Play Around the World Program Preparation**

★3 (fi 6) (Spring/Summer, variable). The "Play Around the World" project provides a 3-month international or Canadian based, cross-cultural field placement working with children and youth of all abilities in the area of play, recreation and sport. Students apply and are selected in Fall Term, and then have a significant time commitment during the Winter Term to prepare for their Intersession field placement. Travel takes place May through August. This course represents the theoretical aspect of the experience, and involves written and creative work in the area of programming in cross-cultural settings. Prerequisite: PERLS 421 is strongly recommended. Corequisite: PERLS 441.

#### **0 PERLS 441 Play Around the World - Field Placement**

★3 (fi 6) (Spring/Summer, variable). The "Play Around the World" project provides a 3-month international or Canadian based, cross-cultural field placement working with children and youth of all abilities in the area of play, recreation and sport. Students apply and are selected in Fall Term, and then have a significant time commitment during the Winter Term to prepare for their Intersession field placement. Travel takes place May through August. This course represents the experiential part of the project. Prerequisite: PERLS 421 is strongly recommended. Corequisite: PERLS 440.

#### **PERLS 497 Selected Topics in Physical Education, Recreation and Leisure Studies**

★3 (fi 6) (either term, variable). A course offered on a topic of current interest in physical education and sport. Topics may vary from year to year. Prerequisite: Consent of Faculty.

### Graduate Courses

#### **0 PERLS 590 Research and Directed Studies I**

★3 (fi 6) (either term, 0-3s-0).

#### **0 PERLS 591 Research and Directed Studies II**

★3 (fi 6) (either term, 0-3s-0).

#### **PERLS 690 Directed Studies and Research**

★3 (fi 6) (either term, 0-3s-0).

#### **0 PERLS 900 Directed Research Project**

★6 (fi 12) (variable, unassigned). A significant piece of scholarly writing. This course used by course-based Master's students.

## Physical Therapy, PThER

Department of Physical Therapy  
Faculty of Rehabilitation Medicine

Note: All PThER courses are open to PT students only.

### Undergraduate Courses

#### **PThER 402 Clinical Placement**

★1 (fi 2) (variable, 4 weeks). This 4 week full-time clinical placement is offered on completion of academic courses. The placement will consolidate all program knowledge and skills in the practice environment leading to clinical competence in the Canadian practice setting. This course will be hands-on clinical practice, in approved, affiliated clinical facilities. Prerequisite: Consent of Department.

## Graduate Courses

### PTHER 516 Anatomy

★3 (*fi 6*) (either term or Spring/Summer, 3-0-3). Anatomy of the upper limb, lower limb and trunk. Specific emphasis on knowledge of joints, ligaments, nerve supply and deep muscles.

### PTHER 518 Clinical Placement II

★1-6 (*variable*) (either term or Spring/Summer, 6 weeks). Credit. Clinical practice in approved clinical affiliations.

### PTHER 521 Clinical Placement IV

★1-6 (*variable*) (either term, 6 weeks). Credit. Clinical practice in approved clinical affiliations. Can be combined with INT D 411 for an interdisciplinary placement for a combined weighting.

### PTHER 525 Professional Issues II

★3 (*fi 6*) (either term or Spring/Summer, 2-4S-0 in 6 weeks). Continuation of the study of professional issues relevant to the practice of physical therapy in Canada and globally. Topics include cultural issues, disability ethics and an introduction to Health Promotion. Prerequisite: PTHHER 524.

### PTHER 527 Professional Issues IV

★3 (*fi 6*) (either term or Spring/Summer, 2-2s-0 in 6 weeks). The study of professional regulatory responsibilities and medical-legal topics including registration, continuing competence, conduct and discipline, professional standards of practice, medical-legal considerations and the litigation process. Fundamentals of business practice, funding structures, and business ethics will be examined in the context of professional practice. Prerequisite: PTHHER 526.

### PTHER 554 Elective

★1-3 (*variable*) (variable, unassigned). Students can register in these for credit towards the MScPT requirement of 3 credits in elective coursework. A variety of topic areas may be offered. Note: Course title is variable; course may be repeated.

### PTHER 573 Applied Concepts in Evidence-Based Practice

★3 (*fi 6*) (either term or Spring/Summer, 2-4S-0 in 6 weeks). Identification and evaluation of best evidence for a client observed during clinical placement. Critical appraisal methodologies such as single subject design, critically appraised topics, systematic review and clinical practice guidelines will be introduced and applied to the clinical context. Prerequisite: PTHHER 572.

### PTHER 578 Advanced Clinical Topics

★3 (*fi 6*) (either term or Spring/Summer, 3-1s-3 in 6 weeks). Study of the theory, evidence and application of physical therapy in complex conditions and advanced topics in primary care, disability management, and occupational rehabilitation. This course will build on the content of PTHHER 577 and will focus on clinical reasoning in more complex conditions and cases. Prerequisite: PTHHER 546, 548, 549, and 565.

### PTHER 900 Evidence Based Practice Capping Assessment

★1.5 (*fi 3*) (either term, unassigned). Credit. This capping exercise is composed of a group written evaluative project with an individual oral examination. Prerequisite: Consult Department.

## Physics, PHYS

Department of Physics  
Faculty of Science

### Undergraduate Courses

#### **O** PHYS 124 Particles and Waves

★3 (*fi 6*) (either term, 3-0-3). Algebra-based course primarily for students in life, environmental, and medical sciences. It guides the student through two distinct types of motion: motion of matter (particles) and wave motion. Vectors, forces, bodies in equilibrium, review of kinematics and basic dynamics; conservation of momentum and energy; circular motion; vibrations; elastic waves in matter; sound; wave optics; black body radiation, photons, de Broglie waves. Examples relevant in environmental, life, and medical sciences will be emphasized. Prerequisites: Physics 20 or equivalent, Mathematics 30-1. Physics 30 is strongly recommended. Note: Credit may be obtained for only one of PHYS 124, 144, EN PH 131 or SCI 100. Note: To proceed to PHYS 146 after taking PHYS 124, it is strongly recommended that a minimum grade of B- be achieved in PHYS 124.

#### **O** PHYS 126 Fluids, Fields, and Radiation

★3 (*fi 6*) (either term, 3-0-3). A continuation of PHYS 124 primarily for students in life, environmental, and medical science. Fluid statics and dynamics, gases, kinetic interpretation; electrostatics; currents and circuits; magnetic field; electromagnetic induction; nuclear radiation, its interaction with matter and applications. Prerequisite: PHYS 124 or PHYS 144. Note: Credit may be obtained for only one of PHYS 126, 130, 146 or SCI 100.

## Physiology, PHYSL

Department of Physiology  
Faculty of Medicine and Dentistry

Note: Details on the BSc Program in Physiology can be found in the Faculty of Science section.

### Undergraduate Courses

#### PHYSL 466 Undergraduate Tutorial

★3 (*fi 6*) (either term, 3-0-0). Individual study. Restricted to students in the Physiology Honors Program. Students will select a faculty member who will guide them through a course of reading at an advanced level on a specialized topic. Successful completion of an oral presentation is required at the conclusion of the project. Credit for this course may be obtained more than once.

## Plant Science, PL SC

Department of Agricultural, Food and Nutritional Science  
Faculty of Agricultural, Life and Environmental Sciences

Note: See also Agricultural, Food and Nutritional Sciences (AFNS), Animal Science (AN SC), Environmental and Conservation Sciences (ENCS), Interdisciplinary (INT D), Nutrition (NUTR), Nutrition and Food Sciences (NU FS), Renewable Resources (REN R) and Soil Sciences (SOILS) course listings for related courses.

### Undergraduate Courses

#### **O** PL SC 200 Urban Plants: Gardening and Sustainability

★3 (*fi 6*) (Spring/Summer, 0-0-3). A hands-on, experiential education course taught at Devonian Botanic Garden. Students will learn relevant plant anatomy, an introduction to horticultural methods, garden plant basic needs, soil development, pruning practice, vegetable production examples, and contrast between home gardening and commercial production systems. Discussions and readings will incorporate sustainable practices, food security, local food movement, and environmental footprint.

### Graduate Courses

Notes

(1) 400-level courses in PL SC and ENCS 407 may be taken for credit by graduate students with approval of the student's supervisor or supervisory committee. 300-level courses may be taken for credit by graduate students with approval of the AFNS Graduate Program Committee. (See §174.1.1(1))

(2) See Agricultural, Food and Nutritional Science (AFNS) listings for related courses.

## Political Science, POL S

Department of Political Science  
Faculty of Arts

### Undergraduate Courses

#### **O** POL S 101 Introduction to Politics

★3 (*fi 6*) (either term, 3-0-0). An introduction to major political concepts and to the study of politics. Note: Not open to students with credit in POL S 100 or 103.

#### POL S 211 Introduction to History of Political Theory

★3 (*fi 6*) (either term, 3-0-0). Explores how texts from the history of western political theory, from ancient Greece to the 20th century, help to deepen and diversify our understanding of themes like justice, freedom, equality, property, rights, and democracy. Not to be taken by students with credit in POL S 210. Prerequisite: POL S 101 or consent of Department.

#### POL S 212 Introduction to Contemporary Political Theory

★3 (*fi 6*) (either term, 3-0-0). Explores how texts in contemporary western political theory help to deepen and diversify our understanding of current political themes like war, climate change, sex, work, or democratic reform. Not to be taken by students with credit in POL S 210. Prerequisite: POL S 101 or consent of Department.

#### POL S 224 Canadian Government

★3 (*fi 6*) (either term, 3-0-0). Examines the constitutional and institutional foundations of Canadian government. Not to be taken by students with credit in POL S 220. Prerequisite: POL S 101 or consent of Department.

#### POL S 225 Canadian Politics

★3 (*fi 6*) (either term, 3-0-0). Examines the context and dynamics of Canadian

politics. Not to be taken by students with credit in POL S 220. Prerequisite: POL S 101 or consent of Department.

### **POL S 235 Introduction to Comparative Politics**

★3 (*fi 6*) (either term, 3-0-0). Examines the concepts and approaches used to compare political issues across countries and regions. Not to be taken by students with credit in POL S 230 or 240. Prerequisite: POL S 101 or consent of Department.

### **POL S 261 International Relations**

★3 (*fi 6*) (either term, 3-0-0). An introduction to contemporary international relations that attempts to develop an understanding of political events at the international level. The course covers the nature of foreign policy, the dynamics of interactions between states, the causes of war, imperialism and the role of non-state actors. Not to be taken by students with credit in POL S 260. Prerequisite: POL S 101 or consent of Department.

### **POL S 324 Topics in Canadian Politics**

★3 (*fi 6*) (either term, 3-0-0). A variable content course, which may be repeated if topics vary. Prerequisite: POL S 220 or consent of Department.

### **POL S 328 Managing Modern Government**

★3 (*fi 6*) (either term, 3-0-0). Topics include government organization and administration, budgets, policy making, and democratic control and accountability. The focus is on Canada, but other countries are also considered. Prerequisite: POL S 220 or 230 or consent of Department.

### **POL S 354 Topics in Comparative Politics**

★3 (*fi 6*) (either term, 3-0-0). The focus of this course changes yearly to reflect current issues in comparative politics and faculty research interests. Information about the specific topics can be obtained from the Department. A variable content course, which may be repeated if topics vary. Prerequisite: POL S 230 or 240 or consent of Department.

### **POL S 404 Topics in Political Philosophy**

★3 (*fi 6*) (either term, 0-3s-0). A variable content course, which may be repeated if topics vary. Prerequisite: POL S 210 or equivalent.

### **POL S 459 Topics in International Politics**

★3 (*fi 6*) (either term, 0-3s-0). A variable content course, which may be repeated if topics vary. Prerequisite: POL S 260.

### **POL S 486 Topics in European Politics**

★3 (*fi 6*) (either term, 0-3s-0). Current debates in Europe, including the emergence of new radical right parties, green parties and movements, market liberalization and political change in Eastern and Central Europe, and the resurgence of nationalist discourses. A variable content course, which may be repeated if topics vary. Prerequisite: POL S 230 or consent of Department.

## Graduate Courses

Note: Consent of Department is required for all 500- and 600-level courses.

### **POL S 514 Topics in Contemporary Political Philosophy**

★3 (*fi 6*) (either term, 0-3s-0).

### **POL S 560 Topics in International Relations**

★3 (*fi 6*) (either term, 0-3s-0).

### **POL S 900 Directed Research Project**

★3 (*fi 6*) (variable, unassigned).

### **POL S 906 Directed Research Project**

★6 (*fi 12*) (variable, unassigned).

## Portuguese, PORT

Department of Modern Languages and Cultural Studies  
Faculty of Arts

### Undergraduate Courses

#### **PORT 111 Beginners' Portuguese I**

★3 (*fi 6*) (either term, 5-0-0). A basic course for students with no previous knowledge of Portuguese. Note: not to be taken by students with credit in PORT 100, or with native or near native proficiency or with Portuguese 30 or its equivalents in Canada and other countries.

#### **PORT 112 Beginners' Portuguese II**

★3 (*fi 6*) (either term, 5-0-0). Prerequisite: PORT 111 or consent of Department. Note: not to be taken by students with credit in PORT 100, or with native or near native proficiency or with Portuguese 30 or its equivalents in Canada and other countries.

## Psychiatry, PSYCI

Department of Psychiatry  
Faculty of Medicine and Dentistry

### Graduate Courses

#### **PSYCI 603 Psychiatry Tutorial, Research and Reading Course**

★3 (*fi 6*) (either term, 3-0-0). This course allows a student to study an area of psychiatry in much greater detail than usual. Format is usually a reading/tutorial in which the student carries out directed reading and meets with the tutor regularly. Term papers will be used for evaluation purposes. The course requires independent study. Students who have a particular interest in any specific area in psychiatry are encouraged to meet with Faculty members to explore the possibility of arranging a suitable topic. Prerequisite: consent of Department.

## Psychology, PSYCO

Department of Psychology  
Faculty of Arts

### Undergraduate Courses

#### Faculty of Arts Courses

Note: Prerequisites to some Arts courses in the Department may be found in the following Science section of this listing.

#### **0 PSYCO 105 Individual and Social Behavior**

★3 (*fi 6*) (either term, 3-0-1/4). Introduction to the study of human individuality, personality, and social psychological processes. Some aspects of normal and abnormal human development, psychological assessment and treatment may be reviewed. Fulfillment of the ¼ laboratory credit typically entails serving as a research participant but can be fulfilled through the completion of alternative assignments. Prerequisite: PSYCO 104 or SCI 100. [Faculty of Arts]

#### **0 PSYCO 212 Introduction to Research Methods in Psychology**

★3 (*fi 6*) (either term, 3-0-0). Experimental and nonexperimental methods in psychology. Topics covered include philosophy of science, measurement, reliability and validity of methods, measures, and effects; experimental quasi-experimental, and single-subject designs; biases in experimentation; and research ethics. Prerequisites: PSYCO 104 or SCI 100, and STAT 141 or 151. [Faculty of Arts]

#### **0 PSYCO 223 Lifespan Developmental Psychology**

★3 (*fi 6*) (either term, 3-0-0). Introduction to biological, cognitive and social aspects of psychological development. Prerequisites: PSYCO 104 or SCI 100, and PSYCO 105 or equivalent. [Faculty of Arts]

#### **0 PSYCO 239 Abnormal Psychology**

★3 (*fi 6*) (either term, 3-0-0). Nature and treatment of psychological disorders, such as cross-disciplinary perspectives and an emphasis on improving understanding of psychopathology in everyday life. Prerequisites: PSYCO 104 or SCI 100, and PSYCO 105. Not open to students with credit in PSYCO 339. [Faculty of Arts]

#### **0 PSYCO 241 Social Psychology**

★3 (*fi 6*) (either term, 3-0-0). A survey of theories and research on the individual in a social context. Prerequisites: PSYCO 104 or SCI 100, and PSYCO 105 or equivalent. Note: PSYCO 241 and SOC 241 may not both be taken for credit. [Faculty of Arts]

#### **0 PSYCO 305 Special Topics in Psychology I**

★3 (*fi 6*) (either term, 3-0-0). Review and discussion of special topics or methods in one or more of the areas of contemporary psychology such as developmental, social, personality, cognitive. Prerequisites: PSYCO 104 or SCI 100, and PSYCO 105. Note: Consult with the Department for the specific topic offered each year and any additional prerequisites. [Faculty of Arts]

#### **0 PSYCO 323 Infant and Child Development**

★3 (*fi 6*) (either term, 3-0-0). Biological, cognitive and social aspects of psychological development during the period from infancy to childhood. Prerequisite: PSYCO 223. [Faculty of Arts]

#### **0 PSYCO 327 Adolescent Development**

★3 (*fi 6*) (either term, 3-0-0). Biological, cognitive, and social aspects of development that occur during the period from early to late adolescence. Prerequisite: PSYCO 223. [Faculty of Arts]

#### **0 PSYCO 333 Personality Theory**

★3 (*fi 6*) (either term, 3-0-0). An in-depth treatment of psychological theories of personality. Prerequisites: PSYCO 223, 239, or 241. Note: Not open to students with credit in PSYCO 233 or PSYCO 305 Topic: Personality. [Faculty of Arts].

#### **0 PSYCO 341 Cultural Psychology**

★3 (*fi 6*) (either term, 3-0-0). An introduction to psychological approaches to

the study of culture, including cross-cultural psychology, cultural psychology, indigenous psychologies, and the psychology of ethnicity and intercultural contact. Prerequisites: one of PSYCO 223, 233, or 241. [Faculty of Arts]

#### **0 PSYCO 343 Culture and Cognition**

★3 (fi 6) (either term, 3-0-0). Introduction to cultural psychology, including theoretical bases of, and empirical studies in cultural psychology, and some critiques towards this field of research. Prerequisite: PSYCO 241 or PSYCO 258. [Faculty of Arts]

#### **0 PSYCO 405 Special Topics in Psychology II**

★3 (fi 6) (either term, 3-0-0). Review and discussion of special theoretical or methodological topics, or a novel or emerging research areas in contemporary psychology. Prerequisites: PSYCO 104 or SCI 100, and PSYCO 105, and STAT 141 or 151. Note: Consult with the Department for the specific topic offered each year and any additional prerequisites. [Faculty of Arts]

#### **0 PSYCO 423 Advanced Topics in Developmental Psychology**

★3 (fi 6) (either term, 3-0-0). An in-depth review and analysis of research in an area of developmental psychology. Prerequisites: STAT 141 or 151, and PSYCO 323 or PSYCO 327 or 329. Note: Consult with the Department for the specific topic offered each year and any additional prerequisites. [Faculty of Arts]

#### **0 PSYCO 432 Psychological Studies of Dreaming**

★3 (fi 6) (either term, 3-0-0). An overview of dream studies, including the psychology of dreaming, dreaming and cognition, personality and dreaming, therapeutic dream use, and dreams in art and culture. Prerequisite: one of PSYCO 223, 233, 241, 333, or 341. [Faculty of Arts]

#### **PSYCO 498 Individual Study**

★3 (fi 6) (either term, 0-3s-3). A course intended to allow the senior undergraduate student the opportunity to pursue a research topic in greater depth than the classroom structure permits. This pursuit may take the form of directed reading, library research, and/or laboratory experience. A formal paper, research proposal, research report, annotated bibliography, lab notes, and/or essay is required. Cannot be taken more than twice. Prerequisites: A 300-level psychology course and consent of Department. [Faculty of Arts]

### Faculty of Science Courses

#### **0 PSYCO 104 Basic Psychological Processes**

★3 (fi 6) (either term, 3-0-1/4). Principles and development of perception, motivation, learning, and thinking and their relationship to the psychological functioning of the individual. Fulfillment of the 1/4 laboratory credit typically entails serving as a research participant, but can be fulfilled through the completion of alternative assignments. The course is a prerequisite to all courses in the department and is normally followed by PSYCO 105. [Faculty of Science]

#### **0 PSYCO 258 Cognitive Psychology**

★3 (fi 6) (either term, 3-0-0). A survey of findings of theoretical issues in the study of cognition, such as perception, attention, knowledge representation, memory, learning, language, reasoning, and problem solving. Prerequisites: PSYCO 104 or SCI 100, and STAT 141 or 151. [Faculty of Science]

#### **0 PSYCO 275 Brain and Behavior**

★3 (fi 6) (either term, 3-0-0). An introduction to brain mechanisms involved in sensation, perception, movement, motivation, learning, and cognition, as studied in both humans and lower animals. Prerequisites: PSYCO 104 or SCI 100, and Biology 30 or equivalent. [Faculty of Science]

#### **0 PSYCO 282 Behavior Modification**

★3 (fi 6) (either term, 3-0-0). A study of applications of learning principles and laboratory findings to behavior problems in educational, clinical, and social settings, with emphasis on empirical research demonstrating the effectiveness of behavior modification and cognitive/behavioral techniques. Not open to students with credit in PSYCO 281. Prerequisites: PSYCO 104 or SCI 100. [Faculty of Science]

#### **PSYCO 299 Research Opportunity Program in Psychology**

★1.5 (fi 3) (either term, 0-0-3). A credit/no-credit course for supervised participation in a faculty research project. Normally taken after completion of a minimum of ★30 but not more than ★60. Prerequisites: GPA of 2.5 or higher, PSYCO 104 or SCI 100 and one other PSYCO course; and consent of Department. Specific projects may require additional prerequisites. Project and course information available at ROPP website or Department of Psychology. Prospective enrollees in PSYCO 299 must apply to the Department of Psychology. Note: Application does not guarantee an ROPP position. Credit may be obtained twice. [Faculty of Science]

#### **0 PSYCO 302 Special Topics in Psychological Research**

★3 (fi 6) (either term, 3-0-0). Review and discussion of special topics or methods in one or more of the areas of contemporary psychology such as experimental, perception, physiological, learning, memory, behavior, quantitative. Prerequisites: PSYCO 104 or SCI 100 and PSYCO 105 and one 200-level Psychology course. Students must check with the Department for the topics for the year and any additional prerequisites. [Faculty of Science]

#### **0 PSYCO 304 History of Modern Psychology**

★3 (fi 6) (either term, 3-0-0). An overview of the scientific discipline of psychology

since the mid-20th century. Prerequisites: PSYCO 104 or SCI 100 and PSYCO 105; one 200-level PSYCO offered by the Faculty of Arts; one 200-level PSYCO offered by the Faculty of Science. [Faculty of Science]

#### **0 PSYCO 351 Spatial Cognition**

★3 (fi 6) (either term, 3-0-0). This course will survey research on how people learn and remember spatial information, and navigate their environments. Topics may include neurology, individual differences, cultural and cross-species comparisons. Prerequisites: One of: PSYCO 258, 267 or 275. [Faculty of Science]

#### **0 PSYCO 367 Perception**

★3 (fi 6) (either term, 3-0-0). An introduction to theoretical and experimental issues associated with sensory and perceptual experience. Prerequisites: PSYCO 275 or 258. [Faculty of Science]

#### **0 PSYCO 371 The Neurobiology of Learning and Memory**

★3 (fi 6) (either term, 3-0-0). The aim of this course is to provide students with an introduction to the neural basis of learning and memory. The course begins with a review of the historical background, experimental methods, and principles of neurobiology. Learning and memory are then analyzed at different levels of biological organization, including molecular, cellular, neural circuit, neural system, and behavioral levels. Prerequisite: PSYCO 275. [Faculty of Science]

#### **0 PSYCO 372 Behavior in Relation to Genetics**

★3 (fi 6) (either term, 3-0-0). An examination of the influence of genetic variations on behavioral differences in infra-human and human populations. Prerequisites: PSYCO 104 or SCI 100 and PSYCO 105 and STAT 141 or 151 and BIOL 207. [Faculty of Science]

#### **0 PSYCO 375 Introduction to Cognitive Neuroscience**

★3 (fi 6) (either term, 3-0-0). Brain basis of human cognition studied using a diverse range of techniques, with a focus on measures of brain activity such as functional neuroimaging and electrophysiology and on experimental findings in neurologically intact participants. Topics include perception, motor control, attention, memory, language, emotion, and development/aging. Prerequisite: PSYCO 275.

#### **0 PSYCO 391 Evolutionary Theory in Psychology**

★3 (fi 6) (first term, 3-0-0). An introduction to evolutionary psychology; the course will examine the application of evolutionary theory to the field of psychology. Prerequisites: two 200-level PSYCO courses.

#### **0 PSYCO 403 Recent Advances in Experimental Psychology: Models and Theories**

★3 (fi 6) (either term, 3-0-0). Discussion of advanced concepts and theories developed by selected fields within experimental psychology. The course will examine the relation between theory and data in these fields. Prerequisites: STAT 141 or 151 and a 300-level PSYCO course. Students must check with the Department for the topics for the year and any additional prerequisites. [Faculty of Science]

#### **PSYCO 496 Individual Research**

★3 (fi 6) (either term, 0-3s-3). A course designed to allow the senior undergraduate student the opportunity to pursue a research topic in greater depth than the classroom structure permits. This pursuit may take the form of directed reading, library research, and/or laboratory experience. A formal paper, research proposal, research report, annotated bibliography, lab notes, and/or essay is required. Cannot be taken more than twice. Prerequisite: A 300-level psychology course and consent of Department. [Faculty of Science]

### Graduate Courses

#### Faculty of Arts Courses

#### **PSYCO 600 Individual Studies**

★3 (fi 6) (either term, 3-0-0). [Faculty of Arts]

### Radiation Therapy, RADTH

Department of Oncology  
Faculty of Medicine and Dentistry

#### Undergraduate Courses

#### **RADTH 260 Radiation Therapy Clinical Practicum I**

★6 (fi 12) (Spring/Summer, 30 Hours/week - 5 weeks). Provides an introduction to the patient experience through the radiation therapy planning and treatment trajectory. Enables and requires introductory participation in a variety of clinical environments. Prerequisites: ONCOL 233; 234; 243 and RADTH 205.

#### **RADTH 360 Clinical Simulation and Reasoning**

★12 (fi 24) (Spring/Summer, 30 Hours/week - 13 weeks). This course facilitates the integration and application of didactic knowledge when performing in a simulated clinical setting. While transferring skills across tumour sites and various procedures, students will demonstrate clinical reasoning and decision making in

the simulated environment. As well, students will develop key attitudes, judgments and behaviours necessary for a practicing radiation therapist. Prerequisites: RADTH 260, ONCOL 306, 335 and 356.

### **RADTH 401 Radiation Therapy Research Methodology**

★3 (fi 6) (Spring/Summer, 3-0-0). Examines a broad scope of research methods and components. Students will examine the action research process; research ethics; clinical trial methods and outcomes; and statistical methods in more depth. Development of a research project proposal and the ethics review process will be started. Prerequisites: ONCOL 335 and RADTH 328.

## Recreation and Leisure Studies, RLS

Faculty of Physical Education and Recreation

Notes

- (1) Priority will be given to recreation students in all recreation courses that are required for the BA (Recreation and Leisure Studies) degree program.
- (2) All out-of-Faculty students are recommended to complete RLS 100 in order to take any other recreation course.
- (3) Where an appropriate background can be demonstrated, prerequisites may be waived, with the consent of the Faculty.

### Undergraduate Courses

#### **0 RLS 100 Life, Leisure, and the Pursuit of Happiness**

★3 (fi 6) (either term, 3-0-0). Examination of the nature, characteristics, and functions of leisure in modern Canada. Review of relationships between leisure and time, play, work, family, education, ethnicity, gender, and environment. Discussion of ideas about conventional leisure, serious leisure, and deviant leisure. Overview of the structure of the Canadian recreation and tourism delivery systems.

## Rehabilitation Medicine, REHAB

Faculty of Rehabilitation Medicine

Note: Normally all REHAB courses are restricted to students in Rehabilitation Medicine. Students from other faculties require consent of the instructor offering the course.

### Graduate Courses

#### **REHAB 552 Développement du langage, évaluation et intervention en milieu francophone**

★3 (fi 6) (Printemps/Été, 0-3L-0). L'étude des caractéristiques de la langue française. Lecours porte sur les outils d'évaluation et les modèles d'intervention appropriés aux enfants francophones atteints de troubles du langage. Comprend dix heures d'expérience clinique avec des clients francophones. Cours réservé aux étudiants de la maîtrise ès sciences en orthophonie et aux orthophonistes en exercice. Prérequis: REHAB 553. Peut comprendre des sections Alternative Delivery: veuillez consulter le Fees Payment Guide dans la section University Regulations and Information for Students de l'annuaire.

#### **REHAB 553 Enjeux linguistiques et culturels en milieu francophone plurilingue**

★3 (fi 6) (l'un ou l'autre semestre ou printemps/été, 3-0-0). L'étude des enjeux linguistiques, sociaux ou culturels affectant l'intervention auprès des enfants et des adultes dans des milieux plurilingues (notamment français/anglais). REHAB 553 les étudiants ayant une connaissance fonctionnelle du français dans d'autres domaines comme l'éducation, la linguistique, la psychologie, etc. peuvent également s'inscrire au cours moyennant la permission du Department of Speech Pathology and Audiology. Le cours s'offre en ligne.

## Religious Studies, RELIG

Office of Interdisciplinary Studies  
Faculty of Arts

### Undergraduate Courses

#### **0 RELIG 102 Introduction to Western Religious Traditions**

★3 (fi 6) (either term, 3-0-0). An introduction to the major religious traditions originating in West Asia, including, but not limited to, Judaism, Christianity, and Islam. Note: not open to students with credit in RELIG 101.

#### **0 RELIG 274 Studies in Witchcraft and the Occult**

★3 (fi 6) (either term, 3-0-0).

#### **RELIG 480 Directed Reading in Religious Studies**

★3 (fi 6) (either term, 3-0-0). Prerequisite: consent of Program Coordinator.

## Graduate Courses

#### **RELIG 580 Directed Reading Course I**

★3 (fi 6) (either term, 0-3s-0). Prerequisite: consent of Department.

#### **RELIG 581 Directed Reading Course II**

★3 (fi 6) (either term, 0-3s-0). Prerequisite: consent of Department.

## Renewable Resources, REN R

Department of Renewable Resources  
Faculty of Agricultural, Life and Environmental Sciences

### Undergraduate Courses

#### **REN R 299 Environmental and Conservation Sciences and Forestry Field School**

★3 (fi 6) (Spring/Summer, 3 weeks). Combines the concepts, theories and practices of environmental, conservation and forest sciences in an off-campus field experience. Field skill proficiency in planning, measurement, analysis and reporting is emphasized for biophysical and socioeconomic components of the environment. Prerequisites: ★45 university credit and REN R 110. (REN R 210 or SOILS 210) and a plant identification course are strongly recommended. Students must complete this course prior to completion of the final ★30 of their program. Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar. Consent of Instructor is required for students outside the Faculty of Agricultural, Life and Environmental Sciences. Credit may not be obtained in this course if previous credit has been obtained for ENCS 207 or FOR 302/303/304.

### Graduate Courses

#### **REN R 906 Research Project**

★6 (fi 12) (variable, unassigned). The final research project that comprises REN R 906 is a final capping exercise for the degrees of MAg and MF. Its practical and professional focus should integrate the core areas of study in the program. The successful completion of the project entails (1) a research topic approved by the supervisor; (2) the presentation of a draft research proposal; and (3) the presentation of the research as a written document to the supervisor. The project may take the form of any of the following: (1) a formal analysis of management practice, organizational processes or policy; (2) a formative or summative evaluation of a research project or program; (3) a case study, using secondary documents, survey data, or interviews; or (4) replication of a previous study, with either the introduction of a new variable or an analysis in a changed context.

#### **REN R 912 Research Project**

★12 (fi 24) (variable, unassigned). The final research project that comprises REN R 912 is a final capping exercise for the degrees of MAg and MF. Its practical and professional focus should integrate the core areas of study in the program. The successful completion of the project entails (1) a research topic approved by the supervisor; (2) the presentation of a draft research proposal; and (3) the presentation of the research as a written document to the supervisor. The project may take the form of any of the following: (1) a formal analysis of management practice, organizational processes or policy; (2) a formative or summative evaluation of a research project or program; (3) a case study, using secondary documents, survey data, or interviews; or (4) replication of a previous study, with either the introduction of a new variable or an analysis in a changed context.

## Research, RSCH

Faculty of Graduate Studies and Research

### Graduate Courses

#### **RSCH 900 Graduate Research**

★9 (fi 1) (either term, unassigned). Restricted to Visiting Graduate Students at the University of Alberta who are only conducting research. Approval of the Department and the Faculty of Graduate Studies and Research required.

## Scandinavian, SCAND

Department of Modern Languages and Cultural Studies  
Faculty of Arts

### Undergraduate Courses

#### **SCAND 499 Special Topics**

★3 (fi 6) (either term, 3-0-0).

## School of Public Health, SPH

School of Public Health

### Graduate Courses

#### SPH 518 Psychosocial Perspectives on Health

★3 (fi 6) (either term, 0-3s-0). A critical, interdisciplinary review of psychosocial health. Theoretical and methodological implications from a variety of disciplinary perspectives are considered. Prerequisite: SPH 501 or consent of Instructor. Note: Credit may not be obtained for both HPS 508 and SPH 518. May contain alternate delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

#### SPH 519 Biostatistics I

★3 (fi 6) (either term, 3-0-1). An introduction to elementary biostatistical methods used to analyze epidemiologic data. Topics will include analysis of 2 x 2 tables, nonparametric methods, linear regression, analysis of variance, direct and indirect standardization, and analysis of censored data. Prerequisite: Introductory statistics course or consent of Instructor. Note: Credit may not be obtained for both PHS 598 and SPH 519.

#### SPH 529 Health Community and Development

★3 (fi 6) (either term, 3-0-0). This graduate course is grounded in an ecological framework that explores three major components: health, community and development. An ecological framework allows us to explore these things in an interconnected manner. Health, defined from a broad social determinants of health view and both the principles and practice of community development will be examined from a theoretical and practical perspective. The phenomenon of 'development' will be critically analyzed. May contain alternate delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

#### SPH 561 Topics in Public Health

★1 (fi 2) (either term, 1-0-0).

#### SPH 566 Special Seminars

★3-9 (variable) (either term, variable). Prerequisite: consent of Director of Graduate Education. Content varies from year to year. Topics are announced prior to registration period. The student's transcript will carry a title descriptive of the content. May be repeated. May contain alternate delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

#### SPH 596 Epidemiology Methods I

★2 (fi 4) (either term, 2-0-0). An introduction to the theory of epidemiology with an emphasis on study design. Topics include the nature of epidemiologic reasoning, indices used to describe and measure health status, interpretation of studies, causation, descriptive studies, analytic studies, intervention studies, and ethics. Note: Credit may not be obtained for both PHS/SPH 596 and SPH 597.

#### SPH 599 Capping Project

★3 (fi 6) (variable, 0-3s-0). MPH students will complete a project where they demonstrate their ability to integrate and synthesize public health concepts, principles and theories and apply their critical thinking skills in a project of relevance to the field of public health. Must be completed in the final term of the MPH program. Prerequisites: SPH 598 Field Practicum.

#### SPH 618 Diversity and Health in Families and Communities

★3 (fi 6) (either term, 0-3s-0). Theoretical approaches and practical issues regarding the provision of health care in Canada with a focus on aboriginal, refugee and immigrant families. Human ecological models, health promotion, and ethical issues will be examined within a framework of cultural diversity. Pre and corequisite: SPH 501 or consent of instructor. Note: Credit may not be obtained for both HECOL 618 and SPH 618. Note: Credit may not be obtained for both HPS 618 and SPH 618. May contain alternate delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

## Science, Technology, and Society, STS

Office of Interdisciplinary Studies  
Faculty of Arts

### Undergraduate Courses

#### STS 200 Introduction to Studies in Science, Technology and Society

★3 (fi 6) (either term, 3-0-0). An examination of the interrelations of science, technology, society and environment, emphasizing an interdisciplinary humanities and social sciences perspective. Note: not to be taken by students with credit in INT D 200. [Faculty of Arts, Office for Interdisciplinary Studies]

## Sociologie, SOCIE

Faculté Saint-Jean

### Cours de 1er cycle

#### SOCIE 100 Introduction à la sociologie

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Examen de la théorie, des méthodes et de la substance de la sociologie. Étude de la façon dont les sociétés comprennent la culture, la socialisation, la déviance, la stratification et les groupes. Le processus de transformation sociale par les mouvements sociaux, l'industrialisation, etc. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits en SOCIE 300.

#### SOCIE 371 La famille

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Le système familial vu dans le contexte de l'histoire et de la rencontre des cultures. Étude du système familial dans les sociétés contemporaines, soulignant les aspects caractéristiques de l'institution et ses tendances actuelles.

## Sociology, SOC

Department of Sociology  
Faculty of Arts

### Undergraduate Courses

#### SOC 100 Introductory Sociology

★3 (fi 6) (either term, 3-0-0). An examination of the theory, methods, and substance of Sociology. The study of how societies are shaped including economy, culture, socialization, deviance, stratification, and groups. The process of social change through social movements, industrialization, etc. Note: Not to be taken by students with credit in SOC 300.

#### SOC 203 Social Problems

★3 (fi 6) (either term, 3-0-0). Selected structural issues in various societies, including inequality, population growth, environment, and human rights. Note: Not to be taken by students with credit in SOC 102.

#### SOC 210 Introduction to Social Statistics

★3 (fi 6) (either term, 3-0-2). Statistical reasoning and techniques used by sociologists to summarize data and test hypotheses. Topics include describing distributions, cross-tabulations, scaling, probability, correlation/regression and non-parametric tests. Prerequisite: SOC 100 or consent of instructor. Note: This course is intended primarily for students concentrating in Sociology

#### SOC 212 Classical Social Theory

★3 (fi 6) (either term, 3-0-0). The foundational contributions and relevance of the works of Marx, Weber, Durkheim and others to sociology and social theory. Course emphasizes close reading of primary texts to cultivate reading, writing and reasoning skills. Prerequisite: SOC 100 or consent of the instructor.

#### SOC 224 Sociology of Deviance and Conformity

★3 (fi 6) (either term, 3-0-0). Processes involved in defining behaviour patterns as deviant; factors that influence conformity and change; examination of behaviour patterns such as sexuality, alcoholism, drug use, and selected mental and physical disabilities; public reaction to such behaviour.

#### SOC 225 Criminology

★3 (fi 6) (either term, 3-0-0). Examination and attempted explanation of crime and juvenile delinquency, with an analysis of the social processes leading to criminal behaviour.

#### SOC 226 Social Studies of Surveillance

★3 (fi 6) (either term, 3-0-0). Critical analysis of the increased prominence of diverse forms of surveillance in contemporary society.

#### SOC 241 Social Psychology

★3 (fi 6) (either term, 3-0-0). An introduction to the study of individual and group behaviour observed in social processes. Prerequisites: SOC 100, or PSYCO 104 or 105, or consent of instructor. Note: SOC 241 and PSYCO 241 may not both be taken for credit.

#### SOC 251 Population and Society

★3 (fi 6) (either term, 3-0-0). Population trends, issues and concerns in Canada and international contexts; social and cultural factors underlying fertility, mortality, and migration; population change; population theory; and demographic analysis.

#### SOC 260 Inequality and Social Stratification

★3 (fi 6) (either term, 3-0-0). Introduction to the study of structured social inequalities and poverty; major theoretical approaches; findings from key empirical studies, with emphasis on Canada. Prerequisite: SOC 100 or consent of instructor.

#### SOC 269 Introductory Sociology of Globalization

★3 (fi 6) (either term, 3-0-0). Introduces various aspects of globalization and its

impact on our lives at local, national, and international levels. Prerequisite: SOC 100 or consent of instructor.

### **0** SOC 271 Introduction to the Family

★3 (fi 6) (either term, 3-0-0). An introduction to the study of family relationships and their variant forms with focus on mate selection, couple, kin, age, and gender dynamics, family dissolution or reconstitution and change. A comparative approach with emphasis on families in Canada.

### **0** SOC 301 Sociology of Gender

★3 (fi 6) (either term, 3-0-0). Comparative study of sex roles in selected societies with an emphasis on contemporary Canada; sex-specific role behaviours and theories regarding their origin; recent sociological research on the social effects of sex roles. Prerequisite: SOC 100 or consent of instructor.

### **SOC 335 Themes in Contemporary Social Theory**

★3 (fi 6) (either term, 3-0-0). Major theoretical questions through analysis of works by contemporary theorists. Prerequisite: SOC 212 or consent of the instructor. Not open to students with credit in SOC 332, 333, or 334.

### **SOC 343 Social Movements**

★3 (fi 6) (either term, 3-0-0). How social movements arise and their impact on culture, society and politics. Prerequisite: SOC 100 or consent of instructor.

### **SOC 376 Sociology of Religion**

★3 (fi 6) (either term, 3-0-0). Religion as a social phenomenon: theories of religious behaviour; religious authority and leadership; the individual's religion and the interplay with other spheres of social life; the role of religion in relation to social change and social integration. Prerequisite: SOC 100 or consent of instructor.

### **0** SOC 382 Sociology of Health and Illness

★3 (fi 6) (either term, 3-0-0). The distribution of health and illness in human populations, the social psychology of health and illness, and the social organization of health care. Prerequisite: SOC 100 or consent of instructor.

### **SOC 403 Individual Study**

★3 (fi 6) (either term, 3-0-0). Individual study opportunity on topics for which no specific course is currently offered by the Department. Prerequisite: Consent of Instructor and the Undergraduate Advisor.

### **0** SOC 473 Sociology of Death and Dying

★3 (fi 6) (either term, 3-0-0). Comparative examination of death and dying in socio-cultural contexts, including theoretical and methodological issues. Prerequisite: SOC 100 or consent of instructor.

## Graduate Courses

### **SOC 503 Conference Course in Sociology for Graduate Students**

★3 (fi 6) (first term, 3-0-0).

### **SOC 504 Conference Course in Sociology for Graduate Students**

★3 (fi 6) (second term, 3-0-0).

### **SOC 603 Conference Course**

★3 (fi 6) (first term, 3-0-0).

### **SOC 604 Conference Course**

★3 (fi 6) (second term, 3-0-0).

### **SOC 900 Directed Research Project**

★3 (fi 6) (variable, unassigned).

## Spanish, SPAN

Department of Modern Languages and Cultural Studies  
Faculty of Arts

Note: Students with very good formal or informal background in Spanish should consult the Department for proper placement. See Notes 1 - 3 under Spanish listings in the University Calendar.

### Undergraduate Courses

#### **0** SPAN 111 Beginners' Spanish I

★3 (fi 6) (either term, 5-0-0). Intended for students with no previous knowledge of the language and designed to lead to a working knowledge of spoken and written Spanish with a focus on listening, reading, speaking, writing, and intercultural competence. Note: not to be taken by students with native or near native proficiency, or with Spanish 30 or its equivalents in Canada and other countries.

#### **0** SPAN 112 Beginners' Spanish II

★3 (fi 6) (either term, 5-0-0). A continuation of SPAN 111. Prerequisite: SPAN 111 or consent of Department. Note: not to be taken by students with native or near native proficiency, or with Spanish 30 or its equivalents in Canada and other countries.

#### **0** SPAN 300 Advanced Spanish

★3 (fi 6) (either term, 4-0-0). A high-intermediate to advanced-level course

intended to improve overall proficiency in spoken and written Spanish. Emphasis on intercultural communicative competence. Prerequisite: SPAN 212 or consent of Department. Note: Not to be taken by students with advanced standing equivalent or near native ability or with credit in SPAN 306.

## Statistics, STAT

Department of Mathematical and Statistical Sciences  
Faculty of Science

Note: Statistical software packages will normally be used in courses that contain data analysis.

### Undergraduate Courses

#### **0** STAT 151 Introduction to Applied Statistics I

★3 (fi 6) (either term, 3-0-0). Data collection and presentation, descriptive statistics. Probability distributions, sampling distributions and the central limit theorem. Point estimation and hypothesis testing. Correlation and regression analysis. Goodness of fit and contingency table. Prerequisite: Mathematics 30-1 or 30-2. This course may not be taken for credit if credit has been obtained in any STAT course, or in PEDS 109, PSYCO 211 or SOC 210.

#### **STAT 235 Introductory Statistics for Engineering**

★3.8 (fi 6) (either term or Spring/Summer, 3-0-1.5). Descriptive data analysis. Calculus of Probability. Binomial, multinomial, Poisson, normal, beta, exponential, gamma, hypergeometric, and Weibull distributions. Sampling distributions. Estimation, testing hypotheses, goodness-of-fit tests, and one-way analysis of variance. Linear correlation and regression. Sampling. Quality control. Use of a microcomputer software package for statistical analyses in engineering applications. Prerequisite: MATH 100. Corequisite: MATH 101. Credit may not be obtained in STAT 235 if credit has already been obtained in STAT 141, 151, 222, 265, 266; PSYCO 211 or SOC 210. Intended for Engineering students. Other students who take this course will receive ★3.0.

#### **0** STAT 252 Introduction to Applied Statistics II

★3 (fi 6) (either term, 3-0-2). Methods in applied statistics including regression techniques, analysis of variance and covariance, and methods of data analysis. Applications are taken from Biological, Physical and Social Sciences, and Business. Credit may be received in at most one of STAT 252, 319, 337, or 341. May not be taken for credit if credit has been received for STAT 368 or 378. Prerequisite: STAT 141 or 151 or 235 or equivalent.

#### **0** STAT 265 Statistics I

★3 (fi 6) (first term, 3-0-0). Sample space, events, combinatorial probability, conditional probability, independent events, Bayes Theorem, random variables, discrete random variables, expected values, moment generating function, inequalities, continuous distributions, multivariate distributions, independence. Corequisite: MATH 214 or 217. Credit may not be obtained for both STAT 265 and STAT 221.

#### **0** STAT 266 Statistics II

★3 (fi 6) (second term, 3-0-0). Functions of random variables, sampling distributions, Central Limit Theorem, law of large numbers, statistical models for the data, likelihood, parameters and their interpretation, objectives of statistical inference, point and interval estimation, method of moments, basic notions of testing of hypotheses, errors of the first and second kind, significance level, power, p-value. Prerequisite: STAT 265. Corequisites: MATH 215 or 317, and 225 or 227. Credit may not be obtained for both STAT 266 and either of STAT 222 or STAT 366.

### Graduate Courses

#### **STAT 590 Statistical Consulting**

★3 (fi 6) (either term, 3-0-0). Data analysis, problem solving, oral communication with clients, issues in planning experiments and collecting data; practical aspects of consulting and report writing. Corequisite: STAT 568 and 578 or their equivalents.

#### **STAT 902 Practicum in Statistics II**

★1.5 (fi 3) (either term, unassigned). Open only to students taking the MSc non-thesis option in Statistics.

## Strategic Management and Organization, SMO

Department of Strategic Management and Organization  
Faculty of Business

### Undergraduate Courses

#### **SMO 200 Introduction to Management for Non-Business Students**

★3 (fi 6) (either term, 3-0-0). Provides an understanding of the behavior of individuals and groups within the context of the business organization. Topics

covered include organizational structure, culture, individual differences, personality, motivation, leadership, groups, decision making, power, politics, conflict, careers, stress, and organizational change. Not to be taken by students with credit in SMO 101, 201, 301 or 310.

#### **SMO 321 Introduction to Strategic Management and Organization Design**

★3 (*fi 6*) (either term, 3-0-0). Explores why organizations such as McDonalds, Northern Telecom, Bennetton, Wal-Mart and the University of Alberta use different patterns of organization. Examines the political and behavioral dynamics of management decision making. Prerequisite: SMO 201, 301 or 310. Open to third- and fourth-year students.

#### **SMO 411 Alternative Dispute Resolution**

★3 (*fi 6*) (either term, 3-0-0). Conflict is a part of life which we all encounter. Disagreements occur naturally between friends, co-workers, spouses, employer and employees, organizations, and nations. Conflict is both natural and positive if handled well, but can be destructive if handled badly. This course provides detailed hands-on practical experience with various methods of conflict resolution, especially mediation (third-party assistance) and negotiation. The course concentrates as well on the interpersonal communication skills, including assertiveness, which make effective conflict resolution possible. Prerequisite: SMO 201, 301 or 310.

#### **SMO 412 Effective Negotiations**

★3 (*fi 6*) (either term, 3-0-0). This is a comprehensive study of negotiation theory and practice. A negotiation simulation is conducted to provide an understanding of how theory translates into practice. Prerequisite: SMO 201, 301 or 310. Open to third- and fourth-year students.

#### **SMO 423 Power and Organization**

★3 (*fi 6*) (either term, 3-0-0). An introduction to aspects of organizational life often omitted in business courses - the role of humor, gossip, emotion and sex; the organization of time and space; the nature of the body and the construction of organizational identities - and consider their significance for understanding contemporary organizational and human resources practices. Prerequisite: Open to third- and fourth-year students only.

#### **SMO 495 Individual Research Project I**

★3 (*fi 6*) (either term, 3-0-0). Special study for advanced undergraduates. Prerequisites: consent of Instructor and Assistant Dean, Undergraduate Program.

## Graduate Courses

#### **SMO 601 Innovation and Sustainability: The Cleantech Revolution**

★3 (*fi 6*) (either term, 3-0-0). The clean technology and renewables course is a course designed to fit with three areas of graduate study: technology development and transfer, strategy, and sustainability. In this course, we will begin with an examination renewable energy industries (solar, water, wind, etc.) and clean technologies focused on waste and recycling. Clean and green strategies will be identified and discussed, using specific examples from our international clean technology research and database. At the end of the course, students will present either a project with a local clean technology company project or a case analysis of a key clean technology company of interest.

#### **SMO 651 Project Management for Consulting Professionals**

★3 (*fi 6*) (either term, 3-0-0). This course is an introduction to project management for the management consulting industry. This course is designed for management consulting professionals, current and prospective, and will explore the dynamics of project management fundamentals. The focus will be on managing the constraints faced by a project manager in any project: budgets, human resources, time frames, changing specifications, and quality. This course will examine techniques for establishing project objectives, developing deliverables, managing scope, developing work plans, managing and mitigating risks, issues and challenges as well as explore client management, profitability, and project close-out techniques.

#### **SMO 652 Leadership Skills**

★3 (*fi 6*) (either term, 3-0-0). The purpose of this course is to increase the student's understanding of leadership roles and skill in exercising those roles. These include team building, mentoring, managing conflict, delegating, managing participative decision making, creative problem solving, and time and stress management.

#### **SMO 657 Interpersonal Communication and Team Management**

★3 (*fi 6*) (either term, 3-0-0). This course provides the understanding of interpersonal (or face-to-face) communication process and presents opportunities for personal skill development. Students should expect to engage in role plays and to receive feedback on their personal style of communication. Topics include team communication supervisory-subordinate relationships, influence and persuasion, conflict management, and performance appraisal.

#### **SMO 686 Selected Topics in Behavioral Sciences**

★3 (*fi 6*) (either term, 3-0-0). Students should check with the MBA Office for pre/corequisites of specific sections.

## Thesis, THES

Faculty of Graduate Studies and Research

### Graduate Courses

#### **THES 901 Thesis Research**

★0 (*fi 2*) (either term, unassigned). Represents research activity equivalent to ★1 for registration status and fee assessment purposes. Approval of the Faculty of Graduate Studies and Research required.

#### **THES 902 Thesis Research**

★0 (*fi 4*) (either term, unassigned). Represents research activity equivalent to ★2 for registration status and fee assessment purposes. Approval of Faculty of Graduate Studies and Research required.

#### **THES 903 Thesis Research**

★0 (*fi 6*) (either term, unassigned). Represents research activity equivalent to ★3 for registration status and fee assessment purposes.

#### **THES 904 Thesis Research**

★0 (*fi 8*) (either term, unassigned). Represents research activity equivalent to ★4 for registration status and fee assessment purposes.

#### **THES 905 Thesis Research**

★0 (*fi 10*) (either term, unassigned). Represents research activity equivalent to ★5 for registration status and fee assessment purposes.

#### **THES 906 Thesis Research**

★0 (*fi 12*) (either term, unassigned). Represents research activity equivalent to ★6 for registration status and fee assessment purposes.

#### **THES 956 Thesis Research**

★0 (*fi 0*) (either term, unassigned). Represents research activity equivalent to ★6 for registration status purposes. No instruction fees are assessed. Restricted to doctoral students registered in ★6 in the preceding Spring or Summer term. Department and Faculty of Graduate Studies and Research consent required.

## Ukrainian, UKR

Department of Modern Languages and Cultural Studies  
Faculty of Arts

Note: Students with very good formal background in Ukrainian should consult the Department for proper placement. See Notes 1 - 3 under Ukrainian listing in the University Calendar.

### Undergraduate Courses

#### **0 UKR 300 Ukrainian through its Living Culture I**

★6 (*fi 12*) (either term, 3-0-0). Practical language skills with a direct experience of Ukrainian life and culture in the Lviv environment. The language of instruction is Ukrainian. Prerequisite: UKR 212 or consent of Department.

#### **0 UKR 400 Ukrainian through its Living Culture II**

★6 (*fi 12*) (either term, 3-0-0). Improves students' language and cultural proficiency through direct experience of contemporary Ukrainian life in Lviv. Prerequisite: UKR 300 or 304 or consent of Department.

## Women's and Gender Studies, WGS

Women's and Gender Studies  
Faculty of Arts

### Undergraduate Courses

#### **WGS 102 Gender and Social Justice**

★3 (*fi 6*) (either term, 2-1s-0). Examines social and cultural constructions of gender, sexuality, race, class, and disability as well as visions for social justice.

#### **WGS 240 Feminism and Food**

★3 (*fi 6*) (either term, 3-0-0). Women's material relationships to food from a variety of feminist perspectives. Note: Not open to students with credit in W ST 340 or WGS 340.

#### **WGS 270 Feminism and Sexualities**

★3 (*fi 6*) (either term, 3-0-0). Approaches to, and key debates about, sexuality. Topics may include: sexology; critiques of heterosexuality; political lesbianism; queer theory; transgender and intersexuality; prostitution and sex work. Note: Not open students with credit in W ST 370 or WGS 370

#### **WGS 298 Critical Issues**

★3 (*fi 6*) (either term, 3-0-0). This course offers an introduction to select issues in Women's, Gender, and Sexuality Studies. A variable content course, which may be repeated if topics vary.

## Work Experience, WKEXP

### Undergraduate Courses

#### Faculty of Agricultural, Life and Environmental Sciences Courses

##### WKEXP 981 Agricultural, Life and Environmental Sciences Work Experience I

★0 (*fi 9*) (Spring/Summer, unassigned). A four-month work placement for Faculty of Agricultural, Life and Environmental Sciences students admitted into the Internship program. The work experience provides the student with exposure to the practical application of their specialization and the general work environment. Evaluation is based on appraisal of employer and mentor.

#### Faculty of Arts Courses

##### WKEXP 801 Arts Work Experience I

★0 (*fi 9*) (either term, unassigned). A four-month work placement for Faculty of Arts students participating in the Cooperative Education route. The focus of the work experience will be for the student to gain an appreciation of the work environment related to their discipline. Prerequisite: consent of the Department in which the student is majoring.

##### WKEXP 802 Arts Work Experience II

★0 (*fi 9*) (either term, unassigned). A four-month work placement for Faculty of Arts students participating in the Cooperative Education route. The focus of the work experience will be for the student to gain an appreciation of the work environment related to their discipline. Prerequisite: WKEXP 801 and consent of the Department in which the student is majoring.

##### WKEXP 803 Arts Work Experience III

★0 (*fi 9*) (either term, unassigned). A four-month work placement for Faculty of Arts students participating in the Cooperative Education route. The focus of the work experience will be for the student to gain an appreciation of the work environment related to their discipline. Prerequisite: WKEXP 802 and consent of the Department in which the student is majoring.

##### WKEXP 961 Psychology Work Experience I

★0 (*fi 9*) (either term, unassigned). A four-month work placement for Psychology students in the Faculty of Arts in the Psychology Cooperative Program. The focus of the work experience will be for the student to gain an appreciation of the work environment. Prerequisite: consent of Department. [Faculty of Arts]

##### WKEXP 962 Psychology Work Experience II

★0 (*fi 9*) (either term, unassigned). A four-month work placement for Psychology students in the Faculty of Arts in the Psychology Cooperative Program. The focus of the work experience will be for the student to gain further knowledge of the work environment. Prerequisite: WKEXP 961. [Faculty of Arts]

##### WKEXP 963 Psychology Work Experience III

★0 (*fi 9*) (either term, unassigned). A four-month work placement for Psychology students in the Faculty of Arts in the Psychology Cooperative Program. The focus of the work experience is to further the student's knowledge of the working world. Prerequisite: WKEXP 962. [Faculty of Arts]

#### Faculty of Business Courses

##### WKEXP 913 Business Work Experience III

★0 (*fi 9*) (either term, unassigned). A four-month work placement for Business students admitted into the cooperative education option. The focus of the work experience will be for the student to perform work directly related to their specialization. Evaluation will be based on the employer's performance appraisal, the cooperative education coordinator's site evaluation report, and the student's performance on the work-term report. Prerequisite: WKEXP 912.

##### WKEXP 914 Business Work Experience IV

★0 (*fi 9*) (two term or Spring/Summer, unassigned). An optional fourth four-month work placement for Business students admitted into the cooperative education option. The focus of the work experience will be for the student to perform work directly related to their specialization. Evaluation will be based on the employer's performance appraisal, the cooperative education coordinator's site evaluation report, and the student's performance on the work-term report. Prerequisite: WKEXP 913 and permission of the Business Co-operative Education Office.

#### Faculty of Engineering Courses

##### WKEXP 901 Engineering Work Experience I

★0.5 (*fi 7*) (either term or Spring/Summer, unassigned). A four-month work placement for Engineering students registered in the Cooperative Education Program. This work experience will provide the student with exposure to the practical application of engineering and the general work environment. Evaluation will be based on the employer's performance appraisal, the student's work term

report, and the student's ability to learn from the experiences of the work term. Prerequisite: ENGG 299.

##### WKEXP 902 Engineering Work Experience II

★0.5 (*fi 7*) (either term or Spring/Summer, unassigned). A four-month work placement for Engineering students registered in the Cooperative Education Program. This work experience will provide the student with exposure to the practical application of engineering and the general work environment. Evaluation will be based on the employer's performance appraisal, the student's work term report, and the student's ability to learn from the experiences of the work term. Prerequisite: WKEXP 901.

##### WKEXP 903 Engineering Work Experience III

★0.5 (*fi 7*) (either term or Spring/Summer, unassigned). A four-month work placement for Engineering students registered in the Cooperative Education Program. This work experience will provide students with personal involvement in the practice of their engineering discipline commensurate with their level of academic preparation. Evaluation will be based on the employer's performance appraisal, the student's work term report, and the student's ability to learn from the experiences of the work term. Prerequisite: WKEXP 902.

##### WKEXP 904 Engineering Work Experience IV

★0.5 (*fi 7*) (either term or Spring/Summer, unassigned). A four-month work placement for Engineering students registered in the Cooperative Education Program. This work experience will provide students with personal involvement in the practice of their engineering discipline commensurate with their level of academic preparation. Evaluation will be based on the employer's performance appraisal, the student's work term report, and the student's ability to learn from the experiences of the work term. Prerequisite: WKEXP 903.

##### WKEXP 905 Engineering Work Experience V

★3 (*fi 7*) (either term or Spring/Summer, unassigned). A four-month work placement for Engineering students registered in the Cooperative Education Program. This work experience will provide students with personal involvement in the practice of their engineering discipline commensurate with their level of academic preparation. Evaluation will be based on the employer's performance appraisal, the student's work term report, and the student's ability to learn from the experiences of the work term. Prerequisite: WKEXP 904.

##### WKEXP 906 Engineering Work Experience VI

★3 (*fi 7*) (either term or Spring/Summer, unassigned). A four-month work placement for students registered in the Biomedical Option in either Chemical, Materials, or Mechanical Engineering. This work experience will provide students with personal involvement in the practice of the biomedical engineering discipline. The work experience plan requires the approval from the Department prior to registration. At the completion of the four-month work term, students are required to submit a formal research report which will be assessed for credit. Prerequisite: completion of Term 4 in the Biomedical Option.

#### Faculty of Science Courses

##### WKEXP 934 Psychology Work Experience IV

★0 (*fi 1*) (either term or Spring/Summer, unassigned). A four-month work placement for Psychology students in the Faculty of Science in the Psychology Industrial Internship Program. The focus of the work experience is to further the student's knowledge of the working world. Prerequisite: WKEXP 933. [Faculty of Science]

##### WKEXP 956 Science Work Experience II

★0 (*fi 9*) (either term or Spring/Summer, unassigned). A four-month work placement for Faculty of Science Honors or Specialization students admitted into the Industrial Internship program. The focus of the internship will be for students to perform work directly related to their specialization. Work Experience registrations must be continuous. Prerequisite: consent of Department.

##### WKEXP 957 Science Work Experience III

★0 (*fi 1*) (either term or Spring/Summer, unassigned). A four-month work placement for Faculty of Science Honors or Specialization students admitted into the Industrial Internship program. The focus of the internship will be for students to perform work directly related to their specialization. Work Experience registrations must be continuous. Prerequisite: WKEXP 956.

## Writing (Creative Writing), WRITE

Department of English and Film Studies  
Faculty of Arts

### Undergraduate Courses

##### WRITE 298 Introduction to Writing Nonfiction

★6 (*fi 12*) (two term, 3-0-0). To increase the student's ability to write clear nonfiction prose. Models of prose style will be central, combined with frequent practice in writing on the basis of such models. Prerequisite: ★6 of junior English (or equivalent).

## Writing Studies, WRS

Office of Interdisciplinary Studies  
Faculty of Arts

### Undergraduate Courses

#### WRS 101 Exploring Writing

★3 (*fi 6*) (either term, 0-3s-0). This workshop course focuses on both the theory and practice of the writing process to help students experience firsthand how university writers enter into rich ongoing conversations by engaging with the words and ideas of others.

#### WRS 102 Writing in the Disciplines

★3 (*fi 6*) (either term, variable). A blended learning course (combining online work and one weekly in-person meeting) that introduces students to academic writing in three broad areas: humanities, social sciences, and sciences. No prerequisite. May not be repeated. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar. [Office of Interdisciplinary Studies]

#### WRS 103 An Introduction to Writing in the Sciences

★3 (*fi 6*) (either term, 0-3s-0). Basic principles and genres of writing for science students. Note: Restricted to students in the Faculty of Science.

#### WRS 204 Introduction to Professional and Technical Writing

★3 (*fi 6*) (either term, 0-3s-0). Analysis of and practice in key genres, processes, and strategies for workplace communication. Prerequisites: ★6 selected from 100-level ENGL or 100-level WRS (or consent of instructor).