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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**: 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. Designed for graduate students and certain advanced or honors undergraduate students in their final year.
- **600-699**: Graduate Courses
- **700-799**: 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. **§**—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 each 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 §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)—**Provides information on courses which must be successfully completed before registering in the more advanced course.

5. **(Corequisite)—**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.

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

(Open Studies Courses— Q indicates a course available to students of Open Studies. L indicates that a course is available to Open Studies students on a delayed registration basis only.)

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

Students are strongly advised to refer to the Registration and Courses menu at www.registrar.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.
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

ACCTG 322 Introduction to Accounting for Management Decision Making

First of two courses covering principles, methods and applications of current and proposed Generally Accepted Accounting Principles (GAAP). Emphasizes accounting for经营活动 and investment assets, and related income measurement and disclosure. Prerequisites: ACCTG 311 and 312. Not open to students with credit in ACCTG 412. There is a consolidated exam for ACCTG 414.

ACCTG 414 Intermediate Financial Accounting I

Second of two courses covering theory, methods, strengths, and weaknesses of current 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

First of two courses covering theory, methods, strengths, and weaknesses of current 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 614 Intermediate Financial Accounting I

First of two courses covering 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

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

Second of two courses covering theory, methods, strengths, and weaknesses of current Generally Accepted Accounting Principles (GAAP). 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.

Agricultural and Resource Economics, AREC

Department of Resource Economics and Environmental Sociology

Faculty of Agricultural, Life and Environmental Sciences

Graduate Courses

AREC 589 Advanced Topics in Natural Resource and Environmental Economics

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 the following three courses: ACCTG 610, 614, and 615.

AREC 600 Directed Research Project

First of two courses covering the theory, methods, strengths, and weaknesses of current Generally Accepted Accounting Principles (GAAP). 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.

Agricultural, Life and Environmental Sciences, ALES

Faculty of Agricultural, Life and Environmental Sciences

Undergraduate Courses

ALES 291 Topics in Agricultural, Life and Environmental Sciences

First of two courses covering the theory, methods, strengths, and weaknesses of current Generally Accepted Accounting Principles (GAAP). 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.

American Sign Language, ASL

Department of Modern Languages and Cultural Studies

Faculty of Arts

Undergraduate Courses

ASL 111 Beginners’ American Sign Language I

First of two courses covering the theory, methods, strengths, and weaknesses of current Generally Accepted Accounting Principles (GAAP). 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 EDPSY 474 or 565.

ASL 112 Beginners’ American Sign Language II

Second of two courses covering the theory, methods, strengths, and weaknesses of current Generally Accepted Accounting Principles (GAAP). 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.
Anthropology, ANTHR
Department of Anthropology
Faculty of Arts

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

Undergraduate Courses

C 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.

C ANTHR 297 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.

C ANTHR 219 World Prehistory
★3 (fi 6) (either term, 3-0-0). A survey of the archaeological evidence for human cultural evolution.

C ANTHR 393 Health and Healing
★3 (fi 6) (either term, 3-0-0). A cross-cultural study through time of the beliefs and social activities associated with health, illness and healing. Prerequisite: ANTHR 207 or 209 or consent of Department.

C 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.

C 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

C 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 151 or 152.

C 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.

C 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.

C 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.

C 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.

C ART 438 Special Projects in Drawing: Intermediate
★6 (fi 12) (two term, 0-6L-0). Normally offered in Spring/Summer. Prerequisites: ART 140 and 340, or 339 and consent of Department.

C 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.

C 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: 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 particularly applies to seminars in the history of art and design, where attendance is a factor in grading.

Undergraduate Courses

C ART H 102 History of Art, Design and Visual Culture I
★3 (fi 6) (either term, 3-0-0). Introduction to Western Art, Design and Visual Culture from the 15th century to the present.

C ART H 210 Survey of the 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 century.

C 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.

C ART H 213 Survey of Latin American Art
★3 (fi 6) (either term, 3-0-0). History of the visual arts in Latin America with an emphasis on the nineteenth and twentieth centuries.

C ART H 257 Survey of 20th-Century and Contemporary Canadian Art
★3 (fi 6) (either term, 3-0-0). History of 20th and 21st century art in Canada.

C ART H 311 Issues in the History of Art, Design and Visual Culture
★3 (fi 6) (either term, 3-0-0). Students are expected to have successfully completed two 200-level ART H courses with a minimum grade of B-. Prerequisite: consent of Department. 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 - Biology, AUBIO
Department of Science
Augustana Faculty

Undergraduate Courses

C AUBIO 338 Developmental Biology
★3 (fi 6) (either term, 3-0-3). Development of complex organisms. Emphasis is on the interactions between cells and their environment that determine cell survival, gene activation and deactivation; and how specific cell and tissue structures and functions are selected. Developmental processes common to plants and animals are identified. Prerequisites: AUBIO 230 and 260; one of AUBIO 222, 294 and 295; and third year standing.

Augustana Faculty - Economics, AUECO
Department of Social Sciences
Augustana Faculty

Undergraduate Courses

C AUECO 362 Estonia Study Tour
★2 (fi 4) (Spring/Summer, 2 weeks). A two-week study trip to Estonia, in the course of which students will be able to take part in the International Summer Programme offered by the University of Tartu and classes led by Augustana instructors. The programme includes lectures in a number of disciplines, as well as visits to historical sites and business in Estonia and in the neighbouring Baltic countries and Finland. Students will gain a better understanding of the history and economic development of the region. Prerequisites: At least 3 senior credits in AUECO, AUBIS, AUPOL or consent of the instructor; one of AUECO 361 or AUBIS 327; and successful completion of a selection process.
Augustana Faculty - Geography, AUGEO
Department of Science
Augustana Faculty

Undergraduate Courses
AUGEO 343 Expedition in the Canadian North
★3 (fi 6) (Spring/Summer, variable). Examination, involving a three- to four-week expedition in the summer, of the biophysical environments, resources, economics, and settlements of northern regions of Canada. Prerequisites: AUGEO 341, 342 or AUPED 387, and consent of the instructor(s). Notes: Expedition costs, as well as course tuition, are the student’s responsibility. Credit may be obtained for only one of AUGEO 343 and AUPED 388. 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 - German, AUGER
Department of Humanities
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 test 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.

Augustana Faculty - Global and Development Studies, AUGDS
Department of Social Sciences
Augustana Faculty

Undergraduate Courses
AUGDS 324 Development Studies Seminar (Canada)
★6 (fi 12) (first term, 0-6e-0). Integrative study of development issues and strategies based on work experiences in rural communities in Canada. Prerequisite: Consent of the selection committee. Credit may be obtained for only one of AUGDS 124, 224, 324, AUHIS 124 (2009), 224 (2009), 324 (2009).

Augustana Faculty - History, AUHIS
Department of Social Sciences
Augustana Faculty

Undergraduate Courses
AUHIS 334 Estonia Study Tour
★2 (fi 4) (Spring/Summer, 2 weeks). A two-week study trip to Estonia, in the course of which students will be able to take part in the International Summer Programme offered by the University of Tartu and classes led by Augustana instructors. The programme includes lectures in a number of disciplines, as well as visits to historical sites and business in Estonia and in the neighboring Baltic countries and Finland. Students will gain a better understanding of the history and economic development of the region. Prerequisites: At least 3 senior credits in AUECO, AUHIS, AUPOl or consent of the instructor; one of AUED 361 or AUHIS 327; and successful completion of a selection process.

Augustana Faculty - Physical Education, AUPED
Department of Social Sciences
Augustana Faculty

Undergraduate Courses
AUPED 388 Arctic Canoe Expedition
★3 (fi 6) (Spring/Summer, variable). Examination, involving a three- to four-week expedition in the summer, of leadership, group dynamics, risk management, navigation, logistics, wilderness ethics, and other theories and practices associated with extended Arctic canoe expeditions. Prerequisites: AUGEO 341, 342 or AUPED 387; and consent of the instructor(s). Notes: Expedition costs, as well as course tuition, are the student’s responsibility. Credit may be obtained for only one of AUGEO 343 and AUPED 388. 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 BIO of Organic Chemistry and BIO of General Chemistry.

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. 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.
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 283 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.

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 283 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.

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 283 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.

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 already been obtained in BIOCH 498 or 499.

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.

BIOCH 407 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  

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.

BIOL 366 Northern Ecology  
3 (fi 6) (second term, 3-0-0). Examines the ecology of boreal, arctic, and alpine 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.

BIOL 398 Research Project  
3 (fi 6) (either term, 0-0-6). Directed research done under the supervision of an academic member of the Biological Sciences Department. Normally for students in their third year of study. Successful completion of this course requires a written report on the research project. Prerequisites: A 200-level Biological Sciences course and consent of the Associate Chair, Undergraduate Studies. Credit for this course may be obtained only once.

BIOL 499 Research Project  
3 (fi 6) (either term, 0-0-6). Directed research done under the supervision of an academic member of the Biological Sciences Department. Successful completion of this course requires a written report on the research project. Credit for this course may be obtained more than once. Prerequisites: A 300-level Biological Sciences course and consent of the Associate Chair, Undergraduate Studies.

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  
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.

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.

BUS 900 Directed Research Project  
3 (fi 6) (variable, unassigned).

Business Economics, BUEC  
Departments of Marketing, Business Economics, and Law  
Faculty of Business  
Undergraduate Courses  
BUEC 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  
BUEC 686 Selected Topics in Business Economics  
3 (fi 6) (either term, 3-0-0). Topics in this seminar may vary from year to year and are chosen at the discretion of the Instructor.

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

This course covers 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 422 Law of Business Organizations

This course covers 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

This course allows students to conduct research in their area of interest. Prerequisites: consent of Instructor and Assistant Dean, Undergraduate Program.

Cell Biology, CELL

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

Undergraduate Courses

CELL 398 Research Project

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. Open only to third-year students. Prerequisites: CELL 300 and 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

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

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

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

Prerequisite: MATH 201, CH E 312. Corequisite CH E 374.

CH E 318 Mass Transfer

Prerequisite: 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

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

Prerequisite: CH E 343 and 374. 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

Prerequisites: CH E 318, 345, 358, and 416.

Chemistry, CHEM

Department of Chemistry
Faculty of Science

Undergraduate Courses

CHEM 101 Introductory University Chemistry I

Prerequisite: Chemistry 30, or equivalent.

CHEM 102 Introductory University Chemistry II

Prerequisite: CHEM 101.

CHEM 103 Introductory University Chemistry I

Prerequisite: CHEM 101.

CHEM 105 Introductory University Chemistry II

Prerequisite: CHEM 103.

CHEM 261 Organic Chemistry I

Prerequisite: CHEM 105.

CHEM 263 Organic Chemistry II

Prerequisite: CHEM 261.
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.

CHINA 420 Chinese Modernity: Literature and Film
3 (fi 6) (either term, 3-0-0). A cross-disciplinary study of literary and cinematic texts from modern China. Prerequisite: CHINA 240 and 302, or consent of Department.

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 250 The Theological Education of the Catholic Teacher
3 (fi 6) (either term, 3-5-0). 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 309 Topics in the Christian Tradition
3 (fi 6) (either term, 3-0-0).

CHRTC 351 Sex, Love and Marriage: Christian Perspectives
3 (fi 6) (either term, 3-0-0). Questions of meaning and morality concerning sex, love, marriage, non-marital sex, parenthood, relationship and marriage breakup, celibacy, gender, and homosexuality, considered in the light of experience, the Bible, Catholic teaching, traditional and contemporary theological discussion.

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, CHRTP
St Stephen's College

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

Undergraduate Courses

CHRTP 312 Questing Faith: Thinking About God
3 (fi 6) (first term, 0-3s-0). Explores major questions of faith: God, Christ, humanity, evil, hope. This course provides insight into the Christian faith for all interested persons.

CHRTP 315 Exploring Faith and Fiction
3 (fi 6) (either term, 3-0-0). Novels chosen present us with questions of doubt and faith, spiritual journey, community.

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 604 Construction Law
3 (fi 6) (either term, 3-0-0). Covers fundamentals of construction law; overview of the Canadian Legal System, business organization. Tort liability, construction contracts, agreements. Lien legislation, statutes governing the engineering profession and other legal topics.

CIV E 709 Advanced Topics in Construction Engineering and Management
3 (fi 6) (either term, 3-0-0).

CIV E 729 Advanced Topics in Environmental Engineering
3 (fi 6) (either term, 3-0-0).

CIV E 779 Advanced Topics in Structural Engineering
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
1 (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 fulfill 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 400 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

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLASS 102</td>
<td>Greek and Roman Mythology</td>
<td>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.</td>
</tr>
<tr>
<td>CLASS 110</td>
<td>The Ancient World</td>
<td>3 (fi 6) (either term, 3-0-0). World history from the beginning of written records down to the sixth century AD. The course covers 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, China and Japan.</td>
</tr>
<tr>
<td>CLASS 255</td>
<td>Introduction to Roman Art and Archaeology</td>
<td>3 (fi 6) (either term, 3-0-0). Survey of the art, artifacts, and monuments of the Ancient Roman World. Formerly CLASS 252.</td>
</tr>
<tr>
<td>CLASS 261</td>
<td>Women in the Ancient World</td>
<td>3 (fi 6) (either term, 3-0-0). An introduction to the role of women in the Ancient World as approached through the study of literature, law, religion, and art.</td>
</tr>
<tr>
<td>CLASS 280</td>
<td>Introduction to Ancient Greek History</td>
<td>3 (fi 6) (either term, 3-0-0). Not open to students with credit in any two of CLASS 371, 372, and 373.</td>
</tr>
<tr>
<td>CLASS 399</td>
<td>Topics in the Ancient World</td>
<td>3 (fi 6) (either term, 3-0-0).</td>
</tr>
<tr>
<td>CLASS 473</td>
<td>Topics in Classical Archaeology</td>
<td>3 (fi 6) (either term, 0-3s-0). Prerequisite: Any one of CLASS 354, 355, 356, 358 or consent of Department.</td>
</tr>
<tr>
<td>CLASS 475</td>
<td>Techniques of Classical Field Archaeology</td>
<td>3-0 (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.</td>
</tr>
<tr>
<td>CLASS 476</td>
<td>Advanced Field Techniques in Classical Archaeology</td>
<td>3-0 (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.</td>
</tr>
<tr>
<td>CLASS 499</td>
<td>Individual Study of Historical and Archaeological Problems</td>
<td>3 (fi 6) (either term, 0-3s-0). Prerequisite: consent of Department.</td>
</tr>
<tr>
<td>CLASS 500</td>
<td>Fourth-Year Honors Tutorial</td>
<td>3 (fi 6) (either term, 0-3s-0). Prerequisite: consent of Department.</td>
</tr>
</tbody>
</table>

## Graduate Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLASS 579</td>
<td>Topics in Roman Archaeology and Social History</td>
<td>3 (fi 6) (either term, 0-3s-0).</td>
</tr>
<tr>
<td>CLASS 599</td>
<td>Individual Study</td>
<td>3 (fi 6) (either term, 0-3s-0). Prerequisite: consent of Department. Repeatable.</td>
</tr>
<tr>
<td>CLASS 601</td>
<td>Studies in Classical Archaeology I</td>
<td>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.</td>
</tr>
<tr>
<td>CLASS 602</td>
<td>Studies in Classical Archaeology II</td>
<td>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.</td>
</tr>
<tr>
<td>CLASS 900</td>
<td>Directed Research Project</td>
<td>3-9 (variable) (either term, unassigned).</td>
</tr>
</tbody>
</table>

### Communications and Technology, COMM

#### Undergraduate Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMM 501</td>
<td>Applied Research in Communications and Technology</td>
<td>3 (fi 6) (Spring/Summer, 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. Offered during the Spring Institute. Students may not receive credit for both EXT 501 and COMM 501.</td>
</tr>
<tr>
<td>COMM 502</td>
<td>Human Communication</td>
<td>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.</td>
</tr>
<tr>
<td>COMM 503</td>
<td>Group Transactions</td>
<td>3 (fi 6) (Spring/Summer, 3-0-0). Examination of communication and interaction in small groups, with particular focus on workplace teams. Topics include the dynamics of group formation, phases of group development, emergent group structures, the nature and impacts of conflict, and leadership in groups. 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.</td>
</tr>
<tr>
<td>COMM 506</td>
<td>Using and Managing Communications Networks</td>
<td>3 (fi 6) (Spring/Summer, 3-0-0). Examines the concept of a network as both an organizational form and an organizational resource. Explores the decision-making processes that are created by the establishment of organizational networks. Restricted to MACT students, normally in the second year. Offered during the Spring Institute. Students may not receive credit for both EXT 506 and COMM 506.</td>
</tr>
<tr>
<td>COMM 508</td>
<td>Culminating Project</td>
<td>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.</td>
</tr>
<tr>
<td>COMM 550</td>
<td>Introduction to Electronic Commerce</td>
<td>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.</td>
</tr>
<tr>
<td>COMM 551</td>
<td>Understanding Computing Projects: Application, Design, Project Management Issues for Communication</td>
<td>3 (fi 6) (either term, unassigned). An introduction to the fundamental concepts of computing projects and project design assumptions. Intended to assist communications professionals in making decisions in managing computing software, database and Internet-related projects. Offered by asynchronous Internet communication. Students may not receive credit for both EXT 551 and COMM 551.</td>
</tr>
<tr>
<td>COMM 590</td>
<td>Conference Course in Communications and Technology</td>
<td>3 (fi 6) (either term, unassigned). Offered by asynchronous Internet communication, in the classroom, or as a tutorial.</td>
</tr>
<tr>
<td>COMM 597</td>
<td>Topics in Communications and Technology</td>
<td>3 (fi 6) (either term, unassigned). An elective course on selected topics in communications and technology. Offered by asynchronous Internet communication.</td>
</tr>
<tr>
<td>COMM 598</td>
<td>Directed Study in Communications and Technology</td>
<td>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.</td>
</tr>
<tr>
<td>COMM 900</td>
<td>Directed Research Project</td>
<td>3-6 (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.</td>
</tr>
</tbody>
</table>

### Community Service-Learning, CSL

#### Faculty of Arts

#### Undergraduate Courses

<table>
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<tr>
<th>Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSL 350</td>
<td>Selected Topics in Community Service-Learning</td>
<td>1-6 (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 additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.</td>
</tr>
<tr>
<td>CSL 360</td>
<td>Community Service-Learning Practicum</td>
<td>1-6 (variable, unassigned). Course content varies from year to year but will include a significant service component. Topics and credit value announced</td>
</tr>
</tbody>
</table>
prior to registration period. Prerequisite: consent of instructor. Corequisite: CSL 350 or other approved course. This course may require payment of an additional miscellaneous fee. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

CSL 480 Individual Study in Community Service-Learning

The most current Course Listing is available on Bear Tracks. https://www.beartracks.ualberta.ca

Service - Learning Director, consent of instructor, and completion of a 3 credit no specific course is currently offered. Prerequisites: Consent of Community tale in particular.

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courses. Prerequisite: CMPUT 174 or SCI 100.

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, 468, 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.

Undergraduate Courses

C LIT 228 Literature, Popular Culture, and the Visual Arts

Prerequisite: Consent of Community Service - Leaming Director, consent of instructor, and completion of a 3 credit course with a CSL component.

Undergraduate Courses

C LIT 243 Fairy Tales and Folk Tales

Undergraduate Courses

DANCE 340 Modern Dance

Undergraduate Courses

DANCE 446 Modern Dance Composition

Undergraduate Courses

DAC 156 Social Dance

DAC 160 Jazz Dance

DAC 197 Selected Topics in Dance
Dental Hygiene, D HYG
Department of Dentistry
Faculty of Medicine and Dentistry

Undergraduate Courses

D HYG 468 Research Methods
3 (fi 6) (either term, 39 hours). This distance course will provide an introduction to the process of research through critical appraisals of selected quantitative and qualitative studies, and design of a small research project. The emphasis is on understanding the research process, focusing on the planning and implementation of research, and on the application of statistics. Prerequisites: SOC 210 (or comparable introductory statistics course) and D HYG 317 (or comparable course or permission of the instructor).

Dentistry, DENT
Department of Dentistry
Faculty of Medicine and Dentistry

Graduate Courses

DENT 532 Growth and Development
2 (fi 4) (second term, 2-0-0). A detailed review of the postnatal growth and development of human craniofacial structures. Longitudinal and cross sectional growth data are presented. (Course offered in alternate years).

DENT 566 Systematic Reviews in Dentistry
2 (fi 4) (second 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 900 TMD Orofacial Pain Directed Research Project
6 (fi 12) (variable, unassigned). Capping exercise for the program in the form of a project developed and approved by the supervisor, such as a publishable paper and prepared for departmental presentation.

Dentistry, DDS
Department of Dentistry
Faculty of Medicine and Dentistry

Undergraduate Courses

DDS 800 Special Registration
0 (fi 6) (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 Pre-Clinical Assessment for Students Applying to the Advanced Placement Program
12 (fi 36) (Spring/Summer, 3-0-0). Students begin studying all phases of clinical dentistry including diagnosis and treatment planning, anaesthesia, periodontics, endodontics, operative dentistry, fixed and removable prosthetics 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. Restricted to candidates registered as Special Students in the DDS Advanced Placement Program.

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 136, and consent of Department. Formerly DES 339.

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 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 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). Prerequisite: consent of Department.

DRAMA 482 Running Crew Projects
3 (fi 6) (either term, 0-6-0). 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). Prerequisite: consent of Department.

Earth and Atmospheric Sciences, EAS
Department of Earth and Atmospheric Sciences
Faculty of Science

Undergraduate Courses

EAS 201 Earth Science I
3 (fi 6) (either term, 3-0-0). A non-laboratory introduction to the origin and evolution of the Earth and the solar system. Introduction to plate tectonics and the rock cycle. Simple energy balances and interactions between radiation and the atmosphere, land, oceans, ice masses, and the global hydrological cycle. Evolution of life, biogeography, and global climate in the context of geologic time. The carbon cycle. Human interactions with the Earth. Mineral and energy resources. Not available to students with credit in EAS 100, 101, 102, 210 or SCI 100. (Note: EAS 201 and EAS 200 are considered to be equivalent to EAS 100 for prerequisite purposes). (Faculty of Science)

EAS 205 Environment Earth
3 (fi 6) (either term, 3-0-0). General introduction to interactions between people and their natural environment, with an emphasis on geological processes. Topics include: soil resources and degradation; earthquakes and volcanoes; streams and flooding; landslides, mass movement and subsidence, shoreline development and coastal processes; surface water and groundwater resources; air and water
undergraduate and graduate courses. The most current Course Listing is available on Bear Tracks. [Faculty of Science]

ECON 101 Introduction to Microeconomics
☆☆☆ (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.

ECON 102 Introduction to Macroeconomics
☆☆☆ (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
☆☆ (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.

ECON 281 Intermediate Microeconomic Theory I
☆☆☆ (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.

ECON 282 Intermediate Macroeconomic Theory I
☆☆☆ (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.

ECON 299 Quantitative Methods in Economics
☆☆☆ (either term, 3-0-1). Introduction to the use of statistical and mathematical methods in economics with computer applications. Prerequisites: ECON 101 and 102, STAT 141 or 151 and MATH 113 or SCI 100. Note: Designed for students taking Economics as a major subject of concentration. Department permission must be obtained by other students wishing to take this course. ECON 299 or equivalent must be taken before ECON 399.

Graduate Courses

ECON 900 Directed Research Project
☆☆ (fi 6) (variable, unassigned).

ECON 999 Directed Research Project
☆☆ (either term, 3-0-0). Prerequisites: ECON 503, 581, 598, and 599.

Education, EDU

Faculty of Education

Undergraduate Courses

EDU 250 The Profession of Teaching
☆☆ (either term, 3-0-0). Explores the complex roles of teachers as professionals in contemporary schools. Students will become familiar with the scope and expectations of the role of the teacher and the framework within which teachers work. Credit cannot be obtained if credit has already been obtained in EDFX 200 or EDFXP 151.

Graduate Courses

EDU 511 Introduction to School Improvement
☆☆ (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 in 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
☆☆ (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
☆☆ (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 play a leadership role in the improvement of 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 514 Planning for Educational Change
☆☆ (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
☆☆ (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 the 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 5990 Directed Research Project
☆☆ (either term, 3-0-0). 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.

The most current Course Listing is available on Bear Tracks. https://www.beartracks.ualberta.ca
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 Instruction in Elementary School Art
☆3 (fi 6) (either term, 3-0-0). Formerly ED EL 201. 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: Introductory Professional Term.

EDEL 305 Language Arts in the Elementary School
☆3 (fi 6) (either term, 3-0-0). 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. Corequisite: Courses in the Introductory Professional Term for the Elementary Education Route. Successful completion of the on-campus portion of the IPT is expected prior to being granted permission to continue into EDFX 325.

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 316 Communication Through Mathematics Education
☆3 (fi 6) (either term, 3-0-0). This course provides an introduction to the teaching and learning of mathematics in the elementary classroom. The focus will be on using curriculum, strategies, planning and resources to meet student needs. Prerequisite: Introductory Professional Term.

EDEL 321 Introduction to Curriculum and Instruction 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 instruction and making curricula links. Corequisite: Courses in the Introductory Professional Term for the Elementary Education Route (for sections of EDEL 321 offered in the IPT). Successful completion is expected prior to being granted permission to continue into the second week of EDFX 325. Note: This course is offered in the Introductory Professional Term and in ED CORE II. Students in the Physical Education Minor should enroll in EDEL 321 during the IPT.

EDEL 325 Curriculum and Instruction 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: Introductory Professional Term.

EDEL 330 Curriculum and Instruction 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. Corequisite: Courses in the Introductory Professional Term for the Elementary Education Route (for sections of EDEL 330 offered in the IPT). Successful completion is expected prior to being granted permission to continue into the second week of EDFX 325. Note: This course is offered in the Introductory Professional Term and in ED CORE II. Students in the Math/Science Minor should enroll in EDEL 330 during the IPT.

EDEL 335 Curriculum and Instruction 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: Introductory Professional Term.

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 406 Diagnostic Teaching of Reading and Writing
☆3 (fi 6) (either term, 3-0-0). This course focuses on assessment techniques for reading and writing, provides information on administering these techniques to elementary school children and develops an understanding of how to interpret the information collected. Planning and implementing reading and writing instruction and selecting materials from a diagnostic perspective are also included in the course. Prerequisite: An introductory curriculum and instruction course in language learning; or consent of Department.

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 420 Curriculum and Instruction in Elementary School Physical Education
☆3 (fi 6) (either term, 3-0-0). Prerequisites: An introductory curriculum and instruction course in elementary school physical education; or consent of Department.

EDEL 425 Curriculum and Instruction in Elementary School Social Studies
☆3 (fi 6) (either term, 3-0-0). An investigation of the underlying principles and practical applications of curriculum and instruction in social studies. Prerequisite: An introductory curriculum and instruction course in elementary Social Studies; or EDEL 335; or consent of Department.

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.

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.

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 480 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.

EDEL 496 Group Projects in Elementary Education II
☆3 (fi 6) (either term, 0-3s-0). Prerequisite: consent of Department.
Graduate Courses

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.

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.

EDEL 595 Special Seminar in Elementary Education: Selected Topics
★3 (fi 6) (either term, 0-3s-0).

EDEL 597 Special Seminar in Elementary Education
★1-12 (variable, variable).

EDEL 900 Directed Research Project
★3 (fi 6) (variable, unassigned).

Education - Elementary and Secondary, EDES

Undergraduate Courses

EDES 348 Reading in the Junior and Senior High School
★3 (fi 6) (either term, 3-0-0).

EDES 401 Conference Seminar
★3 (fi 6) (either term, 0-3s-0).

Graduate Courses

EDES 501 Conference Seminar
★3 (fi 6) (either term, 0-3s-0).

EDES 545 Information Technologies for Learning
★3 (fi 6) (either term, 3-0-0). Focus on the integration of information technologies, including the Internet, into the K-12 curriculum to enhance student learning outcomes and to develop information literacy and critical thinking skills. Consideration of the management of information technologies in schools and the provision of staff development programs in technology-related areas.

EDES 546 School Library Information Materials
★3 (fi 6) (either term, 3-0-0). Focuses on the principles and practices of organizing print and non-print resources generally acquired in school libraries. The primary goal is to familiarize students with current operations and techniques associated with the organization for access, physical processing and maintenance of collections of learning resources. Focuses on the professional tasks of cataloging and classifying information.

Education - Enseignement, EDU E

Faculté Saint-Jean

Cours de 1er cycle

EDU E 433 La communication et la gestion en salle de classe
★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Etude approfondie des modèles théoriques et pratiques de gestion en salle de classe. L'application des habiletés de communication nécessaires pour une gestion efficace sera aussi abordée. Préalable: EDU E 331. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour EDUC 300.

Education - Instructional Technology, EDIT

Department of Educational Psychology

Undergraduate Courses

EDIT 202 Technology Tools for Teaching and Learning
★3 (fi 6) (either term, 3-0-3). Provides undergraduate Education students with the basic skills for using the most common information technology tools currently applied in schools. The types of tools include internet tools, digital media processing, multimedia/hypermedia presentations, spreadsheets, and databases. The course offers a number of advanced modules dealing with more complex topics in these areas plus additional tools such as those for editing digital video and sound. Students may not receive credit for both EDIT 202 and any of EDPY 202, EDPY 302, EDPY 468 or EDIT 485. Students are encouraged to register in this course as early in their program as possible. May contain alternative delivery sections; see ‘Details of Courses’ section. Prerequisite: Basic computer skills within a Macintosh or MS Windows environment including word processing, e-mail, and use of a Web browser. May include alternate delivery sections, refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

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.

Education - Policy Studies, EDPS

Department of Educational Policy Studies

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 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. Prerequisite: Completion of the Introductory Professional Term. Successful completion is required prior to being granted permission to commence EDFX 425 or EDFX 426. 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, Metis, 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 506 Individual Directed Study
★3 (fi 6) (either term, 3-0-0). Prerequisite: consent of Department.

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 506 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 606 Supervised Individual Study I
★3 (fi 6) (either term, 3-0-0).
Education - Psychology, EDPY
Faculty of Education

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

Undergraduate Courses

EDPY 200 Educational Psychology for Teaching
3 (fi 6) (either term, 3-0-0). This course deals with the teaching learning process and student behavior. It includes theory, research, and illustrations, all dealing with the classroom application of psychological principles. Topics typically covered are student development, student learning and instruction, individual and group differences in student abilities, and student motivation. The course presents the basic principles of effective teaching and learning using a balanced theoretical orientation. Students may not receive credit for both EDPY 200 and EDPSY 371. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

EDPY 301 Inclusive Education: Adapting Instruction for Students with Special Needs
3 (fi 6) (either term, 3-0-0). This course provides an introduction to teaching students with special needs within the inclusive education context. Course content focuses on knowledge of special needs and exceptionalities (learner characteristics), familiarity with individualized Program Plans (PPPs), program modifications and adaptations, classroom management, and assessment. A major focus in the course is on Differentiated Instruction which facilitates the development of an awareness of how diverse contexts affect students and teachers.

EDPY 303 Educational Assessment
3 (fi 6) (either term, 3-0-0). This course will introduce students to the complexity of classroom assessment as a means of supporting and measuring student learning. The intent of this course is to develop an understanding of important concepts and issues in the evaluation of a learner’s knowledge and skills, and to develop competence in constructing instruments and processes to evaluate learner performance. Prerequisite: Courses in the Introductory Professional Term for either the Elementary Education Route or Secondary Education Route. Successful completion of the on-campus portion of the IPT is expected prior to being granted permission to continue into EDFX 325 or EDFX 350.

EDPY 402 Child Development for Educators
3 (fi 6) (either term, 3-0-0). The course will include theoretical and practical aspects of physical, cognitive, psychological, moral, social, and emotional development of children. Prerequisite: EDPY 200 or consent of Department.

EDPY 404 Adolescent Development for Educators
3 (fi 6) (either term, 3-0-0). Prerequisite: EDPY 200. Students may not receive credit for both EDPY 404 and EDPSY 329. 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 200 or consent of Department.

EDPY 452 Assessment and Instruction of Exceptional Learners
3 (fi 6) (either term, 3-0-0). This course focuses on the role of the special educator with regard to assessment of, and instructional programming for, students having special learning needs. Note: Special Education Minor-Elementary Route only. Prerequisite: EDPY 301. Students may not receive credit for both EDPY 452 and EDPY 468. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

EDPY 454 Teaching Students with Challenging Behaviours
3 (fi 6) (either term, 3-0-0). This course focuses on understanding and managing the challenging behaviours of children and adolescents with emotional and behavioural problems in schools. Note: Students may not receive credit for both EDPY 454 and EDPSY 307 or EDPSY 357. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

EDPY 456 Consultation and Collaboration in Special Education
3 (fi 6) (either term, 3-0-0). Provides understanding of collaborative consultation as a process to enable teachers to work together with all stakeholders to generate strategies for educating students with special needs. Prerequisite: EDPY 301.

EDPY 468 Assessment and Instruction for Adolescents with Special Needs
3 (fi 6) (either term, 3-0-0). This course focuses on assessment, curriculum, and teaching for adolescents with special needs and is the required curriculum and teaching course for the Secondary Special Education Minor. Note: Special Education Minors-Secondary Route only. Prerequisite: EDPY 301. Students may not receive credit for both EDPY 468 and EDPY 452. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

EDPY 470 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 501 Introduction to Methods of Educational Research
3 (fi 6) (variable, 3-0-0). Prerequisite: consent of Department.

EDPY 521 Principles of Psychological Assessment I
3 (fi 6) (either term, 3-0-0). This course deals with psychological and psychoeducational assessment and covers the basic principles and skills needed to administer and interpret individual intelligence tests. Restricted to students enrolled in the School 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 507 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 509 Individual Directed Reading and Research
3 (fi 6) (either term, 3-0-0). Prerequisite: consent of Department.

EDPY 609 Individual Directed Reading and Research
3 (fi 6) (either term, 3-0-0). Prerequisite: consent of Department.

EDPY 900 Research/Capping Project
3 (fi 6) (two term, unassigned).

EDPY 903 Directed Research Project
3 (fi 6) (either term, variable).

Education - Secondary, EDSE

Department of Secondary Education
Faculty of Education

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

Undergraduate Courses

EDSE 307 Language, Literacy and Society in Educational Contexts
3 (fi 6) (either term, 3-0-0). Prerequisite: 3 in the Major subject area.Corequisite: Courses in the Introductory Professional Term for the Secondary Education Route. Successful completion of the on-campus portion of the IPT is expected prior to being granted permission to continue into EDFX 350. EDSE 307 is designed to prepare teachers to develop English language and literacy abilities in learners in grades 7 through 12, particularly diverse and minority learners.

EDSE 401 Conference Seminar
1-3 (variable) (either term, variable).

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 405 An Introduction to Curriculum Studies
3 (fi 6) (either term, 3-0-0). Intended as an introduction to the major discourses and themes that define the field of curriculum studies. It is focused in particular on the Albertan and Canadian contexts. EDSE 405 can be taken as an option by fourth year undergraduate students in the Bachelor of Education program.

EDSE 430 Teaching Composition, Language and Culture to Adolescents
3 (fi 6) (either term, 3-0-0).

The most current Course Listing is available on Bear Tracks.  https://www.beartracks.ualberta.ca
Course Listings

EDSE 439 Specialized Methods in Secondary School Mathematics Teaching
Œ3 (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
Œ3 (fi 6) (either term, 3-0-1). This course explores the use of technology in the teaching and learning of secondary school mathematics. Prerequisite: Introductory Professional Term or consent of the Department.

EDSE 485 Curriculum and Teaching in Secondary School Career Education
Œ3 (fi 6) (either term, 3-0-0). 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

Œ EDSE 501 Conference Seminar
Œ3 (fi 6) (either term, variable). Prerequisites: consent of Instructor and Department. May include alternate delivery sections; 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
Œ3 (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 alternative delivery sections; see ‘Details of Courses’ section.

EDSE 504 Curriculum Inquiry
Œ3 (fi 6) (second term, 3-0-0). This course focuses on curriculum perspectives and possibilities. Prerequisite: EDSE 503. May contain alternative delivery sections; see ‘Details of Courses’ section.

EDSE 505 An Introduction to Curriculum Studies
Œ3 (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 510 Research Methods in Secondary Education
Œ3 (fi 6) (first term, 3-0-0). An introductory research methods and methodology course. The intent is to acquaint students with the many and varied methods of educational research, and the means of conducting research and presenting research findings. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

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
Œ3 (fi 6) (either term, unassigned).

Education - Stage, EDU S
Faculté Saint-Jean

Cours de 1er cycle

EDU S 350 Stage de formation sur la diversité

Engineering, General, ENGG
Faculty of Engineering

Undergraduate Courses

Œ ENGG 130 Engineering Mechanics
Œ4 (fi 6) (either term, 3-0-2). Equilibrium of planar systems. Analysis of statically determinate trusses and frames. Friction. Centroids and centres of gravity. Forces and moments in beams. Second moments of area. Note: Students in all sections of this course will write a common final examination. Corequisite: MATH 100.

Engineering Management, ENG M
Department of Mechanical Engineering
Faculty of Engineering

The following table lists renumbered courses effective 1994/95:

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Undergraduate Courses

ENG M 401 Financial Management for Engineers
Œ3 (fi 6) (either term, 3-0-0). The application of the fundamentals of engineering economics, financial analysis and market assessment to engineering alternatives in the planning, development and ongoing management of industrial enterprises. The course covers the use of engineering, economic, financial and market assessment information in investment and business operation decisions in technology oriented companies. Note: Credit cannot be obtained for more than one of ENGG 310, ENGG 401, ENG M 310, or ENG M 401.

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.

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 Œ6 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 Œ3 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 Œ6 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 Œ12 of senior ENGL, Œ6 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.

ENGL 108 Introduction to Language and Literature
Œ3 (fi 6) (first term, 3-0-0). This course combines formal instruction in writing with a study of the essay and the short story. One-half of class time will be devoted to reading instruction. Note: To be taken by students in Arts and Education. This course will be offered by arrangement with client Faculties.

Œ ENGL 121 Literature in Historical Perspective
Œ3 (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 Œ6 in approved junior English.

Œ ENGL 122 Texts and Contexts
Œ3 (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 Œ6 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.

Œ ENGL 123 Literature in Global Perspective
Œ3 (fi 6) (either term, 3-0-0). Studies in the literatures of the English-speaking world. Not to be taken by students with Œ6 in approved junior English.

Œ ENGL 124 Literary Analysis
Œ3 (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 Œ6 in approved junior English.

ENGL 199 Essentials of Writing for Engineering Students
Œ3 (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.

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

**ENGL 220 Reading Politics: Gender and Sexuality**

★3 (fi 6) (either term, 3-0-0). An introduction to dynamics of gender and sexuality 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 388 Children's Literature and Culture: Oral Traditions**

★3 (fi 6) (either term, 3-0-0). Studies in texts from oral traditions, their modern derivatives, and historical, critical and theoretical approaches to oral 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 591 Canadian Texts**

★3 (fi 6) (either term, 3-0-0).

**ENGL 900 Directed Research Project**

★3 (fi 6) (either term, unassigned).

**English as a Second Language, ESL**

Faculty of Extension

**Undergraduate Courses**

**ESL 135 Introduction to Academic English**

★0 (fi 18) (either term, 132 hours). ESL 135 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 ESL 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.

**ESL 140 English for Academic Purposes Part I**

★3 (fi 18) (either term, 132 hours). This course in English for Academic Purposes (EAP) provides advanced ESL students with the opportunity to improve their academic listening, speaking, reading and writing skills. Upon completion of ESL 140, students are able to analyze academic materials critically and to express themselves fluently, accurately and logically, both orally and in writing. Classes run Monday through Thursday. Prerequisites: 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. Offered six times a year.

**ESL 145 English for Academic Purposes Part II**

★3 (fi 18) (either term, 132 hours). This EAP course is a continuation of ESL 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. ESL 140 and 145 together prepare students for study at the undergraduate university level. Classes run Monday through Thursday. Prerequisite: ESL 140. Offered six times a year.

**ESL 150 English for University Studies**

★3 (fi 18) (either term, 132 hours). Designed to further develop English language skills for students whose first language is not English, ESL 150 will focus on advanced strategies for engaging in reading, writing, listening and speaking activities in university settings. Particular emphasis will be placed on collecting, synthesizing, analyzing, and critiquing materials from a variety of sources, as well as presenting ideas in different academic formats. Classes are scheduled for the entire term. Prerequisite: upon recommendation by the Fresh Start Advisor.

**ESL 550 Preparing for Graduate Studies**

★6 (fi 15) (either term, 360 hours). This course enables students whose first language is other than English to develop the academic and social communication skills necessary to function effectively and independently at the graduate level at the University of Alberta. In addition to an English-language component, the course contains a cultural component which deals with such aspects as cultural awareness and values, differences in approaches to teaching and learning, orientation to campus and campus life, etiquette, behavior, and acculturation difficulties. This course is open to students who have received recommendations for preliminary admission to the Faculty of Graduate Studies and Research (FGSR). Prerequisite: consent of FGSR. Scheduled up to four times a year.

**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 tatut 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 ETCAN322 et CA FR 322.

**Exchange Program, EXCH**

Education Abroad Program

**Undergraduate Courses**

**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 10) (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 10) (either term, unassigned).

**EXCH 805 Exchange Program**

★0 (fi 24) (either term, unassigned).
**Course Listings**

**Undergraduate Courses**

**Finance, FIN**

**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 MGTSC 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 414 Operation of Financial Institutions**
3 (fi 6) (either term, 3-0-0). This course covers the organization and operation of primary and secondary securities markets, and financial intermediaries. Topics include stock and bond market operation, management issues in other financial institutions. Prerequisite: FIN 301. Students may not receive credit for both FIN 414 and ECON 341.

**FIN 405 Individual Research Project I**
3 (fi 6) (either term, 3-0-0). Special study for advanced undergraduates. Prerequisite: 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 FIN 503.

**FIN 686 Selected Topics in Finance**
3 (fi 6) (either term, 3-0-0). Topics dealt with in this seminar may vary from year to year, and will be chosen at the discretion of the instructor. Prerequisite: FIN 501.

**French Language and Literature, FREN**

**FREN 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.

**FREN 112 Beginners’ French II**
3 (fi 6) (either term, 5-0-0). Designed for 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.

**FREN 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.

**FREN 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.

**FREN 297 Advanced French I**
3 (fi 6) (either term, 3-0-2). Designed to improve the student’s command of French through intensive oral practice and advanced written exercises. Prerequisite: FREN 212 or consent of Department. Note: not to be taken by students with credit in FREN 251, 252 or FREN 165, 166, 210, 211.

**FREN 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 FREN 165, 166, 210, 211.

**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.
Course Listings

Undergraduate Courses

GERM 111 Beginners’ German I
3 (fi 6) (either term, 5-0-0). Designed to lead to mastery of spoken and written German. Note: not to be taken by students with credit in GER 100, or with native or near native proficiency, or with German 30 or its equivalents in Canada and other countries.

GERM 112 Beginners’ German II
3 (fi 6) (either term, 5-0-0). Prerequisite: GER 111 or consent of Department. Note: not to be taken by students with credit in GER 100, or with native or near native proficiency, or with German 30 or its equivalents in Canada and other countries.

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 issues. Emphasis 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.

HE ED 221 Behavioural Medicine
3 (fi 6) (either term, 3-0-0). Focuses on the role of physical activity in the secondary and tertiary prevention of disease, as well as in recovery and rehabilitation following disease treatments, and in the on-going management of chronic disease and illness. Specific psychological and health outcomes of physical activity that are associated with particular disease states and along various illness/wellness trajectories will be examined. Prerequisites: HE ED 110, PEDS 101 and 103 (formerly PEDS 102).

HE ED 311 Assessment of Fitness and Health
3 (fi 6) (either term, 3-0-2). Students will gain knowledge in fitness and lifestyle appraisal. Emphasis will be given to validity and reliability of fitness tests and factors involved in the assessment of health and lifestyle. Prerequisites: PEDS 200 and 309.

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. Prerequisite: HE ED 110.

Health Promotion Studies, HPS
Centre for Health Promotion Studies
School of Public Health

Graduate Courses

HPS 506 Special Seminars
3-9 (variable) (either term, variable). Prerequisite: consent of Department. 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 alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

HPS 509 Independent Studies/Research
3 (fi 6) (either term, 0-3s-0). Prerequisite: Departmental approval of plan of study. May 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.

HPS 603 Qualitative and Community-Based Approaches in Health Research
3 (fi 6) (either term, 0-3s-0). Theoretical understanding of qualitative and community-based research designs, including phenomenology, grounded theory, ethnography, biography and case study. Methods of data collection such as interviews, focus groups and participant observation. Strategies for data analysis and dissemination. Pre or corequisite: HPS 503 or consent of instructor. Note: Credit may not be obtained for both HECOL 693 and HPS 603. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

HPS 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 etiological factors will be examined within a framework of cultural diversity. Pre or corequisite: HPS 501 or consent of instructor. Note: Credit may not be obtained for both HECOL 618 and HPS 618. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

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.

Undergraduate Courses

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.

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.

HIST 210 Europe in the 19th and 20th Centuries
3 (fi 6) (either term, 3-0-0).

HIST 228 The Early History of the British Peoples
3 (fi 6) (either term, 3-0-0). Survey of the development of and relations among the societies and cultures of the British Isles from early times to 1688.

HIST 249 History of the Middle East
3 (fi 6) (either term, 3-0-0). Survey of the Middle East, since the emergence of Islam.

HIST 251 American History Since 1865
3 (fi 6) (either term, 3-0-0). Survey of United States history from the Civil War to the present.

HIST 260 Pre-Confederation Canada
3 (fi 6) (either term, 3-0-0).

HIST 261 Post-Confederation Canada
3 (fi 6) (either term, 3-0-0).

HIST 287 The Chinese in Canada and Canadians in China
3 (fi 6) (either term, 3-0-0). The history of the Chinese in Canada since the 1850s, and Canada’s cultural and social relations with China, Hong Kong and Taiwan, through historical and literary sources, media and film.

HIST 295 20th-Century Warfare
3 (fi 6) (either term, 3-0-0). In-depth look at some of the conflicts of the 20th century, the course examines wars and revolutions including the two world wars, the Korean and Vietnam wars, African guerrilla wars, and the Gulf War. Analyze the causes and consequences of war and the evolution of weaponry. To be offered in alternate years.

HIST 300 Topics in European History
3 (fi 6) (either term, 3-0-0).
HIST 312 Foundations of East European History

- **(3-0-0)**. The ethnic, religious, social, and political factors which shaped the development of the peoples of Eastern Europe from the Middle Ages through the Age of Enlightenment. Intended as background to the later histories of the Balkans, 'Central Europe', and Ukraine.

HIST 322 Russia in the 20th Century

- **(3-0-0)**. An historical survey of domestic and foreign policy, from Nicholas II to Yeltsin. Not open to students who have successfully completed HIST 320.

HIST 384 History of Chinese Philosophy

- **(3-0-0)**. Historical development of the major philosophical traditions in pre-modern China.

HIST 421 Topics in the History of Europe

- **(3-0-0)**. Historical development of the major research perspectives of parent-child relationships and the practical application of those perspectives. Prerequisite: (PSYCO 104 and 105) or EDPY 200; PSYCO 101; it is recommended that students have completed both ECON 101 and 102.

HIST 498 Directed Study

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

HECOL 210 Intimate Relationships

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

HECOL 211 Human Sexuality

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

HECOL 310 Parent-Child Relationships

- **(3-0-0)**. An exploration of parent-child relationships, with a concentration from infancy through adolescence. An examination of theoretical and research perspectives of parent-child relationships and the practical application of those perspectives. Prerequisite: (PSYCO 104 and 105) or EDPY 200; PSYCO 104 and 105 are preferred.

HECOL 321 Introduction to Family Finance

- **(3-0-0)**. An introduction to the principles of money management applied to family income and expenditure. Students learn the basic skills and tools required to identify financial goals, assess current resources, develop and implement a financial plan and evaluate financial progress. Prerequisites: ECON 101; it is recommended that students have completed both ECON 101 and 102.

HECOL 409 Practicum in Human Ecology

- **(0-3S-0)**. 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.

HECOL 454 Apparel Design and Product Development II

- **(3-0-0)**. Advanced problems in apparel design and product development. Tailoring methods and specialty fabric techniques are explored. Prerequisite: HECOL 354. Normally offered in Spring/Summer.

HECOL 490 Independent Investigation in Human Ecology

- **(3-0-0)**. Independent project or study of a topic in human ecology planned by the student with an instructor. Open to human ecology students only. Prerequisite: successful completion of **75. Application to Department, and consent of Instructor.

HECOL 493 Selected Topics in Textiles and Clothing

- **(3-0-0)**. 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

- **(3-0-0)**. 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

- **(3-0-0)**. Selected practicum placements to integrate theory and practice in a variety of agencies. Prerequisites: consent of Supervisor and Department.

HECOL 900 Directed Research Project

- **(3-0-0)**. 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 Geography and Planning, HGP

Department of Earth and Atmospheric Sciences

Faculty of Arts

Undergraduate Courses

HUCO 618 Directed Reading in Humanities Computing

- **(3-0-0)**. An introduction to geographical techniques and the spatial organization of human landscapes and significance of the distribution of human activity. Not open to students with credit in EAS 192.

Humanities Computing, HUCO

Office of Interdisciplinary Studies

Faculty of Arts

Graduate Courses

INT D 225 Topics in Interdisciplinary Studies

- **(3-0-0)**. Offered by various departments depending upon the content of the course in a given year. [Faculty of Arts]

INT D 311 Language Policy and Planning for Indigenous Language Communities

- **(3-0-0)**. Language use and attitudes about language within the socio-cultural context of Canadian Indigenous communities. Addresses issues surrounding the health and survivability of Indigenous languages in different types of family, community, and school contexts. Special attention given to Indigenous language advocacy at the family, band, national, and international levels. Training in effective grant-writing techniques included. Restricted to CILLDI program students. (Offered jointly by the following faculties: Arts; Education; and Native Studies.) Prerequisite: LING 101 or LING 111. [Linguistics]
INT D 318 Technologies for Endangered Language Documentation
★3 (fi 6) (Spring/Summer, 3-0-0). Provides Canadian Indigenous language speakers with the technical skills needed to digitally archive their languages in a database or on the web with text, sound, images, and video. These digital resources can be incorporated into interactive multimedia resources for access by community-based learners and second-language teachers. Restricted to CILLDI program students. (Offered jointly by the following faculties: Education and Native Studies.) Prerequisite: LING 101 or LING 111. Note: Not to be taken by students who have credit in LING 399 (Techniques for Endangered Language Documentation) or NS 380 (Technologies for Endangered Language Documentation). [Linguistics]

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. [Faculty of Arts]

Graduate Courses

Faculty of Agricultural, Life and Environmental Sciences Courses

INT D 500 An Introduction to Community-Based Research and Evaluation
★3 (fi 6) (either term, 0-3s-0). An introduction to conceptual and methodological foundations of community-based research and evaluation in the health and social sciences, particularly pertaining to the development of children, youth, and/or families. Seminar format. Prerequisite: Consent of instructor.

Faculty of Augustana Courses

INT D 500 An Introduction to Community-Based Research and Evaluation
★3 (fi 6) (either term, 0-3s-0). An introduction to conceptual and methodological foundations of community-based research and evaluation in the health and social sciences, particularly pertaining to the development of children, youth, and/or families. Seminar format. Prerequisite: Consent of instructor.

Faculty of Extension Courses

INT D 500 An Introduction to Community-Based Research and Evaluation
★3 (fi 6) (either term, 0-3s-0). An introduction to conceptual and methodological foundations of community-based research and evaluation in the health and social sciences, particularly pertaining to the development of children, youth, and/or families. Seminar format. Prerequisite: Consent of instructor.

Faculty of Medicine and Dentistry Courses

INT D 500 An Introduction to Community-Based Research and Evaluation
★3 (fi 6) (either term, 0-3s-0). An introduction to conceptual and methodological foundations of community-based research and evaluation in the health and social sciences, particularly pertaining to the development of children, youth, and/or families. Seminar format. Prerequisite: Consent of instructor.

Faculty of Pharmacy and Pharmaceutical Sciences 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 500 An Introduction to Community-Based Research and Evaluation
★3 (fi 6) (either term, 0-3s-0). An introduction to conceptual and methodological foundations of community-based research and evaluation in the health and social sciences, particularly pertaining to the development of children, youth, and/or families. Seminar format. Prerequisite: Consent of instructor.

Faculty of Physical Education and Recreation Courses

INT D 500 An Introduction to Community-Based Research and Evaluation
★3 (fi 6) (either term, 0-3s-0). An introduction to conceptual and methodological foundations of community-based research and evaluation in the health and social sciences, particularly pertaining to the development of children, youth, and/or families. Seminar format. Prerequisite: Consent of instructor.

Faculty of Rehabilitation Medicine Courses

INT D 500 An Introduction to Community-Based Research and Evaluation
★3 (fi 6) (either term, 0-3s-0). An introduction to conceptual and methodological foundations of community-based research and evaluation in the health and social sciences, particularly pertaining to the development of children, youth, and/or families. Seminar format. Prerequisite: Consent of instructor.

School of Public Health Courses

INT D 500 An Introduction to Community-Based Research and Evaluation
★3 (fi 6) (either term, 0-3s-0). An introduction to conceptual and methodological foundations of community-based research and evaluation in the health and social sciences, particularly pertaining to the development of children, youth, and/or families. Seminar format. Prerequisite: Consent of instructor.

Japanese, JAPAN

Department of East Asian Studies
Faculty of Arts

Undergraduate Courses

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.

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.

JAPAN 101 Basic Japanese I
★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.

JAPAN 201 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
Faculty of Arts
Department of East Asian Studies

Undergraduate Courses

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.

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.

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 and 518.

Graduate Courses

LIS 586 History of the Book
3 (either term, 3-0-0). The historical, aesthetic, and economic bases of the ‘book’ and its role in the recording and preservation of information and ideas.

LIS 590 Practicum
3 (either term, 100 hours). The application of LIS theories and principles through experiential learning in a library, archives, records management and other services settings.

LIS 598 Special Topics
1-3 (variable) (either term, variable). A current topic of significance to, or a special aspect of, library and information studies may be examined as demand and resources permit.

LIS 599 Directed Study
3 (either term, 0-3s-0). Further study of special topics and issues, based on knowledge acquired in previous courses or on significant prior experience. Topic to be approved by the School.

LIS 600 Capping Exercise
0 (fi 1) (either term, 12 hours). The required capping exercise for MLIS non-thesis students will be an e-portfolio representing examples of the student's course work, leadership and innovation potential, communication skills, and involvement in professional life. The capping exercise will be completed during the final term of course work but students will be expected to update it during their final three terms of full-time courses or equivalent. It will represent a distillation of important learning outcomes of the MLIS program.

LIS 699 Directed Study
3 (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 (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 (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 111 Intro to Linguistic Analysis for Language Revitalization
3 (either term or Spring/Summer, 3-0-0). Central concepts of linguistics: linguistic categories and structure (phonetics, phonology, morphology, syntax, semantics) with special attention to Canadian Indigenous languages. Restricted to CILLDI program students. Note: Not to be taken by students with credit in LING 101.

LING 204 English Syntax
3 (either term, 3-0-0). Linguistic analysis of the syntax of modern English. Prerequisite: LING 101.

LING 205 Phonetics
3 (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. Prerequisite: LING 101.

LING 211 Phonetics of Indigenous Languages
3 (either term or Spring/Summer, 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 Canadian Indigenous languages. Prerequisite: LING 101 or 111. Restricted to CILLDI program students. Note: Not to be taken by students with credit in LING 205.

LING 212 Morphosyntax of Indigenous Languages
★3 (Fall/Spring, 3-0-0). Morphological structure and meaning in Canadian Indigenous languages, including how best to represent lexical meaning and form in a dictionary, how new words might be coined, and how these languages with their complex morphology and verb systems might be taught to adult learners. Prerequisite: LING 101 or LING 111. Restricted to CILLDI program students. Note: Not to be taken by students with credit in LING 308 or 309.

LING 213 Sentence and Discourse Patterns of Indigenous Languages
★3 (Fall/Spring, 3-0-0). Types of sentence and discourse patterns in Canadian Indigenous languages; attention to real language use across different genres (e.g., traditional stories, conversation, personal narratives, oratory and ceremony) so that CLC students can go on to collect and transcribe samples of language in context rather than word lists or sentences in isolation. Prerequisite: LING 101 or LING 111. Restricted to CILLDI program students. Note: Not to be taken by students with credit in LING 308 or 309.

LING 311 Special Topics in Linguistics
★3 (either term or Spring/Spring, 3-0-0). A study of recent developments in particular subareas of linguistics with special attention to the Indigenous languages of Western Canada. Prerequisite: LING 111 or consent of Department. Restricted to CILLDI program students.

LING 320 Second Language Acquisition
★3 (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 (Fall/Spring, 3-0-0). 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.

LING 399 Special Topics in Linguistics
★3 (Fall/Spring, 3-0-0). A study of recent developments in particular subareas of linguistics. Prerequisite: consent of Department. Normally offered only as a reading course through special arrangement.

LING 599 Special Topics in Linguistic Research
★3 (either term, 3-0-0). A study of recent developments in particular areas of linguistic research. Prerequisite: consent of Department. Formerly LING 443.

Maintaining Registration, M REG
University of Alberta

Graduate Courses

M REG 800 Maintaining Registration
★0 (Fall/Spring, 3-0-0). 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.

Maîtrise ès sciences de l’éducation, M EDU
Faculté Saint-Jean

Cours de 2e cycle

M EDU 510 Psychologie de l’apprentissage d’une deuxième langue

M EDU 594 Lectures dirigées
★3 (Fall/Spring, 3-0-0).

M EDU 596 Thème ouvert
★3 (Fall/Spring, 3-0-0). Peut comprendre des sections Alternative Delivery; veuillez consulter le Fees Payment Guide dans la section University Regulations and Information for Students de l’année.

M EDU 598 Choix de sujet en éducation
★3 (Fall/Spring, 3-0-0). Peut comprendre des sections Alternative Delivery; veuillez consulter le Fees Payment Guide dans la section University Regulations and Information for Students de l’année.

M EDU 599 Etude personnelle dirigée
★3 (Fall/Spring, 3-0-0).

Management Information Systems, MIS

Undergraduate Courses

MIS 311 Management Information Systems
★3 (Fall/Spring, 3-0-0). Introduction to all major areas of information systems. Technology and file systems, organizational and behavioral issues, datamodelling, 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 (Fall/Spring, 3-0-0). 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

Undergraduate Courses

MGTSC 495 Individual Research Project I
★3 (Fall/Spring, 3-0-0). Special study for advanced undergraduates. Prerequisites: consent of Instructor and Assistant Dean, Undergraduate Program.

MGTSC 496 Individual Research Project II
★3 (Fall/Spring, 3-0-0). Special Study for advanced undergraduates. Prerequisites: MGTSC 495, consent of the Instructor and Assistant Dean, Undergraduate Program.

Marine Science (Biological Sciences), MA SC

Department of Biological Sciences, Bamfield Marine Sciences Centre
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 401 Special Topics in Marine Biology
★8 (Fall/Spring, 3-0-0). Offered, as opportunities arise, by selected scientists who are working at the Bamfield Marine Science Centre. The course will generally be of a specialized nature and be at a level appropriate to graduate or senior undergraduate students. Credit for this course may be obtained more than once.

MA SC 410 Marine Invertebrate Zoology
★6 (Fall/Spring, 3-0-0). 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 412 Biology of Fishes
★6 (Fall/Spring, 3-0-0). Classification, physiology, ecology, behavior and zoogeography of fishes with particular emphasis on those in the marine environment of the British Columbia coast. Course will involve some field projects.

The most current Course Listing is available on Bear Tracks. https://www.beartracks.ualberta.ca
## Undergraduate Courses

### MARK 465 School of Retailing Internship
- **(either term, 3-0-0)**: Practical application of marketing and related business skills and theory to a problem or issues addressed during a period of 13 weeks of summer placement in a sponsoring retail or services organization. The internship includes preliminary instruction and requires, under the supervision of the Faculty, the presentation of a project report to the sponsoring organization. Prerequisites: MARK 301 and consent of Department. **Note:** Enrollment 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.

### MARK 472 Product Management and Pricing
- **(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
- **(either term, 3-0-6)**: 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
- **(either term, 3-0-0)**: Special study for advanced undergraduates. Prerequisites: MARK 312 or equivalent, consent of Instructor and Associate Dean Undergraduate Program.

### MATH 101 Elementary Calculus I
- **(either term, 3-0-1)**: Review of analytic geometry. Differentiation and integration of simple functions. Applications. Prerequisite: Pure Mathematics 30 or Mathematics 30-1 or equivalent. **Note:** This course may not be taken for credit if credit has already been obtained in MATH 114. See Note (3) at the beginning of the Mathematics course listings. This course may not be taken for credit if credit has already been obtained in either of MATH 101, 114 or SCI 100.

### MATH 115 Elementary Calculus II
- **(either term, 3-0-0)**: Differentiation and integration of trigonometric, exponential and logarithmic functions. Indeterminate forms and improper integrals. Techniques of integration. Application. Prerequisite: MATH 113 or 114, or equivalent. **Note:** This course may not be taken for credit if credit has already been obtained in either of MATH 101, 114 or SCI 100.

### MATH 125 Linear Algebra I
- **(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, eigenvalues and eigenvectors. The dot product and orthogonality. Applications in a variety of fields, numerical methods. Prerequisites: Pure Mathematics 30 or Mathematics 30-1. This course cannot be taken for credit if credit has already been obtained in MATH 102, 120, or 127.

### MATH 153 Elementary Theory of Interest
- **(either term, 3-0-0)**: Simple and compound interest, simple and general annuities certain; variable annuities and perpetuities, amortization schedules, sinking fund applications. Prerequisite: Pure Mathematics 30 or Mathematics 30-1. Notes: (1) This course may not be taken for credit if credit has already been obtained in MATH 253. (2) May not be used for credit in any Honors or Specialization degrees offered by the Department of Mathematical and Statistical Sciences.

### MATH 160 Higher Arithmetic
- **(either term, 3-0-0)**: Elementary Number Theory, Numeration Systems, Number Systems and Elementary Probability Theory. Math Fair. Prerequisite: Pure Mathematics 30, 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
- **(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 or 115 or SCI 100 or equivalent.

### MATH 215 Intermediate Calculus II
- **(either term, 3-0-0)**: Functions of a single variable. Properties of integral calculus. Functions of several variables, double and triple integrals. Applications. Prerequisite: Any 100-level mathematics course or SCI 100, MATH 125 or 127 recommended.

### MATH 222 Introduction to Discrete Mathematics
- **(either term, 3-0-0)**: A problem-solving approach to discrete mathematics, covering set codes, and/or addition and multiplication of large integers. Prerequisite: Any 100-level mathematics course or SCI 100. MATH 120, 125 or 127 recommended.

### MATH 225 Linear Algebra II
- **(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: This course cannot be taken for credit if credit has already been obtained in MATH 227.

### MATH 228 Algebra: Introduction to Ring Theory
- **(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 domains. Polynomial 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 already been obtained.

### MATH 241 Geometry
- **(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.
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 or 115 or 116 or SCI 100 or equivalent. Corequisite: MATH 209 or 214.

MATH 260 Topics in Mathematics
★3 (fi 6) (second term, 3-0-0). Problem solving in different areas of mathematics. Note: This course is intended for Education students and is not open to Science students. Prerequisite: MATH 160 or teaching experience at the elementary or junior high school level.

MATH 311 Theory of Functions of a Complex Variable

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.

MATH 325 Linear Algebra III

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.

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 224 or 226.

MATH 373 Mathematical Programming and Optimization I

Graduate Courses

MATH 66A Topics in Applied Mathematics II
★3 (fi 6) (either term, 3-0-0).

Mathématiques, MATH
Faculté Saint-Jean

Cours de 1er cycle

MATHQ 160 Arithmétiques pour enseignants
★3 (fi 6) (Un ou l’autre semestre, 3-0-0). Les concepts étudiés ont pour but d’aider l’enseignant à formuler une idée intuitive des concepts qu’il doit enseigner aux élèves. Nous aborderons la théorie élémentaire du nombre, les systèmes de numération, les ensembles de nombres, la théorie élémentaire de probabilité et les raisonnements inductif et déductif. Note: Ce cours est réservé aux étudiants du BEd Elémentaire. Préalable(s): Mathématiques pure 30, Mathématiques 30-1 ou l’approbation du Vice-doyen aux affaires académiques.

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.

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.

Middle Eastern and African Studies, MEAS
Office of Interdisciplinary Studies
Faculty of Arts

Undergraduate Courses

MEAS 300 Themes and Topics I
★3 (fi 6) (either term, 3-0-0).

MEAS 480 Directed Reading in Middle Eastern and African Studies
★3 (fi 6) (either term, 3-0-0). Prerequisite: consent of Program.

Graduate Courses

MEAS 500 Topics in Comparative Interdisciplinary Research in Middle Eastern and African Studies
★3 (fi 6) (either term, 0-3s-0). Topics vary by instructor.
Course Listings

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 710 Mining
3 (f 6) (either term, 3-0-0). Readings and discussion of selected topics in mining engineering.

MIN E 900 Directed Research
3 (f 6) (either term, unassigned). An engineering project for students registered in a Masters of Engineering program.

MIN E 910 Directed Research
6 (f 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

Graduate Courses

MLCS 901 MA Research Project
3 (f 6) (either term, 3-0-0).

Music, MUSIC
Department of Music
Faculty of Arts

Undergraduate Courses

MUSIC 100 Rudiments of Music
3 (f 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 (f 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 (f 6) (either term, 3-0-0). Not available to students with credit in MUSIC 165.

MUSIC 103 Introduction to Popular Music
3 (f 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 143 Indian Music Ensemble I
3 (f 6) (either term or Spring/Summer, 0-4L-0). The classical music of India, through group instruction in singing, tabla (drums), sitar (plucked lute), sarangi (bowed lute), bansuri (flute), harmonium, and ensemble performance. A set of instruments will be available. The ability to read music is not required. Prerequisite: consent of Department.

MUSIC 230 Choral Techniques and Pedagogy
3 (f 6) (first term, 3-0-0). Prerequisites: MUSIC 150 or 156, and 151, or equivalent. Note: Restricted to BMus (all routes), BMus/BEd, BEd Music Major/Minor, and BA (Honors) Music Major students.

MUSIC 438 Poetry and Performance of the German Lied
3 (f 6) (Spring/Summer, 3-3L-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 103 Canadian Indigenous Language Immersion for Adult Beginners
3 (f 6) (Spring/Summer, 3-0-0). An introduction to a Canadian indigenous language in an immersion context. No prior knowledge of the focus language is assumed. Note: This course cannot be used as a substitute for NS 152 nor does it prepare the student for NS 105. A student completing this course may still earn credit in NS 152 at a later date. Not for credit in Faculty of Native Studies degree programs.

NS 104 The Structure of a Canadian Indigenous Language through Immersion
3 (f 6) (Spring/Summer, 3-0-0). This course, delivered in an immersion context, is designed for beginning speakers or semi-speakers with only a basic knowledge of the particular Canadian indigenous language being focused in a given section. Topics include word, sentence, and narrative structure as represented in both oral and written forms of the language. Note: This course cannot be used as a substitute for NS 152 nor does it necessarily prepare the student for NS 105. A student completing this course may still earn credit in NS 152 or 153 at a later date. Not for credit in Faculty of Native Studies degree programs.

NS 110 Historical Perspectives in Native Studies
3 (f 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 152 Introductory Cree
3 (f 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 (f 6) (either term, 3-0-0).

NS 345 Management Issues in Native Communities
3 (f 6) (either term, 3-0-0). The course introduces the major management issues commonly faced by contemporary Native community, 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.

NS 485 Urban Aboriginal Issues and Identities
3 (f 6) (either term, 0-3s-0). Critically examines some of the core issues facing Aboriginal people living in Canada’s cities, with a particular emphasis on how these issues affect the ways that urban Aboriginal communities are governed municipally, provincially and federally, as well as how they form their own self-governmental institutions in urban areas. Prerequisites: NS 110, 111 and one 300-level NS course, 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 215 Pharmacotherapeutics in Nursing
3 (f 6) (either term, 3-0-0; 6-0-0 in 6 weeks). Focuses on the mechanisms of action of drugs, their therapeutic uses and side effect profile. General principles
related to drug absorption, distribution, metabolism and excretion will be addressed. The nursing role in promoting optimal therapeutic regimens and in the management of side/adverse effects will be included.

NURS 301 Nursing Research

★★ (fi 6) (either term, 3-0-6; 6-0-0 in 6 weeks). 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. Prereq- or corequisite for Post RN Program students: NURS 415.

NURS 307 Acute Care Nursing Theory I

★★ (fi 12) (either term, 2-4s-3). The primary focus is the theoretical foundation for the client-centred care of adults and elderly clients and their families experiencing variations in health (acute and chronic illnesses). Comprehensive assessment and best practice interventions are addressed within the context of a primary health care framework and a nursing model. Corequisites for After Degree students: NURS 215 and 308. Prerequisites for After Degree students: NURS 303, 304, and 305. Corequisites for RPN to BScN students: NURS 215 and 308. Corequisites for Bilingual Program students: NURS 215 and 308. Prerequisites for Bilingual Program students: SC INF 217, 218, and NURS 305. Note: Course is for After Degree Nursing Program, RPN to BScN Program, and Bilingual Nursing Program students only.

NURS 309 Mental Health Nursing Theory

★★ (fi 12) (either term or Spring/Summer, 3-6s-6w; 6-12s-6 3w). 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. Corequisite: NURS 310. Prerequisites for After Degree students: NURS 113, 215, 307, and 308. Corequisites for Bilingual Program students: NURS 307 and 308. Note: Course is for After Degree Nursing Program and Bilingual Nursing Program students only.

NURS 310 Mental Health Nursing Practice

★★ (fi 12) (either term or Spring/Summer, 0-0-24c 7w; 0-0-32c 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. Corequisite: NURS 309. Prerequisites for After Degree students: NURS 113, 215, 307, and 308. Corequisites for Bilingual Program students: NURS 307 and 308. Note: Course is for After Degree Nursing Program and Bilingual Nursing Program students only.

NURS 461 Nursing Practice VII, Internship Route

★ (fi 14) (Spring/Summer, 0-1s-34c in 10 weeks). During a Spring/Summer placement of 10 weeks in a sponsoring agency, the student will manage and care for clients in ambiguous, complex situations. Prerequisites: NURS 390, 391, 394, 395 and 397 or 301. Consent of the Faculty is also required.

NURS 475 Community Practice for Post RN Students

★ (fi 14) (either term, 0-1.5s-15c; 0-3s-26c 7 weeks). Nursing practice focuses on health promotion and disease prevention of clients across the life-span. Practice occurs in homes or community-based settings. Prerequisite: NURS 415.

NURS 490 Nursing in Context D

★ (fi 10) (either term, 1-3s-3/2; 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

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

NURS 494 Nursing in Context D1

★ (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

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

Graduate Courses

NURS 502 Nature of Nursing Knowledge

★ (fi 6) (either term, 0-3s-0). Inquiry into the nature, scope, and object of nursing knowledge and the distinct contribution of nursing art, philosophy, history, and science. Emphasis is placed on how this inquiry is relevant to nursing practice and includes an exploration of nursing theories/frameworks.

NURS 503 Research Foundations

★ (fi 6) (either term, 0-3s-1c). In this course, students will learn to identify and defend a significant problem relevant to nursing practice, critically evaluate relevant previous research and frameworks to further explore the problem, develop a researchable question to address the problem and choose an appropriate research approach (design and data collection strategy) to answer the question. Ethical issues of relevance at each step in the research process will also be discussed. Credit for NURS 503 will only be granted once.

NURS 504 Statistics in Nursing Research

★ (fi 6) (either term, 0-3s-1L). The focus of this course is on the nature and characteristics of the most commonly used statistical techniques, their applicability to specific health care problems within the context of nursing, and the interpretation of results. Students will be given an opportunity to develop skills and knowledge in the use of computer software (SPSS) and to reinforce learning through assignments, including the analysis of data sets and discussion/critique of published nursing research.

NURS 542 Living with Chronicity: Issues and Concepts

★ (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 900 Guided Scholarly Project

★ (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

NUTR 100 Nutrition and Wellbeing

★ (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 468 Clinical Nutrition

★ (fi 6) (either term, 3-0-3). Basic principles of nutrition in clinical situations. The role of diet in the management of various diseases. The laboratory sessions include practical experience in providing individualized nutritional care for clients from various cultural backgrounds. Only open to students in the BSc in Nutrition and Food Science, Nutrition major. Graduate students may not register for credit (see AFNS 568). Credit will only be given for one of AFNS 568, NUTR 468, and NU FS 468. Pre- or corequisite: NUTR 301. May contain alternative delivery sections; 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

★ (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

★ (fi 12) (variable, 12 weeks). Practical experience in assessment, planning implementation and evaluation of food service systems. Institutional, commercial 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
The most current Course Listing is available on Bear Tracks. https://www.beartracks.ualberta.ca

<table>
<thead>
<tr>
<th>Course Listings</th>
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<tbody>
<tr>
<td><strong>Graduate Courses</strong></td>
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<tr>
<td><strong>Notes</strong></td>
</tr>
<tr>
<td>(1) NUTR 410 may be taken for credit by graduate students with approval of the student's supervisor or supervisory committee.</td>
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<tr>
<td>(2) See Agricultural, Food and Nutritional Science (AFNS) listing for related courses.</td>
</tr>
</tbody>
</table>

### 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.

<table>
<thead>
<tr>
<th>OCCTH 501 Theory and Practice of Enabling Occupation</th>
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<tbody>
<tr>
<td>★3 (fi 6) (either term, 0-3s-0). Conceptual models and theoretical approaches applied to occupational therapy practice.</td>
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<tr>
<th>OCCTH 525 Fieldwork-Learning in a Practice Context</th>
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<tbody>
<tr>
<td>★3 (fi 6) (either term, 6 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. Prerequisites: consent of Department; attendance at mandatory fieldwork session(s); completion of all Year 1 academic courses.</td>
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<tr>
<th>OCCTH 527 Fieldwork-Learning in a Practice Context</th>
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<tr>
<td>★3 (fi 6) (either term, 6 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.</td>
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<table>
<thead>
<tr>
<th>OCCTH 528 Fieldwork - Learning in a Practice Context</th>
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<tbody>
<tr>
<td>★3 (fi 6) (either term, 6 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 527.</td>
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<tr>
<th>OCCTH 543 Student Selected Modules</th>
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<tbody>
<tr>
<td>★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. This is a CR/NC course.</td>
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<tr>
<th>OCCTH 562 Evidence-Based Practice in Occupational Therapy</th>
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<tbody>
<tr>
<td>★3 (fi 6) (either term, 0-3s-0). Critical evaluation of occupational therapy and related literature including methodology and design.</td>
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<tr>
<th>OCCTH 563 Research Design and Knowledge Translation</th>
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<tbody>
<tr>
<td>★3 (fi 6) (either term, 3-0-0). Examination of: (a) research methodology and design as they (i) apply to the development of a project proposal and (ii) as they affect published findings in the literature; and (b) consideration of how knowledge is translated into occupational therapy practice.</td>
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<tr>
<th>OCCTH 564 Evaluation of Occupational Therapy Services</th>
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<tr>
<td>★3 (fi 4) (either term, 0-2s-0). The integration of social research procedures with occupational therapy models for evaluating the processes, structures and outcomes of programs and services to which occupational therapists contribute. Prerequisites: Completion of all Year 1 academic and fieldwork courses. Corequisite: OCCTH 565.</td>
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<tr>
<th>OCCTH 567 Research Design and Scholarly Practice</th>
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<tr>
<td>★3 (fi 6) (either term, 3-0-0). Research methodology and design as they apply to the development of a directed Final Project. Prerequisites: Completion of all Year 1 academic and clinical courses.</td>
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<tr>
<th>OCCTH 900 Directed Final Project</th>
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<tbody>
<tr>
<td>★6 (fi 12) (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. Students will demonstrate inquiry, reflection and critical thinking through required participation in seminars, a written report and a conference style presentation. OCCTH 903 Directed Final Project ★3 (fi 6) (variable, unsupervised). 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. Prerequisites: Successful completion of OCCTH 567.</td>
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### Oncology, ONCOL

**Department of Oncology**  
**Faculty of Medicine and Dentistry**

**Graduate Courses**

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

<table>
<thead>
<tr>
<th>ONCOL 554 Laboratory in Medical Radiation Physics</th>
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<tbody>
<tr>
<td>★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.</td>
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<tr>
<th>ONCOL 556 Laboratory in Imaging</th>
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<tbody>
<tr>
<td>★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 552. Corequisites: ONCOL 568 and 564.</td>
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### Operations Management, OM

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

**Graduate Courses**

<table>
<thead>
<tr>
<th>OM 502 Operations Management</th>
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<tr>
<td>★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.</td>
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<tr>
<th>OM 604 Bargaining and Negotiation</th>
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<tr>
<td>★3 (fi 6) (either term, 3-0-0). This course is a blend of both experiential learning and theory with the objective of making the student more effective in all types of bargaining. A study of positive theories on how to improve negotiation skills will be combined with analytical models of the game theoretic structure of bargaining. Through this mix of theories and several case studies and bargaining exercises, students will see both the opportunities for joint gain (win-win) and the constraints which can lead to inferior outcomes. Prerequisites: First year MBA core courses. Not to be taken by students with credit in MGTSC 604.</td>
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### 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**

<table>
<thead>
<tr>
<th>PET E 694 Advanced Topics in Petroleum Engineering</th>
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<tr>
<td>★3.5 (fi 6) (either term, 3-1s-0). An advanced treatment of selected petroleum engineering topics of current interest to staff and students.</td>
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<tr>
<th>PET E 709 Special Topics in Petroleum Engineering</th>
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<tbody>
<tr>
<td>★3 (fi 6) (either term, 3-0-0). Reading Course. Reading and discussion of selected topics in Petroleum Engineering.</td>
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</table>
**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.

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**Pharmacology, PMCOL**

Department of Pharmacology

Faculty of Medicine and Dentistry

**Undergraduate Courses**

The following courses can be used by students in the Faculty of Science as science courses: PMCOL 305.

- **PMCOL 305 An Introduction to the Pharmacology of Drug Abuse**
  3 (fi 6) (either term, 3-0-0). An introduction to the complexities of drug abuse and the drugs of abuse. The student will be introduced to the psychological and social problems of drug abuse and their impact upon the abuser. Objectives of the course are to develop an understanding of addiction and a detailed knowledge of the nature of the commonly abused substances. Emphasis will be placed upon the pharmacology of drugs of abuse. Prerequisites: one of the following BIOCH 200, BIOL 201, CELL 201, PHYSL 210, PSYHL 212 and 214, PMCOL 201, PSYCO 275, ZOOL 241 and 242.

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**Pharmacy, PHARM**

Faculty of Pharmacy and Pharmaceutical Sciences

**Undergraduate Courses**

- **PHARM 305 Experiential Learning-Part 2-Community**
  4 (fi 6) (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 pharmaceutical care model and philosophy of practice, they will develop their patient interviewing skills, prepare and monitor pharmaceutical care plans, provide patient counseling on the administration of various dosage forms, 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 315 Experiential Learning - Part 3 Institutional**
  2 (fi 4) (Spring/Summer, 98 hours in 2.5 weeks). This structured practical learning experience following second year will provide an orientation to institutional pharmacy practice and allow students to apply the knowledge and skills they have obtained in the classroom to the actual care of patients in institutional practice sites. (Restricted to Pharmacy students.)

- **PHARM 425 Experiential Learning Part 4**
  16 (fi 32) (either term, 640 hours in 16 weeks). The student will be expected to demonstrate professional competencies in the provision of pharmaceutical care. Direct patient care activities will include drug therapy monitoring, patient interviewing, patient counseling, provision of drug information, and contributing to patient care as part of an interdisciplinary team. (Restricted to Pharmacy students.)

- **PHARM 450 Special Topics in Pharmacy**
  1-6 (variable) (either term or Spring/Summer, variable). Consult the Faculty for the specific topics offered. Prerequisite: Consent of the Faculty.

- **PHARM 485 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: Depend on specialty and consent of Faculty. This course may be taken during the Spring/Summer Term by special arrangement. Course may be repeated once. (Restricted to Pharmacy students.)

- **PHARM 498 Research and Directed Studies**
  3 (fi 6) (either term, 0-0-4). Investigational work under the direction of a member of the Faculty. Preparation of a written report. Prerequisites: consent of the Faculty and the approval of a Faculty member to direct the research. This course may be taken during Spring/Summer by special arrangement. Credit may be obtained for this course more than once.

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**Graduate Courses**

- **PHARM 694 Directed Project**
  3 (fi 6) (either term, 0-0-4). 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.

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**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).

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**Undergraduate Courses**

- **PHIL 101 Introduction to Philosophy: Values and Society**
  3 (fi 4) (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.

- **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.

- **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.

- **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.

- **PHIL 215 Epistemology**
  3 (fi 6) (either term, 3-0-0). A study of such central topics in the theory of knowledge as truth and rationality, skepticism and the limits of knowledge, relativism and the objectivity of knowledge, the role of perception, memory and reason as sources of knowledge.

- **PHIL 250 Ethics**
  3 (fi 6) (either term, 3-0-0). An examination of questions of right and wrong, good and evil, and reasons for action, through the study of ethical thought of authors such as Plato, Aristotle, Hobbes, Kant, and Mill.

- **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.

- **PHIL 270 Political Philosophy**
  3 (fi 6) (either term, 3-0-0). A survey of issues in contemporary political philosophy with attention to liberalism and patriotism, the nature of politics, the state and its social function, and the role of the individual in society.

- **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 Philosophy and Health Care**
  3 (fi 6) (either term, 3-0-0). A philosophical examination of concepts and issues
central to knowledge and practice of health care. Topics may include: rights and responsibilities of patients and health care personnel, passive and active euthanasia, abortion, research and experimentation, disclosure of diagnosis and risks, death and suffering.

Philosophy (from within the Roman Catholic Tradition) St Joseph's College

Notes
(1) The following courses can be used as Arts options.
(2) For Christian Theology courses offered by St Joseph's College, see Christian Theology (CHR.TC).

Undergraduate Courses

PHIL 329 Natural Philosophy and the Christian Tradition
(6) (either term, 3-4.5). A critical study of physical reality, dealing with such concepts as matter, scientific knowledge, space, time, causality, biological life, and teleology, in traditional and contemporary contexts.

PHIL 370 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.

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 take 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 101 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: Aquatic 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 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 325 The Study of Games for Children and Youth
3 (fi 6) (either term, 1-2s-0). An in-depth study of games played by children and youth in informal situations and in organized programs. Opportunities to observe and work with children and youth will be provided. Prerequisite: One of PAC 101, PEDS 293, 294 or 338.

PAC 345 Coaching Golf
3 (Spring/Summer, 0-3L-0). Acquisition of theoretical knowledge and personal skills used in coaching the advanced skills and strategies 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. Prerequisite: PAC 145.

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 490 Applied Resistance Training
3 (fi 6) (either term, 0-3L-0). 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: PAC 335.

Physical Education and Sport, PEDS
Faculty of Physical Education and Recreation

Undergraduate Courses

PEDS 100 Structural Anatomy
3 (fi 6) (either term, 3-0-0). 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). A systematic procedure for qualitative analysis of human motion is presented. Students proceed from the identification of mechanical principles governing motion through to the formation of deterministic models and observational strategies. A weekly one-hour optional tutorial session will be scheduled.

PEDS 240 Introduction to Sports Injuries
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 245 Introduction to the Profession of Coaching
3 (fi 6) (either term, 3-0-0). Examines the principles of coaching as they relate to the development of the athlete, the role of the coach, and organization of sport in contemporary society. Designed to present basic coaching theory that
is applicable to a variety of sport settings with the focus on the practice and the season. Note: Credit will only be granted for one of PEDS 245 or 345.

- **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 select psychological theory as it relates to sport and physical activity. Psychological constructs along with their theoretical perspectives will be viewed within a cognitive, emotional, and behavioral framework. An analytical approach is encouraged.

- **PEDS 307 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 differences.

- **PEDS 334 Body Composition, Nutrition and Physical Activity**
  3 (fi 6) (either term, 3-0-0). Emphasis on assessment and evaluation of body composition. Other topics include the regulation of body composition, nutritional requirements for athletes, eating disorders, and obesity. Prerequisite: Peds 200 (no concurrent registration).

- **PEDS 335 Advanced Conditioning Methodology**
  3 (fi 6) (either term, 3-0-0). A survey of the theoretical bases of conditioning programs. The course emphasis is on the nature of physiological adaptation to selected training regimens and the factors which influence the adaptive process. Prerequisite: Peds 200 (no concurrent registration).

- **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 409 Research Methods in Kinesiology**
  3 (fi 6) (either term, 3-0-0). An overview of research in kinesiology with emphasis on practical application of research techniques and designs. Prerequisite: Peds 309 or Stat 141 or 151.

- **PEDS 440 Advanced Athletic Therapy Methods and Techniques**
  3 (fi 6) (either term, 3-0-0). Recognition of the potentially serious injury. Advanced prevention, treatment, and sport-specific rehabilitative methods and techniques in athletic therapy. Prerequisites: Peds 100 and Peds 240.

- **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 471 Active Living for Individuals with Developmental Disabilities**
  3 (fi 6) (either term, 2-0-2). An in-depth review of characteristics of children with movement difficulties as well as persons with mental deficiency with implications for program planning and service delivery. Prerequisite: Perls 207.

- **PEDS 490 Professional Practicum**
  6 (fi 12) (variable, variable). A half-time Professional Practicum that may run for a single term for 20 hours per week, two terms for 10 hours per week, or the equivalent time. Students must apply to the Practicum Supervisor. A limited number of placements are available. Note: Students will not be allowed to register in more than 3 concurrently with Peds 490 unless approved by the Practicum Supervisor.

### Physical Education, Recreation and Leisure Studies, PERLS

- **PERLS 104 Introduction to Sociocultural Aspects of Leisure and Sport**
  3 (fi 6) (either term, 2-1s-0). The study of play, physical education, recreation, sport, leisure and institutionalized ways in which society organizes and teaches attitudes and skills. Provides an introduction to the importance of sociocultural inquiry and the notion of being critical as an empowering process.

- **PERLS 105 Introduction to the Management of Sport, Physical Activity and Recreation Programs**
  3 (fi 6) (either term, 3-0-0). Provides students with an introduction to the management concepts required to successfully administer a sport, recreation or physical activity.

- **PERLS 207 Physical Activity and Leisure for Special Populations**
  3 (fi 6) (either term, 3-0-0). An introduction to the current trends in the theory and practice in physical education and recreation from special groups. The course includes a survey of special populations and their implications for service delivery.

- **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.

- **PERLS 371 Assessment and Evaluation in Physical Activity for Children and Youth**
  3 (fi 6) (either term, 3-0-0-1). Provides an overview of basic assessment principles and their application in the provision of physical activity for children and youth. Designed for individuals who are particularly interested in assessment of movement, and its concomitant goals, for the purpose of instruction and evaluation. Prerequisite: Perls 207.

- **PERLS 440 Play Around the World Program Preparation**
  3 (fi 6) (Spring/Summer, variable). The “Play Around the World” project provides a 3-month internationally based, cross-cultural field placement working with underserved populations 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 441 (Play Leadership) is strongly recommended. Corequisite: Perls 441.

- **PERLS 441 Play Around the World - Field Placement**
  3 (fi 6) (Spring/Summer, variable). The “Play Around the World” project provides a 3-month internationally based, cross-cultural field placement working with underserved populations 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 441 (Play Leadership) is strongly recommended. Corequisite: Perls 441.

### Graduate Courses

- **PERLS 541 Social Cognitive Approaches to Health Promoting Behaviors**
  3 (fi 6) (either term, 0-3s-0). This course will address social-cognitive theories as they relate to behavioral change in the broad areas of health-promoting-behaviors (HPBS) with particular emphasis on physical activity. The theories and models to be covered will include Stages of Change, Social-Cognitive and Self-efficacy, Reasoned Action and Planned behavior, Self-esteem (various), etc. The specific context areas and order of classes will be determined in consultation with the class members each term. Areas of common interest will be identified and used as the basis for classes and examples throughout the term. The course is appropriate for individuals interested in social psychological and social-cognitive influences on health promoting behaviors and sport performance. May contain alternate delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

- **PERLS 590 Research and Directed Studies I**
  3 (fi 6) (either term, 0-3s-0).

- **PERLS 591 Research and Directed Studies II**
  3 (fi 6) (either term, 0-3s-0).
Physical Therapy, PTHER
Department of Physical Therapy
Faculty of Rehabilitation Medicine

Note: All PTHER courses are open to PT students only.

Graduate Courses

PTHER 516 Anatomy
3  (fi 6) (either term or Spring/Summer, 3-0-0-3). 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 522 Clinical Placement V
1-6 (variable) (either term or Spring/Summer, 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 - Health Care, Ethics and Medical-Legal Issues
2  (fi 3) (either term or Spring/Summer, 3-5s-0 in 3 weeks). Credit. Continuation of the study of professional issues relevant to the practice of physical therapy. Ethical, cultural, medical-legal and regulatory issues and their impact on professional practice. Prerequisites: INT D 410 and PTHER 524.

PTHER 537 Integrated Practice IV
3  (fi 6) (either term or Spring/Summer, 0-10s-0 in 4 weeks). Self-directed learning applied to complex client scenarios across the continuum of care. Critical thinking skills are required to integrate knowledge of clinical skills, research application, measurement, evaluation and professional issues. Prerequisite: INT D 410, PTher 526, 536 and 548.

PTHER 558 Medications in Physical Therapy
2  (fi 4) (either term or Spring/Summer, 20 hours in 4 weeks). Pharmacology and management of medications commonly seen in physical therapy.

PTHER 573 Applied Concepts in Evidence-Based Practice
2  (fi 4) (either term or Spring/Summer, 2-6s-0 in 4 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. Note: not open to students with credit in Pther 542. Prerequisite: PTher 572.

PTher 900 Major Project
3  (fi 6) (either term, unassigned). Credit. This capping exercise has 2 components: a practical examination of clinical skills and a group written evaluative project with an individual oral examination. Prerequisite: Consult Department.

Physics, PHYS
Department of Physics
Faculty of Science

Undergraduate Courses

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, Pure Mathematics 30 or 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.

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.

Political Science, POL S
Department of Political Science
Faculty of Arts

Undergraduate Courses

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 210 History of Political Thought
3  (fi 12) (two term, 3-0-0). An historical and critical survey of the development of political and social philosophy from ancient Greece to the present time, with selected readings from major political writers. Note: This is the core course in the field of political philosophy and the prerequisite for 400-level courses in the field. Prerequisite: POL S 101 or consent of Department.

POL S 220 Canadian National Government and Politics
6  (two terms, 3-0-0). The structure and function of the government of Canada, especially of the Commons, Senate, Cabinet System, Civil Service, and the role of political parties. Note: This is the core course in the field of Canadian government and politics and a prerequisite for most 400-level courses in the field. Prerequisite: POL S 101 or consent of Department.

POL S 240 Introduction to Comparative Politics: Global South
3  (fi 6) (either term, 3-0-0). Historical and contemporary comparisons among selected Southern countries. Political institutions, social change, development, and democratization. Note: This is a core course in the field of comparative politics and the prerequisite for many 300- and 400-level courses in the field. Not open to students with credit in POL S 200. Prerequisite: POL S 101 or consent of Department.

POL S 260 International Relations
3  (fi 12) (two 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. Note: This is the core course in the field of international relations and a prerequisite for most 400-level courses in the field. 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 327 Aboriginal Peoples and Politics in Canada
3  (fi 6) (either term, 3-0-0). An examination of different historical and contemporary issues associated with Aboriginal politics. Prerequisite: POL S 220 or consent of Department.

POL S 335 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 391 Canadian Political Parties
3  (fi 6) (either term, 3-0-0). Topics include party systems; ideologies and programs, members and supporters, organization and resources, and electoral and governmental activities. Prerequisite: POL S 220 or consent of Department.
POL S 404 Topics in Political Philosophy
★3 (fi 6) (either term, 3-0-3). A variable content course, which may be repeated if topics vary. Prerequisite: POL S 210 or equivalent.

POL S 421 Topics in Canadian Politics
★3 (fi 6) (either term, 0-3-0). The focus of this seminar changes yearly to reflect current issues in Canadian politics and faculty research interests. Information about the specific topic is available from the department. A variable content course, which may be repeated if topics vary. Prerequisite: POL S 220 or consent of Department.

POL S 455 Topics in Gender and Politics
★3 (fi 6) (either term, 0-3-0). A variable content course, which may be repeated if topics vary. Prerequisite: Any of the POL S 200-level core courses or consent of Department.

POL S 459 Topics in International Politics
★3 (fi 6) (either term, 0-3-0). A variable content course, which may be repeated if topics vary. Prerequisite: POL S 260.

POL S 460 Global Security
★3 (fi 6) (either term, 0-3s-0). Historical and contemporary political issues of global security are examined from various theoretical perspectives. Prerequisite: POL S 280 or consent of Department.

POL S 470 Topics in Comparative Politics
★3 (fi 6) (either term, 0-3s-0). Selected topics of current interest in comparative politics and government. A variable content course, which may be repeated if topics vary. Prerequisite: POL S 220 or 240 or consent of Department.

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 560 Topics in International Relations
★3 (fi 6) (either term, 0-3s-0).

POL S 900 Directed Research Project
★3 (fi 6) (variable, unassigned).

Psychology, PSYCO
Department of Psychology
Faculties of Arts; and Science

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.

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 3 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]

PSYCO 106 Psychological Principles for Nursing
★3 (fi 6) (second term, 3-0-0). Psychological principles and processes as they relate to training, including research, design and analysis, lifespan development, memory and cognitive processing, social psychological processes, personality, psychological disorders and their treatment. Note: Open only to students enrolled in Nursing. Not open to students with credit in PSYCO 104 or SCI 100, or PSYCO 105. [Faculty of Arts]

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 PSYCO 105, and STAT 141 or 151. [Faculty of Arts]

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]

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]

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]

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 Arts]

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]

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]

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]

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, cultural psychology, indigenous psychologies, and the psychology of ethnicity and intercultural contact. Prerequisites: one of PSYCO 223, 233, or 241. [Faculty of Arts]

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]

PSYCO 432 Psychological Studies of Dreaming
★3 (fi 6) (either term, 3-0-0). An overview of dream studies, including the psychobiology of dreaming, dreaming and cognition, personality and dreaming, therapeutic dream use, and dreams in art and culture. Prerequisites: one of PSYCO 223, 233, 241, 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

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]

PSYCO 267 Perception
★3 (fi 6) (either term, 3-0-0). An introduction to theoretical and experimental issues associated with sensory and perceptual experience. Prerequisites: PSYCO 104 or SCI 100 and STAT 141 or 151. [Faculty of Science]

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, STAT 141 or STAT 151 and Biology 30 or equivalent. Students enrolled in the BSc Honors Neuroscience program are exempt from the STAT prerequisite. [Faculty of Science]
The most current Course Listing is available on Bear Tracks. https://www.beartracks.ualberta.ca

Course Listings

**PSYCO 299 Research Opportunity Program in Psychology**
- (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 101 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 check with the Department of Psychology. Note: Application does not guarantee an ROPP position. Credit may be obtained twice. [Faculty of Science]

**PSYCO 302 Special Topics in Psychological Research**
- (fi 3) (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]

**PSYCO 304 History of Modern Psychology**
- (fi 3) (either term, 3-0-0). An overview of the scientific discipline of psychology since the mid 19th century. The focus will be on theories methods, schools, and professions. 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. Note: Not to be taken by students with credit in PSYCO 301. [Faculty of Science]

**PSYCO 371 The Neurobiology of Learning and Memory**
- (fi 3) (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, neuronal system, and behavioral levels. Prerequisite: PSYCO 275. [Faculty of Science]

**PSYCO 375 Introduction to Cognitive Neuroscience**
- (fi 3) (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.

**PSYCO 403 Recent Advances in Experimental Psychology: Models and Theories**
- (fi 3) (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**
- (fi 3) (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**
- (fi 3) (either term, 3-0-0). [Faculty of Arts]

Public Health Sciences, PHS

Department of Public Health Sciences

School of Public Health

Graduate Courses

**PHS 509 Field Practicum**
- (fi 6) (Spring/Summer, 16 weeks). Public health practice is an integral part of the MPH degree. The practicum is a full-time hands-on experience in a public health work setting. It provides the opportunity for students to integrate and synthesize public health philosophy, theory and practice through application and critical assessment. Students contribute to a community or organization’s capacity to critically assess public health issues, and design, implement and evaluate strategic initiatives, while at the same time gaining confidence and skills as public health professionals. Prerequisites: All required core and specialization courses.

**PHS 701 Project in Public Health Sciences**
- (variable) (variable, 0-3s-0). As the culminating educational experience of the MPH degree in public health sciences, students demonstrate the ability to integrate learning acquired through their coursework, including content, methods and practice knowledge. Students are assigned to a small group that functions as a “consulting team” over the course of one academic term to answer a specific question or task for a specific organization that addresses issues of relevance to the field of public health. Designed and supported by public health sciences faculty and external preceptors, capstone projects focus on real public health issues that confront contemporary Canadian public health leaders, require the integration of subject matter across multiple public health disciplines, and call for collaboration, ethical judgment, evaluation and analysis. Prerequisites: All required core and specialization courses, including the field practicum.

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

**RLS 100 Life, Leisure, and the Pursuit of Happiness**
- (fi 3) (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.

**RLS 122 Leadership in Recreation and Leisure Organizations**
- (fi 3) (either term, 3-0-1.5). Introduction to leadership and followership as they apply to recreation and leisure organizations. Emphasis is on practical skills including oral and written communication, group dynamics, conflict management, organizational ethics and politics, professional careers, and other topics as relevant.

**RLS 225 Program Planning for Leisure**
- (fi 3) (either term, 3-0-0). This course involves an examination of the planning process with a particular focus on programming for recreation, sport and tourism. Consideration will be given to program planning for leisure in the context of the not-for-profit, commercial and public sectors. Prerequisite: RLS 100.

**RLS 230 Recreation and Community Development**
- (fi 3) (either term, 2-0-1.5). Analysis of the social and political processes through which groups and individuals work to mobilize resources and establish relationships to fulfill community needs. Prerequisite: RLS 100.

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.

Undergraduate Courses

**REHAB 350 Structural Human Anatomy**
- (fi 3) (either term, 3-0-0). An in-depth study of the gross anatomy of the upper and lower extremities, trunk, head and neck.

Graduate Courses

**REHAB 551 Speech Development, Assessment and Treatment Considerations in the Francophone Context**
- (fi 6) (Spring/Summer, 3-0-0). A study of the characteristics of the French language. The course reviews appropriate assessment tools and treatment models for children and adults with speech disorders. Clinical experience (10 hours) with Francophone clients is included. Restricted to MSc- SLP degree and SLP Certificate students. Prerequisite: REHAB 553, Instruction in French.

**REHAB 553 Linguistic and Cultural Plurality Issues in the Francophone Context**
- (fi 3) (either term or Spring/Summer, 0-3L-0). A study of linguistic, social and cultural issues that affect treatment of children and adults in plural language (particularly French-English) contexts. SPA 553 is also open to students with a French background from other disciplines such as education, linguistics, psychology.
etc., with permission of the Department of Speech Pathology and Audiology. Instruction is in French.

Religious Studies, RELIG
Office of Interdisciplinary Studies
Faculty of Arts

Undergraduate Courses

RELIG 101 Introduction to the Religions of the World
3 (fi 12) (two term, 3-0-0). An introduction to the major religious traditions of the past and present. Note: Not open to students with credit in ET RE 102 or 103.

RELIG 200 Introduction to Religious Studies
3 (fi 6) (either term, 3-0-0). Survey of the history of Religious Studies; introduction to main disciplinary approaches. Required for Honors, Majors, and Minors.

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. 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. [Renewable Resources] Credit may not be obtained in this course if previous credit has been obtained for ENCS 308 or ENCS 207 or FDR 302/303/304.

REN R 401 Special Topics in Renewable Resources
3-6 (variable) (either term, variable). Directed study in the multiple aspects of renewable resources. Open to third or fourth year students upon consent of instructor. Some sections 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.

REN R 456 International Forest Conservation and Management
3 (fi 6) (Winter/Spring/Summer, variable). Participation in a trip to a selected region is required as part of the course. Biophysical, social, historical and economic factors that influence forest conservation and management are examined; forest resources, ecological services, forest conservation and management practices, policies and regulations are evaluated and discussed. Students complete background research, participate in seminar discussions, and complete a report on the region visited. A different region is visited each year. Course may not be offered every year. Students must contact the instructor at least 4 months prior to the departure date. Requires payment of additional miscellaneous fees, including a non-refundable deposit that is due at least 3 months prior to the departure date. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar. Credit will not be received for both FOR 486 and REN R 456.

Graduate Courses

REN R 501 Special Topics in Renewable Resources
3-6 (variable) (either term, variable). Directed study in the multiple aspects of renewable resources. Open to fourth year or graduate students upon consent of instructor.

Research, RSCH
Faculty of Graduate Studies and Research

Graduate Courses

RSCH 900 Graduate Research
9 (fi 6) (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.

Russian, RUSS
Department of Modern Languages and Cultural Studies
Faculty of Arts

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

Undergraduate Courses

RUSS 300 Russian: Learn it, Live it, Love it
3 (fi 12) (either term, 3-0-0). Intensive six-week course in Russian culture and language taught in Russia. Prerequisite: RUSS 212 or consent of Department.

RUSS 499 Special Topics
3 (fi 6) (either term, 3-0-0).

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 102 Social Problems
3 (fi 6) (either term, 3-0-0). Selected structural issues in various societies, including inequality, population growth, environment, and human rights.

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). This course focuses primarily on the foundational contributions and continuing relevance of the works of Marx, Weber andDurkheim to sociology and social theory. Prerequisite: SOC 100 or consent of instructor.

SOC 224 Sociology of Deviance and Conformity
3 (fi 6) (either term, 3-0-0). Processes involved in defining behavior patterns as deviant; factors which influence conformity and change; examination of such behavior patterns as sexuality, alcoholism, drug use, and selected mental and physical disabilities; public reaction to such behavior.

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 behavior.

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. Prerequisite: One 100-level Arts course or consent of instructor.

SOC 241 Social Psychology
3 (fi 6) (either term, 3-0-0). An introduction to the study of individual and group behavior 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; urbanization; 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.

**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.

**SOC 301 Sociology of Gender**
3 (fi 6) (either term, 3-0-0). Comparative study of sex roles in selected societies with an emphasis upon contemporary Canada; sex-specific role behaviors and theories regarding their origin; recent sociological research on the social effects of sex roles. Prerequisite: SOC 100 or consent of instructor.

**SOC 344 Media Culture and Society**
3 (fi 6) (either term, 3-0-0). Critical examination of the central issues and debates about the media-society relationship. Emphasis on the cultural, political and economic aspects of various media forms/genres, media theories, and audience considerations. Note: Not to be taken by students with credit in SOC 346 and not to be used as the prerequisite for SOC 444 or 477.

**SOC 363 Sociology of Work and Industry**
3 (fi 6) (either term, 3-0-0). Sociological analysis of the changing nature and content of work, its diversity of industrial contexts and organizational forms, and its consequences for individuals and society, from Canadian and comparative perspectives. Prerequisite: SOC 100. Not open to students with credit in SOC 366.

**SOC 375 Sociology of Aging**
3 (fi 6) (either term, 3-0-0). Aging as a socio-cultural phenomenon. Includes aging in relation to the self-concept, family, religion, politics, health, retirement and leisure, housing, attitudes toward death, with particular emphasis on Canadian society.

**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.

**Graduate Courses**

**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 Note 1 - 3 under Spanish listings in the University Calendar.

**Undergraduate Courses**

**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 credit in SPAN 100, or with native or near native proficiency, or with Spanish 30 or its equivalents in Canada and other countries.

**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 credit in SPAN 100, or with native or near native proficiency, or with Spanish 30 or its equivalents in Canada and other countries.

**SPAN 211 Intermediate Spanish I**
3 (fi 6) (either term, 4-0-0). Intended to further develop knowledge of spoken and written Spanish with a focus on intercultural communicative competence. Prerequisite: Spanish 30 (or equivalent) or SPAN 112 or consent of Department. Note: Not to be taken by students with credit in SPAN 200 or 201 or by students with advanced standing equivalent or near native ability.

**SPAN 212 Intermediate Spanish II**
3 (fi 6) (either term, 4-0-0). A continuation of Spanish 211. Prerequisite: SPAN 211 or consent of Department. Note: Not to be taken by students with credit in SPAN 201 or by students with advanced standing equivalent or near native ability.

**SPAN 300 Advanced Spanish**
3 (fi 6) (either term, 3-0-0). 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. May be taken at the same time as SPAN 314 or 315. Note: SPAN 300 is not open to students with advanced standing equivalent or near native ability or with credit in SPAN 306.

**Speech Pathology and Audiology, SPA**

Department of Speech Pathology and Audiology
Faculty of Rehabilitation Medicine

*Note:* All SPA courses are open to SPA students only.

**Graduate Courses**

**SPA 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: SPA 524. (Restricted to MScSLP students only.)

**SPA 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 individuals with communication disorders. Prerequisite: SPA 516. (Restricted to MScSLP students only.)

**SPA 524 Introduction to Clinical Practicum I**
1.5 (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 SPA 507, 511, 518. Corequisite: SPA 516. (Restricted to MScSLPs students only.)

**SPA 540 Advanced Clinical Practicum**
4.5 (fi 15) (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: SPA 532 and 533. (Restricted to MScSLP students only.)

**SPA 545 Advanced Clinical Practicum**
4.5 (fi 15) (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: SPA 532 and 533. (Restricted to MScSLP students only.)

**SPA 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: SPA 532 and 524 and permission of the department. (Restricted to MScSLP students only.)
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

STAT 141 Introduction to Statistics
3 (fi 6) (either term, 3-0-0). Random variables and frequency distributions. Averages and variance. The binomial and normal distribution. Sampling distributions and elementary inference. X2-test for contingency tables. Regression and correlation. Analysis of variance. Prerequisite: Pure Mathematics 30, Mathematics 30-1 or 30-2, or consent of Department. This course may not be taken for credit if credit has been obtained in any STAT course, or in PEDS 309, PSYCO 211 or SOC 210.

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: Pure Mathematics 30, 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 309, 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, 225, 226, PSYCO 211 or SOC 210. Intended for Engineering students. Other students who take this course will receive 3.0.

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 equivalent.

STAT 265 Statistics I
3 (fi 6) (first term, 3-0-1). 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. Prerequisite: MATH 115 or SCI 110. Corequisite: MATH 214. Credit may not be obtained for both STAT 265 and STAT 221.

STAT 266 Statistics II
3 (fi 6) (second term, 3-0-1). 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, MATH 214 and 225. Co-requisite: MATH 215. Credit may not be obtained for both STAT 266 and either of STAT 222 or STAT 366.

STAT 353 Life Contingencies I
3 (fi 6) (either term, 3-0-0). Time at death random variables, continuous and discrete insurance, endowments and varying annuities, net premiums and reserves. Prerequisites: MATH 253 and STAT 265. Corequisite: MATH 215.

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, Benetton, 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 402 Management Skills for Supervisors and Leaders
3 (fi 6) (either term, 3-0-0). The purpose of this course is to increase 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. 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 488 Selected Topics in Organization Theory
3 (fi 6) (either term, 3-0-0). Normally restricted to third- and fourth-year Business students. Prerequisites: SMO 201, 301 or 310 or consent of Department. Additional prerequisites may be required.

SMO 485 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.

SMO 496 Individual Research Project II
3 (fi 6) (either term, 3-0-0). Special Study for advanced undergraduates. Prerequisites: SMO 485, consent of the 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 of 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 612 Effective Negotiations
3 (fi 6) (either term, 3-0-0). This Human Resource Management course is a comprehensive study of negotiation theory and practice. A negotiation simulation is conducted to provide an understanding of how theory translates into practice.

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 886 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.

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 Note 1 - 3 under Ukrainian listing in the University Calendar.

Undergraduate Courses

UKR 300 Ukrainian through its Living Culture I
★0 (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.

UKR 400 Ukrainian through its Living Culture II
★0 (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 Studies, W ST
Women's Studies Program
Faculty of Arts

Undergraduate Courses

W ST 201 Introduction to Women's Studies
★3 (fi 6) (either term, 3-0-0). Introduces students to the field of Women's Studies, with emphasis on the theoretical foundations of feminist analysis and the diversity of debates within feminism.

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 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 2) (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 2) (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 (III) (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 (III) (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 (III) (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 (III) (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 their 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 956 Science Work Experience II**  
★0 (III) (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 (III) (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**

**Undergraduate Courses**

**WRITE 295 Introduction to Writing Fiction**  
★3 (III) (either term, 3-0-0). Lectures and workshops in which the student will be required to write prose. Prerequisites: ★6 of junior English (or equivalent), and consent of Instructor(s) based on a portfolio (see Instructor for deadline).

**WRITE 298 Introduction to Writing Nonfiction**  
★6 (III) (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 (III) (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.

**Graduate Courses**

**WRS 604 Writing and Disciplinarity**  
★3 (III) (either term, 0-3s-0).