

DRAMA 590 Production Crew III

★6 (*fi 12*) (two term, 0-15L-0). Production experience in preparing and/or running of a production for performance. Prerequisite: DRAMA 490. Note: Restricted to BFA (Technical Theatre) students. Repeatable.

DRAMA 599 Explorations in Acting III

★2 (*fi 4*) (either term, 0-2L-0). Prerequisite: DRAMA 499. Restricted to BFA (Acting) students. Course grading criterion is in terms of 'credit/no credit' only.

Graduate Courses**DRAMA 595 Professional Orientation for Theatre Artists**

★0 (*fi 2*) (either term, 2-0-0). Preparing the artist for developing a career in professional theatre. Required for graduation for BFA in Acting, Stage Management, Technical Theatre and Design students.

DRAMA 596 Advanced Stage Management

★3 (*fi 6*) (either term, 0-6L-0). Stage management practice as it applies to different types of production. Prerequisite: DRAMA 396. Note: Restricted to BFA Technical Theatre (Stage Management) students. Repeatable (to be taken two years in succession).

DRAMA 601 Methods and Tools of Research

★3 (*fi 6*) (either term, 0-3L-0).

DRAMA 602 Theatre Historiographies

★3 (*fi 6*) (either term, 0-3s-0). Critical approaches to historical research.

DRAMA 605 Special Projects in Theatre

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

DRAMA 607 Dramaturgy I

★3 (*fi 6*) (variable, 0-3s-0).

DRAMA 608 Historical Approaches to Dramatic and Theatrical Critical Theories

★3 (*fi 6*) (either term, 0-3s-0). An in-depth analysis of selected theories of aesthetics, drama and theatre, from Aristotle to Modernism.

DRAMA 609 Contemporary Approaches to Dramatic and Theatrical Critical Theories

★3 (*fi 6*) (either term, 0-3s-0). An in-depth analysis of selected contemporary theories of aesthetics, drama and theatre, from Structuralism to the present.

DRAMA 617 Dramaturgy II

★3 (*fi 6*) (variable, 0-9L-0). Practical studies in dramaturgy. Prerequisites: DRAMA 607 and/or consent of Department.

DRAMA 621 Research Seminar I

★3 (*fi 6*) (either term, 0-3s-0). Selected topics in Theory and Criticism.

DRAMA 622 Research Seminar II

★3 (*fi 6*) (either term, 0-3s-0). Selected topics in Theory and Criticism.

DRAMA 623 Research Seminar III

★3 (*fi 6*) (either term, 0-3s-0). Selected topics in Theatre History and Theatrical Theory.

DRAMA 624 Research Seminar IV

★3 (*fi 6*) (either term, 0-3s-0). Selected topics in Theatre History and Theatrical Theory.

DRAMA 625 Research in Canadian Drama I

★3 (*fi 6*) (either term, 0-3s-0). Research in selected topics related to Canadian Drama.

DRAMA 626 Research in Canadian Drama II

★3 (*fi 6*) (either term, 0-3s-0). Research in selected topics related to Canadian Drama.

DRAMA 640 Voice Pedagogy I

★3 (*fi 6*) (variable, 0-9L-0). Study of theory and pedagogical approaches to teaching voice, speech and text for the theatre.

DRAMA 641 Voice Pedagogy II

★3 (*fi 6*) (variable, 0-9L-0). Advanced study of theory and pedagogical approaches to teaching and coaching voice, speech and text for the theatre, and for presentation skills. Prerequisite: DRAMA 640.

DRAMA 642 Vocal Coaching for the Theatre I

★3 (*fi 6*) (either term, 0-12L-0). Observation and analysis of approaches to coaching voice, speech and text for the theatre.

DRAMA 643 Vocal Coaching for the Theatre II

★3 (*fi 6*) (either term, 0-12L-0). Advanced observation, analysis and supervised teaching and coaching of voice, speech and text for the theatre and for presentation skills. Prerequisite: DRAMA 642.

DRAMA 644 Vocal Coaching for the Theatre III

★3 (*fi 6*) (either term, 0-12L-0). Supervised and independent teaching and coaching of voice, speech and text for the theatre and for presentation skills. Prerequisite: DRAMA 643.

DRAMA 659 Popular Theatre: Theory and Methodology

★3 (*fi 6*) (either term, 0-9L-0). This course will examine the principles on which popular theatre rests, the objectives of popular theatre, various approaches to popular theatre, and evaluation of popular theatre. Students will examine these topics through a mix of academic study, practical introduction of specific popular theatre techniques, and an experience in a popular theatre process. Prerequisite: consent of Department.

DRAMA 680 Styles of Directing

★6 (*fi 12*) (two term, 0-3s-6). Note: Restricted to MFA (Drama) students.

DRAMA 681 Advanced Projects in Directing

★6 (*fi 12*) (two term, 0-3s-6). Note: Restricted to MFA (Drama) students.

DRAMA 690 Topics in Applied Theatre Aesthetics

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

DRAMA 695 Final Research Project (Course Based Masters)

★0 (*fi 1*) (either term, unassigned). Public presentation of final research project. This is a pass/fail course.

231.96 Earth and Atmospheric Sciences, EAS

Department of Earth and Atmospheric Sciences
Faculty of Science

Notes

- (1) Students are responsible for their own accommodation and meal expenses on all Earth and Atmospheric Sciences field trips.
- (2) List of paleontology courses and course descriptions may be found under Paleontology.

Undergraduate Courses

231.96.1 Faculty of Arts Courses

0 EAS 192 Cultures, Landscapes and Geographic Space

★3 (*fi 6*) (either term, 3-0-0). 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 190 or 191. [Faculty of Arts]

0 EAS 293 The Urban Environment

★3 (*fi 6*) (either term, 3-0-0). Introduction to urban geography emphasizing interactions between the physical environment and patterns of human settlement. Topics include models of urbanization and urban form, growth and decline in North American cities. Prerequisite: Any ★3 course. [Faculty of Arts]

0 EAS 294 Natural Resources and Environmental Management

★3 (*fi 6*) (either term, 3-0-0). Geographic concepts and perspectives on renewable and non-renewable natural resources. Prerequisite: Any ★3 course. Not to be taken by students with credit in EAS 290 or 291. [Faculty of Arts]

0 EAS 295 Human Dimensions of Environmental Hazards

★3 (*fi 6*) (either term, 2-1s-0). Interactions between environmental hazards, individuals and communities; risk reduction strategies by members of the public and management agencies. Prerequisite: Any ★3 course. [Faculty of Arts]

0 EAS 296 Planning Theory and Practice

★3 (*fi 6*) (either term, 3-0-0). An introduction to planning theory and practice focusing on rural, urban and environmental topics. Prerequisite: Any ★3 course. [Faculty of Arts]

0 EAS 391 Introduction to Environmental Planning

★3 (*fi 6*) (either term, 2-1s-0). Introduction to issues in policy making, planning and management related to human interaction with the physical environment. Prerequisite: EAS 192 or any EAS 29X course. [Faculty of Arts]

0 EAS 392 Research Methods in Human Geography

★3 (*fi 6*) (either term, 3-0-0). Collection and analysis of data for research in human geography. Research design and sampling procedures. Special emphasis on social surveys, analysis and interpretation of quantitative data, and report writing. Field work required. Prerequisites: Any three EAS X9X courses. [Faculty of Arts]

0 EAS 393 Introduction to Social and Cultural Geography

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: EAS 192 and any one EAS 29X course. [Faculty of Arts]

0 EAS 394 Issues In Human Geography

★3 (*fi 6*) (either term, 3-0-0). Theory and application of contemporary issues in human geography. Prerequisites: EAS 192 and one EAS 29X course. Topics vary; may be taken more than once for credit provided no topic is repeated. [Faculty of Arts]

O EAS 395 Health, Space and Place

★3 (fi 6) (either term, 2-1s-0). Geographic research on health and disease, including environmental, social, individual and institutional factors. Prerequisites: Any 100-level human geography (19X) course plus any one 200-level (29X) human geography course. [Faculty of Arts]

O EAS 396 The Spatial Economy

★3 (fi 6) (either term, 3-0-0). Introduction to the study of the location, distribution and spatial organization of economic activities on both the local and the international scale. EAS 192 and any one EAS 29X course. [Faculty of Arts]

O EAS 397 Topics in Regional Geography

★3 (fi 6) (either term, 3-0-0). Selected regions are studied in a regional or topical format. Topics vary; may be taken more than once for credit provided no topic is repeated. [Faculty of Arts]

O EAS 491 Resource Management and Environmental Policy

★3 (fi 6) (either term, 3-0-0). Roles of governmental and nongovernmental organizations, industry and private enterprise, and advocacy organizations in addressing issues of resource scarcity and environmental policy. Institutions, policies, and strategies for resource and environmental management at the provincial/state, national, and international levels. Prerequisites: EAS 391. [Faculty of Arts]

O EAS 492 Geographical Information Systems for Social Science

★3 (fi 6) (either term, 2-0-1). This course provides spatial analytic tools to social geographers and provides a social science perspective to geoprocessing students. Examples arise from marketing, operations research, sociology, and urban and economic geography. Assignments impart technical aspects through hands-on experience with commercial and in-house spatial analysis software. Prerequisite: EAS 221. [Faculty of Arts]

O EAS 493 Human Dimensions of Environmental Change

★3 (fi 6) (either term, 3-0-0). Investigation of issues related to the human use of resources and impact on the regional and global environment. Critical review of current frameworks for assessing, mitigating and adapting to global environmental change. Prerequisite: Any EAS 3XX course or consent of Instructor. [Faculty of Arts]

O EAS 494 Environment and Health

★3 (fi 6) (either term, 3-0-0). An examination of relations between human health and environmental issues, particularly those related to the natural, built, and social environments. Prerequisite: EAS 395. [Faculty of Arts]

O EAS 495 Advanced Issues in Human Geography

★3 (fi 6) (either term, 3-0-0). Advanced theory and application of contemporary issues in human geography. Prerequisite: EAS 192 and any one EAS 29X course. Topics vary; may be taken more than once for credit provided no topic is repeated. [Faculty of Arts]

EAS 497 Directed Study in Human Geography I

★3-6 (variable) (variable, 3-0-0). Prerequisite: Any EAS 39X course. [Faculty of Arts]

EAS 498 Directed Study in Human Geography II

★3 (fi 6) (either term, 3-0-0). Prerequisite: EAS 497. [Faculty of Arts]

EAS 499 Practical Study in Human Geography

★3 (fi 6) (variable, 10 - 15 days). Intensive field or practical study in Human Geography, typically as part of a team working off-campus. Details and areas of study may vary from year to year; consult the department about current offerings, fees and timing. Prerequisite: Any EAS 29X course and Consent of the Instructor. (Faculty of Arts). 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.

231.96.2 Faculty of Science Courses

O EAS 100 Planet Earth

★3 (fi 6) (either term, 3-0-3). 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 interaction with the Earth. Mineral and energy resources. Not available to students with credit in EAS 101, 102 or 201 (Note: Students with credit in EAS 201 may take EAS 200.). [Faculty of Science]

O EAS 105 The Dynamic Earth Through Time

★3 (fi 6) (either term, 3-0-3). The plate tectonic framework of a dynamic Earth as it relates to the origin of major groups of minerals and rocks. Earthquakes, structural geology, and the origin of mountain belts. Surface processes and their sedimentary products. History of life and extinctions. Not available to students with credit in EAS 101 or 210. Prerequisite: EAS 100 or 102. [Faculty of Science]

EAS 110 Earth Science Field School

★3 (fi 6) (second term, 7 days). This excursion through the mountains and prairies of Alberta is designed to demonstrate the diverse geomorphology and

landscape of the province and to observe the various rock types that make up the geological column from the Precambrian to the Recent, including the widespread glacial deposits. In addition, the structure of the rocks will be observed and discussed, fossils will be identified, and tours to various mines and damsites will be conducted. 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: One of EAS 100, 101, 201 or 210. [Faculty of Science]

O EAS 200 Introductory Studies in Earth Science

★1 (fi 2) (either term, 0-0-3). Laboratory study of topographic and geological maps, minerals, and rocks. EAS 200 together with EAS 201 is considered to be equivalent to EAS 100 for prerequisite purposes. Not available to students with credit in EAS 100, 101 or EAS 210. Corequisite: EAS 201. [Faculty of Science]

O EAS 201 Earth Science I

★3 (fi 6) (either term, 3-0-0). Origin of the earth and solar system, the atmosphere and ocean basins. Minerals, igneous, metamorphic and sedimentary rocks, geological time and the history of life. Plate tectonics and mountain building. Surface processes and landforms, groundwater, and mineral and energy resources. Prerequisite: Any 100-level Science course. Not available to students with credit in EAS 100, 101, 102 or 210. [Faculty of Science]

O EAS 202 Violent Weather

★3 (fi 6) (either term, 3-0-0). A survey of severe and unusual weather, with emphasis on tornadoes, hurricanes, hail and lightning. The scientific basis for the occurrence of these phenomena is presented along with practical precautions which may be taken to minimize their danger. Computer simulation and videos are used to illustrate how the weather systems work. Prerequisite: Any 100-level Science course. [Faculty of Science]

O EAS 204 Environment Alberta

★3 (fi 6) (either term, 3-0-0). The physical environment of Alberta. Regional variation in the patterns of climate, landforms, water, soils, vegetation and wildlife; the geographic synthesis of these patterns to give a broad understanding and appreciation of the province and its environmental problems. Prerequisite: One of EAS 100, 101, 102, 201 or 210. [Faculty of Science]

O 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 pollution; waste management and disposal; and global change. Prerequisite: Any 100-level Science course. [Faculty of Science]

O EAS 206 Geology of the Solar System

★3 (fi 6) (either term, 3-0-0). Origin of the elements and the solar system, origin and evolution of the planets. Geologic and atmospheric properties of the planets, the nature of meteorites and comets. Results of recent space exploration. Prerequisite: One of EAS 100, 101, 201 or 210. [Faculty of Science]

O EAS 207 Mass Extinctions and Dinosaurs

★3 (fi 6) (either term, 3-0-0). A discussion and description of the progression of life through time, with emphasis on important radiations and mass extinctions of life, and theories on why they occur. Evolution, radiation, morphology and life habits of dinosaurs are considered in detail. The evidence for asteroid impacts in the geologic record, their frequency and effect on the history of organisms through time. Origin and evolution of humans, and their impact on the biosphere. Prerequisite: Any 100-level Science course. [Faculty of Science]

O EAS 208 Introduction to Global Change

★3 (fi 6) (either term, 3-0-0). Natural and anthropogenic causes of global scale environmental change; the role of the atmosphere, oceans, biosphere and cryosphere in the processes of environmental change; relationships between levels of technology and development and the character of environmental change associated with human activity. Prerequisite: Any 100-level Science course. [Faculty of Science]

O EAS 209 Geology of Western Canada and the National and Provincial Parks

★3 (fi 6) (either term, 3-0-0). An overview of the geology and landscapes of Western Canada. The spectacularly exposed rocks of the prairie and mountain parks of Alberta and British Columbia will be fitted into a regional geological framework and examples from parks such as Yoho, Banff, Jasper, Dinosaur, and Kananaskis will be highlighted. Geological processes of mountain building and past and present landscape evolution will be emphasized. Prerequisite: One of EAS 100, 101, 103, 201 or 210. [Faculty of Science]

EAS 210 Engineering Earth Science

★4.5 (fi 6) (first term, 3-0-3). Rock-forming minerals, origins of igneous, metamorphic and sedimentary rocks; economic minerals and ore deposits; rock weathering and soil formation, mass-wasting, groundwater, deformation of the earth's crust. Laboratories on identification of minerals and rocks and the interpretation of topographic and geologic maps and aerial photography. Prerequisite: Any 100-

level Science course. Not available to students with credit in EAS 101, 105 or 201. Intended for students in Engineering programs. Restricted to students in Engineering programs. [Faculty of Science]

O EAS 212 The Oceans

★3 (*fi 6*) (either term, 3-0-0). An introduction to the physics and chemistry of the oceans. Topics covered include ocean currents, the ocean floor, origins and buffering of the chemistry of the oceans. The role of the oceans in determining past and present climates is introduced. Prerequisite: Any 100-level Science course. [Faculty of Science]

O EAS 221 Introduction to Geographical Information Systems and Remote Sensing

★3 (*fi 6*) (either term, 3-0-3). Background to the principles of Geographic Information Systems and Remote Sensing. Lectures emphasize the theoretical and methodological underpinnings, labs impart the technical aspects through hands-on experience with appropriate software. Prerequisite: Any 100-level Science course. [Faculty of Science]

O EAS 222 Stratigraphy and Sedimentation

★3 (*fi 6*) (either term, 3-0-3). Origin of sedimentary materials; sedimentary processes; sedimentary structures, textures, and flow regimes; properties and classification of clastic and non-clastic rocks; sedimentary environments and facies in non-marine, coastal and marine settings; principles of stratigraphy, stratigraphic nomenclature and the stratigraphic column. Prerequisite: One of EAS 101, 103, 105 or 210. [Faculty of Science]

O EAS 224 Mineralogy I

★3 (*fi 6*) (either term, 3-0-3). Principles of crystallography, physical and chemical properties of minerals, determinative mineralogy. Prerequisite: EAS 101, 105 or 210. [Faculty of Science]

O EAS 225 Earth Surface Processes and Landforms

★3 (*fi 6*) (either term, 3-0-3). Geomorphological processes and landform analysis with special reference to the landscape of Alberta. Fieldwork required. Prerequisite: One of EAS 100, 101, 102, 201 or 210. [Faculty of Science]

O EAS 230 Introduction to Invertebrate Paleontology

★3 (*fi 6*) (either term, 3-0-3). Systematics of important groups of invertebrate fossils. Introduction to biostratigraphy, paleoecology, and the study of mass extinctions and faunal radiations. Mechanisms and patterns of evolution. Groups covered include: Porifera, Cnidaria, Brachiopoda, Mollusca, Trilobita, Echinodermata, and some microfossil groups. Prerequisite: EAS 103 or 105. [Faculty of Science]

O EAS 232 Mineralogy II

★3 (*fi 6*) (either term, 3-0-3). Optical techniques in determinative mineralogy with particular emphasis on transmitted-light microscopy and its application to common rock-forming minerals. Mineral associations, textures and elementary ideas on the origin of igneous, metamorphic and sedimentary rocks. Prerequisite: EAS 224. [Faculty of Science]

O EAS 233 Geologic Structures and Maps

★3 (*fi 6*) (either term, 3-0-3). Orientation, measurement description, and analysis of planar and linear structures in rocks, including folds, faults, and fabrics. Introduction to mapping and the collection of structural information. Construction of geologic maps and cross-sections. Introduction to stereographic and equal-area projections. Basic concepts of strain and stress in rock deformation. Prerequisite: EAS 105 or 210. [Faculty of Science]

EAS 234 Geology Field School

★3 (*fi 6*) (second term, 12 days). A geological investigation of the Jasper area with emphasis on stratigraphy and properties of sedimentary rocks, paleontology, structural and Quaternary mapping, and Cordilleran tectonics. Field exercises teach the fundamentals of recording field data, aerial photograph interpretation, reconstructing depositional environments, and tectonic syntheses. This field school is run immediately following the Winter examination period. 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. Prerequisites: EAS 233, and one of EAS 222, 235 or 236. [Faculty of Science]

O EAS 250 Biogeography

★3 (*fi 6*) (either term, 3-0-3). The links between geomorphology and plant-animal environments will be covered through a biogeographical approach to ecological studies. Studies of the winter environment and the ecological role of snow. Plains and alpine field trips. "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: EAS 100 or 102 or BIOL 108. [Faculty of Science]

O EAS 270 The Atmosphere

★3 (*fi 6*) (either term, 3-0-0). An introduction to weather and climate. Atmospheric composition, temperature, humidity, wind, clouds; air masses, fronts, storms; weather forecasting. Weather map discussions. Prerequisite: Any 100-level Mathematics, Physics or Chemistry course, or EAS 100 or 102. [Faculty of Science]

O EAS 320 Geochemistry I

★3 (*fi 6*) (either term, 3-0-3). A survey of chemical processes occurring in

geological settings with emphasis on the principles governing the migration and distribution of the elements and isotopes in the earth. Thermodynamics applied to aqueous systems. Introduction to organic geochemistry and global geochemical cycles. Prerequisite: CHEM 101 and either CHEM 102 or 161 and EAS 224. [Faculty of Science]

O EAS 323 Introduction to Hydrogeology

★3 (*fi 6*) (either term, 3-0-3). The hydrologic cycle, water budgets and basic hydrologic processes; physical properties of porous media and groundwater flow principles; steady-state groundwater flow; transient groundwater flow, well hydraulics and groundwater resource evaluation; regional groundwater flow; and, basic hydrochemistry and transport processes. Prerequisites: One of EAS 100, 101, 102, 201 or 210 and MATH 113 or 114, PHYS 124 or 144, and one of PHYS 126, 130, or 146. Not available to students with credit in EAS 223. [Faculty of Science]

O EAS 324 Quaternary Geoscience and Terrain Analysis

★3 (*fi 6*) (either term, 3-0-3). Quaternary geoscience and applied geomorphology, including dating methods, stratigraphy and paleoclimates. Fundamentals of interpretation and mapping of surficial geology and geomorphology from aerial photographs and satellite images with a focus on western Canada. Some field work may be required. Prerequisites: EAS 221 and 225. [Faculty of Science]

O EAS 327 Environmental Instrumentation

★3 (*fi 6*) (either term, 3-0-2). Laboratory work and lectures to develop skills in environmental measurement through comprehension of first principles. Instrumentation (basic electronics; matching signal sources and receivers; noise; frequency response). Sensor-environment coupling (heat and mass transfer). Sampling theory. Principles will be applied to selected environmental monitoring instruments. Field trip. Prerequisites: EAS 100 or 102 and MATH 113. [Faculty of Science]

O EAS 331 Igneous Petrology

★3 (*fi 6*) (either term, 3-0-3). A survey of igneous rocks from the ocean basins and the continents; their field settings, classification, petrography, mineralogy and chemistry; magmatic processes and petrogenesis; problem solving and laboratory work on major rock suites. Prerequisite: CHEM 101 and EAS 232. [Faculty of Science]

O EAS 332 Metamorphic Petrology

★3 (*fi 6*) (either term, 3-0-3). An introduction to the classification and genesis of metamorphic rocks in light of field, petrographic and geochemical data. Prerequisite: CHEM 101 and EAS 232. [Faculty of Science]

EAS 333 Advanced Geology Field School

★3 (*fi 6*) (second term, 12 days). The study and mapping of deformed sedimentary, igneous, and metamorphic rocks and of macroscopic and mesoscopic structures in the field. 12 days of field exercises following Winter term examination period. Co-/prerequisites: EAS 234, 321, 331 and 332. 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. (Faculty of Science)

O EAS 336 Sedimentary Systems

★3 (*fi 6*) (either term, 3-0-3). Genesis of sediments and sedimentary rocks, including composition, transportation, facies analysis and diagenesis. Provenance, depositional environments, and diagenesis of clastic sediments. Carbonate depositional models, facies recognition, and diagenetic processes, including replacement, cementation, and dolomitization. Laboratory exercises will be based on the analysis of hand samples, thin sections, and core. Prerequisite: EAS 222. Not available to students with credit in EAS 235 or 236. [Faculty of Science]

O EAS 351 Environmental Applications of Geographical Information Systems

★3 (*fi 6*) (either term, 3-0-3). This course emphasizes the applications of Geographic Information Systems (GIS) to the environmental sciences. Examples from resource management and the earth and biological sciences are discussed. Labs impart technical experience with ARCIINFO. Prerequisites: EAS 221. [Faculty of Science]

EAS 354 Environmental Earth Science Field School

★3 (*fi 6*) (either term, 12 days). Introduction to fieldwork in geomorphology, biogeography and microclimatology. Elementary field mapping, the use of electronic field instrumentation for hydrological, water quality and micro-climatological monitoring, mapping and analysis of vegetation patterns, and techniques for the field description and laboratory analysis of soils and sediments. Introductory lectures and ten days of fieldwork. 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. Prerequisites: EAS 225, 250 and 270 or consent of Instructor. [Faculty of Science]

O EAS 370 Applied Atmospheric Physics

★3 (*fi 6*) (either term, 3-0-0). An introduction to the physics of the atmosphere with applications: temperature, pressure, humidity, evaporation, condensation, dew, freezing, ice, frost, convection, clouds, rain, hail, rainbows, solar and terrestrial radiation. Development of thermodynamic concepts and tools used by atmospheric scientists in the analysis and forecasting of weather and climate: potential temperatures, psychrometry, thermodynamic diagrams, radiation charts. Prerequisites: EAS 270 and MATH 214. [Faculty of Science]

O EAS 371 Dynamics of the Atmosphere and Ocean I

★3 (fi 6) (either term, 3-0-3). An introduction to fluid dynamics on the rotating earth with reference to the atmosphere and ocean; equations of motion and their simplification; vorticity; the atmospheric boundary layer; waves in the atmosphere and ocean. Prerequisites: EAS 270 and MATH 214. [Faculty of Science]

O EAS 372 Weather Analysis and Forecasting

★3 (fi 6) (either term, 3-0-0). An introduction to synoptic analysis. Meteorological codes. Analysis of surface charts. Air-masses and fronts. Upper air constant pressure charts. Structure and evolution of weather systems. Analysis of current and predicted weather data. Synoptic weather forecasting. Prerequisite: EAS 371. [Faculty of Science]

O EAS 373 The Climate System

★3 (fi 6) (either term, 3-0-0). An examination of the physical processes influencing global climate. Radiation and energy in the climate system, the hydrological cycle, general circulation of the atmosphere and ocean, climate feedback mechanisms, climate history and climate change, introduction to climate models. Prerequisite: EAS 270. Not available to students with credit in EAS 271. [Faculty of Science]

EAS 401 Industrial Internship Practicum

★3 (fi 6) (either term, 3-0-0). Required of all students who have recently completed an EAS Industrial Internship Placement. This course must be completed during the first academic year following their return to full-time studies in order to graduate in the Industrial Internship Program. Grade is determined based on the employer evaluation of the student's job performance and the performance on written assignments and oral presentations during the course. Prerequisites: WKEXP 411 and 412. [Faculty of Science]

O EAS 421 Structural Geology and Tectonics

★3 (fi 6) (either term, 3-0-3). Geometric, kinematic, and dynamic analysis of structures produced by deformation. Stress and the origin of faults, joints, veins, folds, and tectonites. Brittle and ductile strain in rocks. Extensional, strike-slip, and compressional structural associations. Regional structure, orogens, and crustal tectonics. Lab exercises include structural interpretation for subsurface hydrocarbon and mineral exploration, stereographic techniques for structural analysis, and the study of rock fabrics. Prerequisites: EAS 233 and any 300-level EAS course. Not available to students with credit in EAS 321. [Faculty of Science]

O EAS 425 Contaminant Hydrogeology

★3 (fi 6) (either term, 3-0-3). An introduction to the principles of groundwater chemistry, the chemical evolution of natural groundwater flow systems, sources of contamination, and mass transport processes. Hydrogeologic aspects of waste disposal and groundwater remediation. Prerequisite: EAS 323. [Faculty of Science]

EAS 426 Undergraduate Thesis

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

EAS 427 Directed Study I

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

EAS 428 Directed Study II

★3 (fi 6) (either term, 3-0-0). Prerequisite: EAS 427. [Faculty of Science]

EAS 429 Practical Study in Earth and Atmospheric Science

★3 (fi 6) (variable, 10 - 15 days). Intensive field or practical study in EAS, typically as part of a team working off-campus. Details and areas of study may vary from year to year; consult the department about current offerings, fees and timing. Prerequisite: Any 300-level EAS course and permission of the department. [Faculty of Science] Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

O EAS 430 Petroleum Geology

★3 (fi 6) (either term, 3-0-3). Origin, maturation, and degradation of petroleum; conventional and unconventional source rocks; principles of migration; reservoir rocks; traps. Exploration and development of hydrocarbon plays using seismic, core and wire line logging, thin section petrography, correlation, mapping, and geochemistry. Prerequisites: EAS 236 or 336. [Faculty of Science]

O EAS 432 Precambrian Geology

★3 (fi 6) (either term, 3-0-0). Precambrian geological evolution of Earth focusing on development of the continental lithosphere. Geochemical evolution of the crust and mantle as well as the atmosphere and hydrosphere. Special reference to the evolution, stratigraphy, petrology and geochronology of the Canadian Shield. Prerequisite: EAS 320 and 331. [Faculty of Science]

O EAS 433 Ore Deposits Geology

★3 (fi 6) (either term, 3-0-3). Mineralogy and petrography of ore and gangue minerals under the reflected and transmitted light microscope and in hand specimen. Interpretation of ore textures and paragenetic sequences. Geological characteristics

and distribution of ore deposits including deposits of base and precious metals, diamonds and industrial minerals. Prerequisite: EAS 331. [Faculty of Science]

O EAS 451 Digital Remote Sensing

★3 (fi 6) (either term, 3-0-3). This course introduces the interactions of electromagnetic radiation with terrestrial materials (rocks, soils, water, snow). These notions are fundamental for the interpretation of optical, thermal, and radar remote sensing imagery. Labs focus on image processing with emphasis on radiometric and geometric enhancements and image classification. The course covers existing and upcoming sensors and applications of the data to earth sciences including geologic and land use mapping and resource exploration. Prerequisite: EAS 221. [Faculty of Science]

O EAS 452 Topics in Earth Observation Science

★3 (fi 6) (either term, 3-0-3). Specialized topics in Earth observation science of current interest to advanced undergraduates in Earth and Atmospheric Sciences. Topics may include image processing or specific applications of remote sensing and may vary from year to year. Consult the Department for details about current offerings. Prerequisite: EAS 451 or consent of instructor. [Faculty of Science]

O EAS 457 Global Change

★3 (fi 6) (either term, 3-0-0). Major processes of change in the contemporary environment, their history and their interrelationships (climate and sea level change, changes in atmospheric composition, deforestation, desertification, water resource depletion, soil erosion, atmospheric and aquatic pollution); global biogeochemical cycles and their role in environmental change. Prerequisite: One of EAS 208, 225 or 250. [Faculty of Science]

O EAS 458 Cold Regions Geoscience

★3 (fi 6) (either term, 3-0-0). Environments and environmental change associated with high latitude and high elevation regions. Topics vary: see <http://www.eas.ualberta.ca/eas458> for details. May be taken more than once for credit provided no topic is repeated. Topics include: (1) Arctic environments; (2) Alpine environments; (3) Antarctica. Prerequisite: EAS 225 or 250 or consent of the instructor. [Faculty of Science]

O EAS 460 Geobiology

★3 (fi 6) (either term, 3-0-3). The relationship between biology and geology. Ichnology, geomicrobiology, and microfossil content. The evolution of animal-rock relationships through time. Topics vary: see www.eas.ualberta.ca/eas460 for details. May be taken more than once for credit provided no topic is repeated. Topics include: (1) Ichnology; (2) Geomicrobiology; (3) Micropaleontology. Prerequisite: EAS 336. [Faculty of Science]

O EAS 462 Stratigraphy and Sedimentary Basins

★3 (fi 6) (either term, 3-0-3). The science of rock strata in a sequence stratigraphic framework; sequence stratigraphic models; classification and evolution of sedimentary basins; applications of sequence stratigraphy to depositional systems and tectonic settings. Prerequisite EAS 336. Not available to students with credit in EAS 330. [Faculty of Science]

O EAS 464 Applied Hydrocarbon Geoscience

★3 (fi 6) (either term, 3-0-3). Advanced topics in the characterization of petroleum resources and the regional occurrence of hydrocarbons. Topics vary: see <http://www.eas.ualberta.ca/eas464> for details. May be taken more than once for credit provided no topic is repeated. Topics include: (1) Regional and Petroleum Hydrogeology; (2) Petroleum Systems. Prerequisite: EAS 430 or consent of the instructor. [Faculty of Science]

O EAS 465 Sedimentology

★3 (fi 6) (either term, 3-0-0). The science of sedimentary rocks, focusing on the interpretation of sedimentary strata. Topics vary: see <http://www.eas.ualberta.ca/eas465> for details. May be taken more than once for credit provided no topic is repeated. Topics include: (1) Carbonate Sedimentology and Diagenesis; (2) Clastic Sedimentology. Prerequisite: EAS 336. [Faculty of Science]

O EAS 466 Petrogenesis

★3 (fi 6) (either term, 3-0-3). Origin and formation of igneous and metamorphic rocks in the light of field, mineralogical, chemical and experimental evidence. Topics vary: see <http://www.eas.ualberta.ca/eas466> for details. May be taken more than once for credit provided no topic is repeated. Topics include: (1) Cratons, Kimberlites and Diamonds; (2) Petrology of Subduction Processes. Prerequisites: EAS 331 and EAS 332, which may be taken concurrently with permission of the instructor. [Faculty of Science]

O EAS 467 Planetary Geology

★3 (fi 6) (either term, 3-0-3). The geologically evolving Earth and its context in an evolving solar system. Topics vary: see <http://www.eas.ualberta.ca/eas467> for details. May be taken more than once for credit provided no topic is repeated. Topics include: (1) Planetary Systems; (2) Earth System Evolution (Not available to students with credit in EAS 435). Prerequisites: EAS 331 and EAS 332. [Faculty of Science]

O EAS 468 Geochemical Processes

★3 (fi 6) (either term, 3-0-3). Application of geochemistry to Earth materials and geological settings. Topics vary: see <http://www.eas.ualberta.ca/eas468> for details. May be taken more than once for credit provided no topic is repeated. Topics

include: (1) Geochemistry of Ore Deposits; (2) Environmental Geochemistry (Not available to students with credit in EAS 420). Prerequisite: EAS 320 or consent of instructor. [Faculty of Science]

0 EAS 470 Clouds and Storms

★3 (fi 6) (either term, 3-0-0). Cloud properties; formation and growth of cloud droplets and ice crystals, rain and snow; weather radar; Doppler radar analysis; precipitation processes; severe convective storms, weather modification; numerical cloud models; Precipitation forecasting. Prerequisites: EAS 370 and 371. [Faculty of Science]

0 EAS 471 Atmospheric Modelling

★3 (fi 6) (either term, 3-0-3). Dynamics and physics of general circulation models. Numerical Weather Prediction models, ocean models, limited area models. Finite difference methods; spectral methods, and numerical stability. Prerequisites: EAS 371, 373 and MATH 215. [Faculty of Science]

0 EAS 475 Dynamics of the Atmosphere and Ocean II

★3 (fi 6) (either term, 3-2s-0). Synoptic-scale processes; the general circulation; turbulence; oceanic mixing; wind-driven circulation; waves in the atmosphere and ocean; baroclinic instability; tides. Prerequisites: EAS 212 and 371 or consent of instructor. [Faculty of Science]

Graduate Courses

231.96.3 Faculty of Arts Courses

0 EAS 590 Topics in Human Geography

★3 (fi 6) (either term, 3-0-0). Theory and practice of geographic research at the graduate level. Discussion of major themes and research methods in contemporary human geography. Techniques for the development and enhancement of professional skills. [Faculty of Arts]

0 EAS 591 Advanced Resource Management and Environmental Policy

★3 (fi 6) (either term, 3-0-0). Roles of governmental and nongovernmental organizations, industry and private enterprise, and advocacy organizations in addressing issues of resource scarcity and environmental policy. Institutions, policies, and strategies for resource and environmental management at the provincial/state, national, and international levels. Prerequisites: Any EAS 39X course or consent of Instructor. Research project. Classes concurrent with EAS 491. Not available to students with credit in EAS 491. [Faculty of Arts]

0 EAS 592 Advanced Geographical Information Systems for Social Science

★3 (fi 6) (either term, 2-0-1). Provides spatial analytic tools to social geographers and provides a social science perspective to geoprocessing students. Examples arise from marketing, operations research, sociology, and urban and economic geography. Assignments impart technical aspects through hands-on experience with commercial and in-house spatial analysis software. Prerequisite: EAS 221. Research project. Classes concurrent with EAS 492. Not available to students with credit in EAS 492. [Faculty of Arts]

0 EAS 593 Advanced Human Dimensions of Global Change

★3 (fi 6) (either term, 3-0-0). Investigation of issues related to the human use of resources and impact on the regional and global environment. Critical review of alternative frameworks for assessing, mitigating and adapting to global environmental change. Research project. Classes concurrent with EAS 493. Not available to students with credit in EAS 493. [Faculty of Arts]

0 EAS 594 Advanced Environment and Health

★3 (fi 6) (either term, 3-0-0). An examination of relations between human health and environmental issues, particularly those related to the natural, built, and social environments. Prerequisite: consent of Department. Research project. Classes concurrent with EAS 494. Not available to students with credit in EAS 494. [Faculty of Arts]

231.96.4 Faculty of Science Courses

Notes

- (1) The following undergraduate course may be taken for credit by graduate students: PALEO 418, 419.
- (2) Enrolment in graduate courses is subject to consent by the instructor. Some graduate courses are offered in alternate years as indicated below.

EAS 520 Reading and Seminar Course

★3 (fi 6) (either term, 0-3s-0). [Faculty of Science]

0 EAS 521 Advanced Structural Geology and Tectonics

★3 (fi 6) (either term, 3-0-3). Geometric, kinematic, and dynamic analysis of structures produced by deformation. Stress and the origin of faults, joints, veins, folds, and tectonites. Brittle and ductile strain in rocks. Extensional, strike-slip, and compressional structural associations. Regional structure, orogens, and crustal tectonics. Lab exercises include structural interpretation for subsurface hydrocarbon and mineral exploration, stereographic techniques for structural analysis, and the

study of rock fabrics. Classes concurrent with EAS 421. Not available to students with credit in EAS 321 or 421. [Faculty of Science]

0 EAS 523 Advanced Topics in Earth Observation Science

★3 (fi 6) (either term, 3-0-3). Advanced treatment of methods and applications in earth observation science. Topics vary: see <http://www.eas.ualberta.ca/eas523> for details. May be taken more than once for credit provided no topic is repeated. Topics include: (1) Multi and hyperspectral remote sensing; (2) Radar remote sensing; (3) Image processing and analysis; (4) Monitoring land use and land cover change with GIS. [Faculty of Science]

0 EAS 524 Paleocology and Taphonomy

★3 (fi 6) (either term, 3-0-0). Ideas and techniques that allow us to use the occurrences and manner of preservation of fossils in sediments to examine ancient environments these organisms lived in, and those that affected their remains after death. Offered in alternate years. [Faculty of Science]

0 EAS 536 Mineralogy - Petrology - Geochemistry

★3 (fi 6) (either term, 3-0-0). Studies in geochemistry, petrology and mineralogy. Topics vary: see <http://www.eas.ualberta.ca/eas536> for details. May be taken more than once for credit provided no topic is repeated. Topics include: (1) Seminar; (2) Thermodynamics; (3) Mantle Studies. [Faculty of Science]

0 EAS 539 Isotope Geology: Radioactive Systems

★3 (fi 6) (either term, 3-0-0). Theory and systematics of radioactive decay, geochronology and isotopic tracing U-Pb, Rb-Sr, Sm-Nd, Re-Os and other radioisotope systems. Applications of natural radioactive isotope variation to a variety of problems spanning low and high temperature geologic processes. Offered in alternate years. [Faculty of Science]

0 EAS 540 Isotope Geology: Stable Isotope

★3 (fi 6) (either term, 3-0-0). Theory of light-element isotope fractionation; isotope variations in the meteoric cycle, igneous, metamorphic, sedimentary rocks and ore deposits. Isotope techniques in paleothermometry and paleoclimate studies. Isotope biogeochemistry, oil and gas. Offered in alternate years. [Faculty of Science]

0 EAS 541 Topics in Structural Geology and Tectonics

★3 (fi 6) (either term, 3-0-0). Current topics in structural geology and tectonics, from mesoscopic strain and vorticity indicators to orogenic belts; terrain analysis and comparative tectonics, with emphasis on the contribution of North American Phanerozoic orogens to current theory; lectures by instructor, and student research and seminar presentations. Offered in alternate years. [Faculty of Science]

0 EAS 546 Basin Modelling

★3 (fi 6) (either term, 3-0-0). Basin forming mechanisms and basin types. Evaluation of burial and thermal history of sedimentary basins. Quantifying hydrocarbon generation. Numerical modelling of hydrocarbon generation, migration and entrapment in sedimentary basins. Exploration applications of basin modelling. Offered in alternate years. [Faculty of Science]

0 EAS 547 Methods and Instrumentation in Geology

★3 (fi 6) (either term, 3-0-0). Course will cover analytical techniques such as probe, SEM, XRD, TIMS/gas source mass spectrometry, superpress, XRF, ICP-MS, TEM, NMR, SHRIMP and microthermometric techniques. [Faculty of Science]

0 EAS 553 Ice Dynamics and Glacier Hydrology

★3 (fi 6) (either term, 3-0-0). Introduction to the mechanics and hydrology of ice masses with an emphasis on how they can be modelled and investigated in the field. The management of ice masses as sources of water and energy. [Faculty of Science]

0 EAS 554 Circumpolar Quaternary Environments

★3 (fi 6) (either term, 3-0-0). Nature of paleoenvironmental change in northern Canada prior to the instrumental record (~1950). Comparisons are also made with other Arctic regions as well as Antarctica. Topics include Tertiary cooling, glaciation, glaciostasy, paleolimnology, paleoceanography, the ice core record, and linkages between high latitude and low latitude environments based on atmospheric and oceanographic forcing. Students from a wide range of disciplines are encouraged to participate. [Faculty of Science]

0 EAS 556 Topics in Geomorphology and Sedimentology

★3 (fi 6) (either term, 3-0-0). Selected, contemporary theories of landscape and sediment formation in glacial, glaciofluvial, alluvial, and periglacial environments. [Faculty of Science]

0 EAS 557 Environmental Change

★3 (fi 6) (either term, 3-0-0). Processes and records of environmental change, with focus on the Cenozoic. Interpretation of paleoclimatic and paleoecological archives. Anthropogenic impacts in the context of long-term natural variability. [Faculty of Science]

0 EAS 560 Advanced Geobiology

★3 (fi 6) (either term, 3-0-3). The relationship between biology and geology. Ichnology, geomicrobiology, and microfossil content. The evolution of animal-rock relationships through time. Topics vary: see www.eas.ualberta.ca/eas560 for details. May be taken more than once for credit provided no topic in EAS 460 or 560 is repeated. Topics Include: (2) Ichnology; (2) Geomicrobiology; (3) Micropaleontology. Classes concurrent with EAS 460. [Faculty of Science]

0 EAS 562 Advanced Stratigraphy and Sedimentary Basins

★3 (fi 6) (either term, 3-0-3). The science of rock strata in a sequence stratigraphic framework; sequence stratigraphic models; classification and evolution of sedimentary basins; applications of sequence stratigraphy to depositional systems and tectonic settings. Classes concurrent with EAS 462. Not available to students with credit in EAS 333 or 462. [Faculty of Science]

0 EAS 564 Advanced Applied Hydrocarbon Geoscience

★3 (fi 6) (either term, 3-0-3). Advanced topics in the characterization of petroleum resources and the regional occurrence of hydrocarbons. Topics vary; see www.eas.ualberta.ca/eas564 for details. May be taken more than once for credit provided no topic in EAS 464 or 564 is repeated. Topics include: (1) Regional Petroleum Hydrogeology; (2) Petroleum Systems. Classes concurrent with EAS 464. [Faculty of Science]

0 EAS 565 Advanced Sedimentology

★3 (fi 6) (either term, 3-0-0). The science of sedimentary rocks, focusing on the interpretation of sedimentary strata. Topics vary; see www.eas.ualberta.ca/eas565 for details. May be taken more than once for credit provided no topic in EAS 565 or EAS 465 is repeated. Topics include: (1) Carbonate Sedimentology and Diagenesis; (2) Clastic Sedimentology. Classes concurrent with EAS 465. [Faculty of Science]

0 EAS 566 Advanced Petrogenesis

★3 (fi 6) (either term, 3-0-3). Origin and formation of igneous and metamorphic rocks in the light of field, mineralogical, chemical and experimental evidence. Topics vary; see www.eas.ualberta.ca/eas566 for details. May be taken more than once for credit provided no topic in EAS 466 or 566 is repeated. Topics include: (1) Cratons, Kimberlites and Diamonds; (2) Petrology of Subduction Processes. Classes concurrent with EAS 466. [Faculty of Science]

0 EAS 567 Advanced Planetary Geology

★3 (fi 6) (either term, 3-0-3). The geologically evolving Earth and its context in an evolving solar system. Topics vary; see www.eas.ualberta.ca/eas567 for details. May be taken more than once for credit provided no topic in EAS 467 or EAS 567 is repeated. Topics include: (1) Planetary Systems; (2) Earth System Evolution (Not available to students with credit in EAS 435). Classes concurrent with EAS 467. [Faculty of Science]

0 EAS 568 Advanced Geochemical Processes

★3 (fi 6) (either term, 3-0-3). Application of geochemistry to Earth materials and geological settings. Topics vary; see www.eas.ualberta.ca/eas568 for details. May be taken more than once for credit provided no topic in EAS 468 or 568 is repeated. Topics include: (1) Geochemistry of Ore Deposits (Not available to students with credit in EAS 434); (2) Environmental Geochemistry. Classes concurrent with EAS 468. [Faculty of Science]

0 EAS 570 Advanced Climatology

★3 (fi 6) (either term, 3-0-0). A study of recent developments in climatology. Climate models and their use in examining past and future climates. Interactions between the atmosphere and terrestrial systems. Offered in alternate years. [Faculty of Science]

0 EAS 572 The Atmospheric Boundary Layer

★3 (fi 6) (either term, 3-0-0). Dimensional analysis and similarity principles. Resolved (mean) and unresolved (fluctuating, turbulent) scales of motion, and the closure problem for the dynamical equations. Similarity theories for wind and turbulence over uniform terrain. Dynamics of disturbed windflows (hills, forests, clearings, etc.). Turbulent transport and dispersion models. Offered in alternate years. [Faculty of Science]

0 EAS 583 Advanced Contaminant Hydrogeology

★3 (fi 6) (either term, 3-0-3). An introduction to principles of groundwater chemistry, the chemical evolution of natural groundwater flow systems, sources of contamination, and mass transport processes. Hydrogeologic aspects of waste disposal and groundwater remediation. Research project. Classes concurrent with EAS 425. Not available to students with credit in EAS 425. [Faculty of Science]

0 EAS 584 Advanced Clouds and Storms

★3 (fi 6) (either term, 3-0-0). Cloud properties; formation and growth of cloud droplets and ice crystals, rain and snow; weather radar; Doppler radar analysis; precipitation processes; severe convective storms; weather modification; numerical cloud models; precipitation forecasting. Research project. Classes concurrent with EAS 470. Not available to students with credit in EAS 470. [Faculty of Science]

0 EAS 585 Advanced Digital Remote Sensing

★3 (fi 6) (either term, 3-0-3). Introduces the interactions of electromagnetic radiation with terrestrial materials (rocks, soils, water, snow). These notions are fundamental for the interpretation of optical, thermal, and radar remote sensing imagery. Labs focus on image processing with emphasis on radiometric and geometric enhancements and image classification. Covers existing and upcoming sensors and applications of the data to earth sciences including geologic and land use mapping and resource exploration. Prerequisites: EAS 220 and 221. Classes concurrent with EAS 451. Not available to students with credit in EAS 451. [Faculty of Science]

0 EAS 587 Advanced Atmosphere-Ocean Dynamics

★3 (fi 6) (either term, 3-2s-0). Synoptic-scale processes; the general circulation;

turbulence; oceanic mixing; wind-driven circulation; waves in the atmosphere and ocean; baroclinic instability; tides. Class concurrent with EAS 475. Not available to students with credit in EAS 475. [Faculty of Science]

EAS 600 Research Skills and Ethics

★1 (fi 2) (either term, 0-1s-0). Ethics in research and the academic workplace. Topics may also include: essential skills for conducting research, presenting research in poster and oral form, publishing research, and preparation of research proposals. [Faculty of Science]

0 EAS 544 Hydrogeology

★3 (fi 6) (either term, 3-0-3). The storage and movement of water through Earth media. Topics vary; see http://www.eas.ualberta.ca/eas544 for details. May be taken more than once for credit provided no topic is repeated. Topics include: (1) Quantitative Hydrogeology; (2) Regional Groundwater Flow [Faculty of Science].

231.97 East Asian Studies, EASIA

Department of East Asian Studies
Faculty of Arts

Undergraduate Courses

0 EASIA 101 Understanding East Asia

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

0 EASIA 230 Popular Culture and Contemporary Chinese Society

★3 (fi 6) (either term, 3-0-0). Cultural texts and social changes in contemporary China. Note: Not open to students with credit in CHINA 230. Prerequisite: EASIA 101 or consent of Department.

0 EASIA 260 Popular Culture and Contemporary Japanese Society

★3 (fi 6) (either term, 3-0-0). Cultural texts and social changes in contemporary Japan. Prerequisite: EASIA 101 or consent of Department.

0 EASIA 321 Gender in East Asian Cultures

★3 (fi 6) (either term, 3-0-0). Gender as a cultural construct from antiquity to the present. Readings and lectures in English. Note: This course will not fulfill the language other than English requirement of the BA. Prerequisite: EASIA 101 or consent of Department.

EASIA 426 Globalization and the Cultures of East Asia

★3 (fi 6) (either term, 3-0-0). Cultural production from China and Japan and its role in historical and contemporary globalization. Prerequisite: EASIA 101.

EASIA 480 Honors Seminar

★3 (fi 6) (either term, 3-0-0). Note: Open to fourth year Honors students only.

EASIA 490 Honors Thesis

★3 (fi 6) (either term, 3-0-0). Note: Open to fourth year Honors students only.

Graduate Courses

EASIA 507 Topics in Major Contemporary Currents in Literary and Cultural Theory

★3 (fi 6) (either term, 3-0-0). Prerequisite: Reading knowledge of one relevant language other than English. Note: This course is equivalent to C LIT 507 and MLCS 507.

EASIA 598 Topics in East Asian Research

★3 (fi 6) (either term, 0-3s-0). An inquiry into the diversity of disciplines used in the study of East Asian literatures and cultures.

EASIA 599 Directed Reading in East Asian Studies

★3 (fi 6) (either term, 0-3s-0). May be repeated for credit when course content differs.

231.98 Economics, ECON

Department of Economics
Faculty of Arts

Notes

- (1) See also INT D 257, 302, 303, 346, and 369 for courses which are offered by more than one Department or Faculty and which may be taken as options or as a course in this discipline.
- (2) In the course listings below, ECON 204 will be accepted as the equivalent prerequisite of ECON 101 and/or 102.

Undergraduate Courses

0 ECON 101 Introduction to Microeconomics

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

O ECON 102 Introduction to Macroeconomics

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

ECON 204 Principles of Economics

★3 (fi 6) (either term, 3-0-0). An introduction to economic principles as applied to business organization and finance; price determination; enterprise costs and output optimization; commercial and central banking; national income analysis. For students enrolled in the Faculty of Engineering only. Not open to students with credit in ECON 101 and/or 102.

O ECON 211 Chinese Economic Development

★3 (fi 6) (either term, 3-0-0). A survey of the characteristics of and recent developments in the Chinese economy emphasizing the nature and consequences of China's economic reforms and Canada's economic relations with China. Prerequisite: ECON 101 or equivalent.

O ECON 213 An Introduction to the Economics of Developing Countries

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

O ECON 222 Technology, Institutions and Economic Growth

★3 (fi 6) (either term, 3-0-0). Differences in technology and institutions are used to explain why some countries are richer than others; why economic growth rates differ across time and jurisdictions; and causes of convergence/divergence in cross-country growth rates. Prerequisite: ECON 101 or equivalent.

O ECON 281 Intermediate Microeconomic Theory I

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

O ECON 282 Intermediate Macroeconomic Theory I

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

ECON 299 Quantitative Methods in Economics

★3 (fi 6) (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. 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.

ECON 303 Selected Topics in Economics I

★3 (fi 6) (either term, 3-0-0). Content varies from year to year. Topics announced prior to registration period. Prerequisite: ECON 101. Additional prerequisites may be required; consult the department for further information.

L ECON 323 International Economics

★3 (fi 6) (either term, 3-0-0). A survey of the principles of international economics and the applications to economic policy. Topics include international trade in goods and financial assets, trade policy and exchange rate determination. Note: Not open to students with credit in or enrolled in ECON 421 or 422. Prerequisite: ECON 101 and 102 or equivalent.

L ECON 331 Labor Economics

★3 (fi 6) (either term, 3-0-0). Theory and empirical evidence concerning the supply of and demand for labor services, wage differentials, and the impact of unions, with particular reference to Canadian contemporary issues. Some of the policy issues to be discussed are income maintenance, unemployment insurance, and minimum wage legislation. Prerequisite: ECON 101 or equivalent.

L ECON 341 Money and Banking

★3 (fi 6) (either term, 3-0-0). Financial intermediation, commercial banking, central banking, securities markets, and regulation of the banking and financial sectors, the money supply process and monetary control. Prerequisite: ECON 101 and 102 or equivalent.

L ECON 350 The Economics of Public Expenditures

★3 (fi 6) (either term, 3-0-0). Analysis of public sector expenditures in Canada. The rationale for government spending and the problems in the provision of public services. Prerequisite: ECON 101 or equivalent.

L ECON 353 Taxation Policy and Structure

★3 (fi 6) (either term, 3-0-0). Analysis of the Canadian tax structure and its role in attaining certain goals of society; requirements for an optimal tax structure. Prerequisite or corequisite: ECON 281 or consent of Department.

L ECON 355 Economics of Project Evaluation

★3 (fi 6) (either term, 3-0-0). The use of cost-benefit analysis and other economic

methods in evaluating public investment projects with examples from transportation, river basin management, electrical generation, oil and gas, and pollution control. Prerequisite: ECON 101 or 204 or equivalent.

L ECON 357 Health Economics

★3 (fi 6) (either term, 3-0-0). Resource allocation and public policy in health care, including determinants of health status, market structures, incentives and the effects of imperfect information. Prerequisite: ECON 281 or equivalent, or consent of Department.

L ECON 361 Transportation Economics

★3 (fi 6) (either term, 3-0-0). Travel demand and choice of means of transport; cost concepts including economies of network size and traffic density; efficient pricing of transport services and infrastructure; congestion and road pricing; advanced traveller information technologies; airline regulation, deregulation and competition. Prerequisite: ECON 281. Not open to students with credit in ECON 461.

L ECON 365 Resource Economics

★3 (fi 6) (either term, 3-0-0). Issues in the production of exhaustible and renewable natural resources, including exploration, extraction, and taxation; scarcity and pricing; contemporary Canadian resource policy issues. Prerequisite: ECON 101 or equivalent.

L ECON 366 Energy Economics

★3 (fi 6) (either term, 3-0-0). The economics of producing and consuming energy: pricing, role in economic growth; energy sources and markets; the role of government; regulation and other energy policy issues. Prerequisite: ECON 101 or equivalent.

L ECON 369 Economics of the Environment

★3 (fi 6) (either term, 3-0-0). Economic growth and the deterioration of the environment; types and causes of environmental deterioration; theory, policy, and measurement relating to environmental deterioration; recreation economics; and current Canadian environmental topics. Prerequisite: ECON 101 or equivalent. Not open to students with credit in INT D 369. (Offered jointly by the Departments of Economics and Rural Economy.)

L ECON 373 Industrial Organization

★3 (fi 6) (either term, 3-0-0). A survey of the behavior and performance of firms in different market structures and discussion of public policy toward the different structures. Note: Not open to students with credit in ECON 471 or 472. Prerequisite: ECON 281 or equivalent.

L ECON 378 Law and Economics: Common Law and Economic Incentives

★3 (fi 6) (either term, 3-0-0). Economic implications of common law: property, contract, and tort; economic logic underlying different doctrines within the law, and illustrations of the law as an economic institution; externality, risk and deterrence, and other leading issues. Prerequisite: ECON 101 or equivalent.

L ECON 379 Law and Economics: Criminal Law and Economic Incentives

★3 (fi 6) (either term, 3-0-0). Issues in criminal and family law. Economic analysis of crime deterrence and incentives for plea-bargaining. Rationale for child-support payment guidelines and economic incentives for private divorce agreements. Criminal provisions of the Competition Act and interface with intellectual property laws. Prerequisite: ECON 101 or equivalent.

ECON 384 Intermediate Microeconomic Theory II

★3 (fi 6) (either term, 3-0-0). Designed for majors and Honors students in Economics. Extensions and applications of microeconomic theory: intertemporal choice, risk, uncertainty and expected utility; oligopoly and game theory; externalities, public goods, adverse selection, moral hazard, and asymmetric information; general equilibrium. Prerequisites: ECON 281 and MATH 113 or equivalent.

ECON 385 Intermediate Macroeconomic Theory II

★3 (fi 6) (either term, 3-0-0). Designed for majors and Honors students in Economics. Theories of stabilization policy; expectations; the government budget constraint; inflation and unemployment; business cycles and growth; theories of aggregate consumption, investment, money demand, and money supply. Prerequisites: ECON 281, 282 and MATH 113.

ECON 386 Applications of Mathematics to Economics I

★3 (fi 6) (first term, 3-0-0). Elements of logic and set theory, linear algebra, differential calculus and their conjunction, as used in classical and modern economic analysis. Prerequisites: ECON 281 and 282; MATH 113 and 120 or equivalent.

ECON 387 Applications of Mathematics to Economics II

★3 (fi 6) (second term, 3-0-0). Difference and differential equations, linear inequalities, convexity, programming; assorted theorems of special use in modern economic analysis. Prerequisite: ECON 386.

ECON 399 Introductory Econometrics

★3 (fi 6) (either term, 3-0-1). An elementary treatment of the major topics in econometrics with emphasis on applied regression methods. Prerequisites: ECON 281 and 282 and STAT 141 and ECON 299 or equivalent. Note: Not open to students with credit in AREC 313 or ECON 408 or MGTSC 413 or 414 or 417 or 419 or STAT 341.

ECON 400 Honors Essay: Fourth-Year Honors Economics

★3 (fi 6) (either term, 3-0-0). Preparation of the honors essay, required for fourth-year honors students choosing the honors essay route. Prerequisite: consent of Department.

ECON 403 Selected Topics in Economics II

★3 (fi 6) (either term, 3-0-0). Content varies from year to year. Topics announced prior to registration period. Prerequisite: ECON 281. Additional prerequisites may be required.

ECON 407 Econometric Methods I

★3 (fi 6) (first term, 3-0-0). Statistical inference in economics. Topics in statistical theory with emphasis on estimation and tests of hypotheses. The general linear regression model. Prerequisites: ECON 299 and 386 and 387 or consent of Department.

ECON 408 Econometric Methods II

★3 (fi 6) (second term, 3-0-0). Econometric problems and techniques with emphasis on regression methods. Single equation techniques and introduction to simultaneous equation systems. Prerequisite: ECON 407 or equivalent. Prerequisite or Corequisite: ECON 481 and 482 or consent of the Department.

ECON 410 Pacific Rim Economic Development

★3 (fi 6) (either term, 3-0-0). Analyzes the role of particular markets and institutions in selected Pacific Rim economies. Special emphasis is given to either China or Japan; students should consult the Department of Economics to find which country is being emphasized in a given year. Prerequisites: ECON 281 or equivalent.

ECON 414 Economics of Developing Countries

★3 (fi 6) (either term, 3-0-0). An introduction to models of growth and development; the role of agriculture, industry, finance, and trade in structural transformation of developing countries; approaches to development planning. Prerequisite: ECON 281 or consent of Department.

ECON 418 Topics in Canadian Economic Development

★3 (fi 6) (either term, 3-0-0). Prerequisites: ECON 281 or consent of Department.

ECON 421 International Trade

★3 (fi 6) (either term, 3-0-0). Nature and relevance of international trade; early trade doctrines; the theory of comparative advantage, classical and modern approaches and empirical evidence for them; new approaches to the pure theory of international trade; economic growth and international trade; market imperfections and trade; commercial policy; economic integration and the gains from trade. Prerequisites: ECON 281 and MATH 113 or consent of Department.

ECON 422 International Payments

★3 (fi 6) (either term, 3-0-0). Types of international transactions, macroeconomics in an open economy, exchange rates, balance of payments adjustments, and other issues in the international monetary system. Prerequisites: ECON 281, 282 and MATH 113 or consent of Department.

ECON 431 Labor Economics

★3 (fi 6) (either term, 3-0-0). Topics include demand for labor, supply of labor, wage differentials, trade union behavior, the minimum wage, education and income distribution, discrimination, mandatory retirement, and non-market work. Prerequisites: ECON 281 and MATH 113 or consent of Department.

ECON 441 Monetary Theory and Policy

★3 (fi 6) (either term, 3-0-0). Recent developments in monetary economics, including inflation tax and the optimum quantity of money; term structure of interest rates; money and economic activity; rules vs discretion in monetary policy; role of financial deregulation. Prerequisites: ECON 281, 282 and MATH 113.

ECON 442 The Economics of Financial Markets

★3 (fi 6) (either term, 3-0-0). The measurement of risk; portfolio analysis; hedging and speculation; market microstructure; asset pricing and market equilibrium. Prerequisites: ECON 281, STAT 141 or equivalent, and MATH 113 or equivalent.

ECON 450 Topics in Public Expenditure and Fiscal Federalism

★3 (fi 6) (either term, 3-0-0). Demand and supply of selected public services, public pensions, intergovernmental fiscal relations, and public choice. Prerequisites: ECON 281 and MATH 113 or consent of Department. Not open to students with credit in ECON 455.

ECON 453 Economics of Taxation

★3 (fi 6) (either term, 3-0-0). Analysis of the effects of taxation on the economic decisions of households and firms as reflected in the allocation of resources in the economy and the distribution of the tax burden. Measurement of the efficiency and incidence of the tax system. Prerequisite: ECON 281 and MATH 113 or consent of Department.

ECON 462 Urban Economics

★3 (fi 6) (either term, 3-0-0). Urban spatial structure, residential land use, firm location decisions, housing, transportation, and urban public finance. Prerequisites: ECON 281 and MATH 113 or consent of Department.

ECON 467 Environmental and Natural Resource Policy

★3 (fi 6) (either term, 3-0-0). Environmental and natural resource law; domestic

and global policy issues related to renewable and non-renewable resources. Prerequisites: MATH 113, ECON 281, and ECON 365 or ECON 366 or INT D 365 or INT D 369. Not open to students with credit in ECON 466.

ECON 471 Strategic Behavior of the Firm

★3 (fi 6) (either term, 3-0-0). Oligopoly theory, cartel formation, product differentiation and advertising, entry into markets and strategic entry deterrence, research and development. Prerequisites: ECON 384 and MATH 113 or consent of Department.

ECON 472 Market Power: Theory and Policy

★3 (fi 6) (either term, 3-0-0). Market definition and measurement of market power. Canadian competition policy, including merger, predation, abuse of dominance, price discrimination, tie-in sales, exclusive dealing, resale price maintenance, collusion and bid rigging. Prerequisites: ECON 281 and MATH 113 or consent of Department.

ECON 475 The Economics of Professional Sport

★3 (fi 6) (either term, 3-0-0). An economic analysis of professional sport leagues, franchises and labor markets. Topics will include the economic structure of leagues, franchise value, profit maximization versus winning, pay and performance, free versus restricted agency, and discrimination. Prerequisite: ECON 281.

ECON 481 Advanced Microeconomic Theory

★3 (fi 6) (either term, 3-0-0). Consumer and producer theory, and selected topics. Prerequisites: ECON 384 and 386 or consent of Department.

ECON 482 Advanced Macroeconomic Theory

★3 (fi 6) (either term, 3-0-0). Business cycle theory, microfoundations of macro models, government budget constraints, expectations formation, the open economy, and representative agent optimizing models. Prerequisites: ECON 385 and 386.

ECON 484 Game Theory and Economic Applications

★3 (fi 6) (either term, 3-0-0). Analysis of structure and equilibrium of games. Applications to economic problems such as bargaining, auctions and collusion. Prerequisites: ECON 384 and 299.

ECON 485 Macroeconomic Policy

★3 (fi 6) (either term, 3-0-0). Analysis of the objectives, instruments and methods of macroeconomics policy using contemporary macroeconomics theory and examples from the policy experience of Canada and other nations. Prerequisites: MATH 113 and ECON 385 or consent of Department.

Graduate Courses

Note: See also Listings under Modern Languages and Cultural Studies (MLCS)

ECON 503 Microeconomic Theory I

★3 (fi 6) (either term, 3-0-0). Producer and consumer behavior; partial equilibrium models of perfectly and imperfectly competitive markets; Walrasian general equilibrium; welfare economics. Prerequisites: ECON 386 and 387, 481 and 482.

ECON 505 Microeconomic Theory II

★3 (fi 6) (either term, 3-0-0). Choice under uncertainty; contingent claims and models of general equilibrium under uncertainty; markets with information asymmetries; non-cooperative game theory, games of incomplete information, repeated games, and bargaining theory. Prerequisite: ECON 503.

ECON 509 Time Series Methods in Financial Econometrics

★3 (fi 6) (either term, 3-0-0). Topics may include ARIMA modelling, spectral analysis, state-space models and the Kalman filter, nonstationary analysis, vector autoregressions, conditional heteroskedasticity and nonlinear models. Prerequisites: ECON 407 and 408 or equivalent.

ECON 512 Economic Development I

★3 (fi 6) (either term, 3-0-0). The techniques of development planning; qualitative and quantitative problems associated with the drafting and implementation of plans and programs; assessment of internal and external resources available for development and problems of measurement and mobilization of resources.

ECON 513 Economic Development II

★3 (fi 6) (either term, 3-0-0). Economic policy alternatives in a context of growth and development; problems of inflation, balance of payments, disequilibrium, concentration of growth effects; the role of international aid and other external measures.

ECON 514 Topics in Canadian Economic Development

★3 (fi 6) (either term, 3-0-0).

ECON 521 International Economics I

★3 (fi 6) (either term, 3-0-0). Prerequisites: ECON 481 and 482, ECON 421 and 422 recommended.

ECON 522 International Economics II

★3 (fi 6) (either term, 3-0-0).

ECON 531 Labor Economics I

★3 (fi 6) (either term, 3-0-0). Factors influencing the supply of, and demand for, labor services and the process of relative wage determination in the long and short run. Determination of money wage levels, aggregate labor-force participation, and the level and structure of aggregate employment and unemployment.

ECON 540 Monetary Economics I

★3 (fi 6) (either term, 3-0-0). Prerequisites: ECON 481 and 482.

ECON 541 Monetary Economics II

★3 (fi 6) (either term, 3-0-0). Activities of financial intermediaries; evaluation of the effectiveness and the impact of monetary policy in both closed and open systems.

ECON 550 Public Expenditure

★3 (fi 6) (either term, 3-0-0). The theory of the role of the public sector in a market economy; market failures, income redistribution, public choice, and fiscal federalism.

ECON 553 Economics of Taxation

★3 (fi 6) (either term, 3-0-0). Effects of taxes on allocation, distribution and stabilization objectives. Evaluation of major taxes with particular attention paid to efficiency and incidence considerations.

ECON 557 Health Economics

★3 (fi 6) (either term, 3-0-0). Theoretical and applied issues in the determination of health models and a survey of contemporary health economic policy issues.

ECON 561 Transportation Economics

★3 (fi 6) (either term, 3-0-0). Transportation demand and modal choice; economics of scale, traffic density, and scope; congestion pricing of highways and transport infrastructure; new traveller information technologies; airline competition, regulation and deregulation.

ECON 566 Environmental Economics

★3 (fi 6) (either term, 3-0-0). Economic theory and policy relating to environmental problems; welfare and public policy issues in environmental decision making. Environmental law; transboundary pollution; economic instruments for pollution control.

ECON 567 The Economics of Exhaustible Resources

★3 (fi 6) (either term, 3-0-0). Theoretical, empirical, and policy studies in the following areas: supply and pricing under various market structures, the demand for exhaustible resources, exploration, resource extraction under price and technological uncertainty, taxation of exhaustible resources, exhaustible resources and the macro economy. Not open to students with credit in ECON 565.

ECON 570 Strategic Behavior of the Firm

★3 (fi 6) (either term, 3-0-0). Game theory; oligopoly theory; dynamic price competition; cartel formation; product differentiation; and advertising; entry and strategic entry deterrence; research and development.

ECON 571 Market Power: Theory and Policy

★3 (fi 6) (either term, 3-0-0). Market definition and measurement of market power. Canadian competition policy, including merger, predation, abuse of dominance, price discrimination, vertical market restrictions, collusion and bid rigging. May also include a review of the theory of regulation and regulatory mechanisms.

ECON 581 Macroeconomic Theory I

★3 (fi 6) (either term, 3-0-0). An examination of the core topics in macroeconomic theory. These will generally include methods of modelling output, employment, prices, business cycles, and macroeconomic policy. Prerequisite or corequisite: ECON 481 and 482 or equivalent.

ECON 582 Macroeconomic Theory II

★3 (fi 6) (either term, 3-0-0). This course extends the analysis of ECON 581 and introduces students to more advanced issues. Prerequisite: ECON 581 or equivalent.

ECON 591 Graduate Research Workshop I

★3 (fi 6) (either term, 3-0-0). The course will aid students in identifying and developing a research topic, and develop skills in the writing and presentation of research. Students will be expected to present, write critiques of, and participate in discussions of published articles or working papers.

ECON 592 Graduate Research Workshop II

★3 (fi 6) (either term, 3-0-0). Completion of a research paper in one of the two fields chosen in the course work of year two. It is expected that students will use this paper to form the basis of their Candidacy Examination. Students are required to present their ongoing research to their peers and to members of the Department during this term. Students are required to attend the Department's internal workshop series. Students must make their research papers available to the Department one week prior to the scheduled presentation.

ECON 598 Econometric Theory and Applications

★3 (fi 6) (either term, 3-0-0). Advanced treatment of estimation, inference and econometric problems and techniques, including the use of matrix operations and statistical distribution theory, with an emphasis on applied econometric analysis. Prerequisites: ECON 481 and 482 or equivalent, and an advanced undergraduate level course in econometrics. Note: Not open to students with credit in ECON 506.

ECON 599 Applied Econometrics

★3 (fi 6) (either term, 3-0-0). The role of economic theory in the process of specification and estimation of models. Interpretation and critical evaluation

of applied work by means of selected topics in economics and econometrics. Prerequisite: ECON 598 or equivalent.

ECON 608 Topics in Econometrics

★3 (fi 6) (either term, 3-0-0).

ECON 612 Topics in Economic Development

★3 (fi 6) (either term, 3-0-0).

ECON 614 Topics in European and North American Economic Development

★3 (fi 6) (either term, 3-0-0).

ECON 620 Topics in International Economics

★3 (fi 6) (either term, 3-0-0).

ECON 630 Topics in Labor Economics

★3 (fi 6) (either term, 3-0-0).

ECON 640 Topics in Monetary Economics

★3 (fi 6) (either term, 3-0-0).

ECON 652 Topics in Public Economics

★3 (fi 6) (either term, 3-0-0). Topics available include local public finance, project evaluation, theory of public choice, public enterprise pricing policies, health care economics, and fiscal systems.

ECON 664 Topics in Regional Economics

★3 (fi 6) (either term, 3-0-0).

ECON 672 Topics in Industrial Economics

★3 (fi 6) (either term, 3-0-0).

ECON 693 Topics in Comparative Economics

★3 (fi 6) (either term, 3-0-0).

ECON 699 Selected Research Topics in Economics

★3 (fi 6) (either term, 3-0-0).

ECON 900 Directed Research Project

★3 (fi 6) (variable, unassigned).

231.99 Economie, ECONE

Faculté Saint-Jean

Cours de 1er cycle

O ECON 101 Introduction à la micro-économie

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Analyse du processus de détermination des produits et des quantités à produire en économie de marché. Étude de la répartition du revenu au Canada.

O ECON 102 Introduction à la macro-économie

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Étude de l'emploi, de l'inflation, des politiques monétaires et fiscales au Canada. Préalable(s): ECON 101 ou l'approbation du Vice-doyen aux affaires académiques.

O ECON 281 Microéconomie intermédiaire I

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Présentation de la théorie néoclassique du consommateur, du producteur et de la détermination des prix et des quantités dans le cas de marchés concurrentiels, de monopole et de certaines autres structures de marché. Préalable(s): ECON 101 ou l'approbation du Vice-doyen aux affaires académiques. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour ECON 383 ou MANEC 301.

O ECON 282 Macroéconomie intermédiaire I

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Introduction aux modèles analytiques de la macroéconomie. Présentation des modèles à prix fixes et flexibles de la détermination du taux d'intérêt, de la production et de l'emploi. Étude des relations entre le marché de l'emploi et l'offre agrégée. Analyse des conséquences de la politique fiscale et monétaire ainsi que des chocs d'offre. Analyse en économie ouverte avec taux de change fixe et flexible. Étude des mouvements de capitaux. Préalable(s): ECON 101 et 102 ou l'approbation du Vice-doyen aux affaires académiques. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour MANEC 301 et 402.

ECON 299 Méthodes quantitatives en économie

★3 (fi 6) (l'un ou l'autre semestre, 3-0-1). Ce cours est destiné aux étudiants inscrits à la majeure en économie. Introduction à l'utilisation des outils mathématiques en économie avec applications. Préalable(s): ECON 101 et 102, STATQ 151 ou STAT 141 et MATHQ 113. Note: Ce cours doit être suivi avant ECON 399.

ECON 323 Economie internationale

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Aperçu des principes de l'économie internationale. Application de ces principes à la politique économique. L'accent est mis sur des sujets comme le commerce international, l'investissement étranger et la balance des paiements. Prérequis: ECON 101/102 ou l'accord du Doyen.

ECONE 369 Economie de l'environnement

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Etude des liens entre la croissance économique et la détérioration de l'environnement; type et cause de la détérioration de l'environnement; théorie, politique et mesures liées à la détérioration de l'environnement; sujets en économie de l'environnement spécifiques à l'économie canadienne. Préalable(s): ECONE 101 ou l'approbation du Vice-doyen aux affaires académiques.

ECONE 384 Microéconomie intermédiaire II

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Ce cours est destiné aux étudiants inscrits à la majeure en économie. Développement élaboré de la théorie microéconomique et de certaines applications, avec un accent sur l'équilibre général. Certains des sujets suivants seront aussi abordés: choix intertemporels, choix risqués, l'incertain et l'hypothèse de l'utilité attendue; l'oligopole et la théorie des jeux, modèle walrasien et modèles avec entrée; économie du bien-être, biens publics, choix collectifs; problèmes d'information asymétrique (risque moral et antisélection). Préalable(s): ECONE 281 et 299 ou l'approbation du Vice-doyen aux affaires académiques.

ECONE 399 Introduction à l'économétrie

★3 (fi 6) (l'un ou l'autre semestre, 3-0-1). Introduction aux méthodes statistiques utilisées dans l'analyse des problèmes économiques empiriques. Présentation et développement des principaux sujets de l'économétrie, avec un accent sur les techniques de régression linéaire. Préalables: ECONE 281, 282 et 299 ainsi que STATQ 151 ou l'équivalent.

231.100 Education, EDU

Faculty of Education

Undergraduate Courses**EDU 200 Introduction to Cognitive Strategies**

★3 (fi 6) (either term, 3-0-0). Provides students with a background in the concepts underlying basic cognitive (learning) and its application to life long learning and performance in post-secondary education. The curriculum is designed to help students gradually improve their learning strategies, skill, knowledge, attitudes, and motivation so that they can become more effective lifelong learners. Prerequisite: consent of Fresh Start Academic Advisor, see §§190.5 and 190.5.1.

EDU 250 The Profession of Teaching

★3 (fi 6) (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 503 Foundations of Curriculum**

★3 (fi 6) (first term, 3-0-0). Explores curriculum in public education from a variety of perspectives. Studies theoretical models to identify issues, concerns, challenges, and controversies that arise in educational curriculum and pedagogy. Prerequisite: Registration in Master of Education in Educational Studies (Leadership and School Improvement). 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 510 Fundamentals of Educational Research

★3 (fi 6) (second term, 3-0-0). Explores the findings of educational research, and works to apply the results of research to educational problems. Focuses on conceptualizing methods of educational research to specific and individual educational sites and issues. Prerequisite: Registration in Master of Education in Educational Studies (Leadership and School Improvement). 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 511 Introduction to School Improvement

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

EDU 512 Leadership in Educational Settings

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

leadership. Prerequisite: Registration in Master of Education in Educational Studies (Leadership and School Improvement). Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

EDU 513 Leadership for Educational Change

★3 (fi 6) (Spring/Summer, 3-0-0). Introduces the relationship of research to educational leadership. Focuses upon synthesizing extant research literature and the need to address a specific leadership need within a school site using appropriate research methods. Studies how educational research can play a leadership role in the improvement of schools. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

EDU 514 Planning for Educational Change

★3 (fi 6) (Spring/Summer, 3-0-0). Introduces how educational research can enhance educational change toward school improvement. Focuses on utilizing appropriate research methods to create a site-based research proposal for a specific school site. Focuses on planning educational research that improves schools. 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 515 Conducting Educational Research

★3 (fi 6) (either term, 3-0-0). Intended as a practical course to enable MES students to complete the research project proposed during the second summer residency for their Master's degree. 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 520 Fluency with Information Technology

★3 (fi 6) (either term, 3-0-3). The course will provide an overview of those aspects of information technology (IT) of special interest to educators. Prerequisite: Registration in Master of Education in Educational Studies. Corequisite: EDU 521. 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 521 Information Technology in Education

★3 (fi 6) (either term, 3-0-3). This is a project-based course that works with the content of EDU 520. Students develop short and long term goals for their use of educational IT and begin work towards the realization of those goals. Prerequisite: Registration in Master of Education in Educational Studies. Corequisite: EDU 520. 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 526 Philosophical and Ethical Issues in Technology Integration

★3 (fi 6) (either term, 3-0-3). Explores a range of philosophical and ethical issues that pertain to the use of technology in schools. Prerequisite: Registration in Master of Education in Educational Studies. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

EDU 593 Special Seminar in Educational Studies: Selected Topics

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

EDU 597 Special Seminar in Educational Studies: Selected Topics

★3 (fi 6) (either term, variable). Content varies from term to term. Topics announced prior to registration period. The student's transcript carries title descriptive of content. May be repeated. Prerequisite: Registration in Master of Education in Educational Studies Program. 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 900 Directed Research Project

★3 (fi 6) (either term, 3-0-0). Intended as a practical course to enable MES students to complete the research project proposed during the second summer residency for their Master's degree. 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.

231.101 Education - Adult, EDAEDepartment of Educational Policy Studies
Faculty of Education**Undergraduate Courses****EDAE 390 Introduction to Adult Curriculum and Instruction**

★3 (fi 6) (either term, 3-0-0). This course focuses on the following topics as they

relate to adult education: mastery learning, program goals, and objectives, long range curriculum planning, content analysis processes, and writing performance objectives. May contain alternative delivery sections; see §200.

EDAE 404 Developmental Course

★3 (fi 6) (either term, 3-0-0). Content varies as new courses are developed. Topics announced prior to registration. The student's transcript carries title descriptive of content. May be repeated. Prerequisite: consent of Department.

EDAE 445 Trends in Adult Education

★3 (fi 6) (either term, 3-0-0). Examines the social and historical trends of adult education. Laying a foundation for future adult education courses, focuses on events and issues that emerged in the formative years of the field. These will be developed further as they relate to adult education as a growing field of study in the present and in the future.

EDAE 460 Facilitating Adult Learning

★3 (fi 6) (either term, 3-0-0). Selected aspects of facilitating adult learning in different settings are explored. Examination of how learning theory influences instruction. Facilitation methods are considered in relation to intended learning outcomes as well as learner and educator characteristics (e.g. Philosophical orientation, values, personality type, teaching style, learning style). Methods that foster group cohesiveness and higher-order thinking skills are emphasized. Participants develop a personal theory of practice in relation to facilitating adult learning. Prerequisite: ED AE 345 or 445. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

EDAE 461 Developing Programs for Adults

★3 (fi 6) (either term, 3-0-0). This course will examine theoretical and conceptual principles of developing programs for adult learners. Emphasis will be on the application of these principles both credit and non-credit programs offered in a variety of settings. Prerequisite: ED AE 390. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

EDAE 475 Project in Adult and Postsecondary Education

★3 (fi 6) (either term, 3-0-0). This is a project-based course undertaken in a postsecondary or community setting. Students may not receive credit for both EDFX 475 and ED AE 475. May contain alternative delivery sections; see §200.

EDAE 485 Evaluating Adult Learning

★3 (fi 6) (either term, 3-0-0). This course focuses on two types of evaluating adult learning: achievement testing and classroom assessment. Theory and practice of evaluating learning in the cognitive, psychomotor and affective domains are framed around issues associated with learning in formal and non-formal environments. Pre-/corequisite: ED AE 390 or consent of Department. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

EDAE 496 Individual Directed Study

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

EDAE 498 Individual Directed Laboratory Study

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

231.102 Education - Business, EDBU

Department of Secondary Education
Faculty of Education

Note: the course prefix for Education (Business) has changed from EDBUS to EDBU.

Undergraduate Courses

EDBU 341 Teaching of Keyboarding/Typewriting

★3 (fi 6) (either term, 3-0-0). Prerequisite: Keyboarding and Word Processing.

EDBU 357 Teaching of Accounting in Automated Data Processing and Accounting

★3 (fi 6) (either term, 3-0-0). Prerequisite: ACCTG 300 or 311.

231.103 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.

231.104 Education - Elementary, EDEL

Department of Elementary Education
Faculty of Education

Undergraduate Courses

EDEL 300 Introduction to Teaching in the Elementary School

★3 (fi 6) (either term, 3-0-0). This course is an overview of the roles of the teacher in elementary school. Emphasis is placed upon strategies for planning, instruction and assessment within a positive classroom environment. Co-requisite: Courses in the Introductory Professional Term for the Elementary Education Route. Successful completion is required prior to being granted permission to continue into the second week of EDFX 325.

EDEL 302 Curriculum and Instruction in Elementary School Art

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

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 required 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. Prerequisite: Introductory Professional Term.

EDEL 328 Music Literacy: The Child

★3 (fi 6) (either term, 3-0-0). An introduction to theory and practice of teaching music literacy in the elementary classroom. Special emphasis on strategies employed in the Kodály approach. Prerequisites: Music 151 and 156; or consent of Department. Note: priority given to students in the Music Education Minor.

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 required 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 345 Introduction to Curriculum and Instruction in Elementary School Health Education

★3 (fi 6) (either term, 3-0-0). Designed to prepare students to teach Health Education effectively in the elementary school setting. The focus will be on curriculum, strategies, planning, and resources to meet student needs.

EDEL 355 Program Environments in Early Childhood Education

★3 (fi 6) (either term, 0-3L-0). An introduction to Early Childhood Education with an emphasis on the learning environment and the roles of the teacher within that environment. Observations and interactions in early childhood classrooms constitute the lab component of this course. Restricted to students in the Early Childhood Education minor. Prerequisite: Education Core I.

EDEL 394 Selected Topics in Elementary Education I

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

EDEL 395 Group Project I Elementary Education

★1-12 (variable) (either term, variable). Prerequisite: consent of Department.

EDEL 400 Design of Elementary Art Curriculum

★3 (fi 6) (either term, 1-0-2). Application of current art education research, curriculum, and technology to program planning in art and art across the curriculum. Prerequisite: An introductory curriculum and instruction course in Art Education, or consent of Department.

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 408 Writing in the Elementary School

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

EDEL 409 Teaching Literature in Elementary Schools

★3 (fi 6) (either term, 3-0-0). Topics include an exploration of the various genres of children's literature, authors and illustrators, strategies for planning and implementing a literature-based program across the elementary curriculum, response activities, and resources for teaching. Prerequisite: An introductory curriculum and instruction course in language learning; or consent of Department.

EDEL 411 Literacy Development through Drama and Literature

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

EDEL 415 Issues in Elementary Mathematics Education

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

EDEL 416 Assessing Children's Understanding of Mathematics

★3 (fi 6) (either term, 3-0-0). This course will focus on how children learn mathematics along with related assessment practices such as performance based assessment, writing, portfolios, observation and questioning. Prerequisite: An introductory curriculum and instruction course in mathematics education; 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 The Child's Voice: Techniques for the Children's Choir

★3 (fi 6) (either term, 3-0-0). This course focuses on the development of healthy and artistic singing in the children's choir. Students will analyze and conduct choral literature and observe choral rehearsals. Pre- or corequisite: MUSIC 230; or consent of Department. Note: Priority given to students in the Music Education Minor.

EDEL 427 Music Creativity: Teaching and Learning

★3 (fi 6) (either term, 3-0-0). An introduction to the philosophy and pedagogical principles of Carl Orff's Schulwerk. The course focuses on Orff orchestration skills and the application of the Orff Approach in curricular planning. Prerequisites: MUSIC 151 and 156. Pre-/corequisite: MUSIC 207. Note: Priority given to students in the Music Education Minor.

EDEL 428 Music in the Elementary School

★3 (fi 6) (either term, 3-0-2). This course focuses on curricular planning and selection of resources for the elementary music program. Methodologies are applied in field-based experiences with elementary school children. Lab hours require scheduled visits to elementary classrooms. Prerequisite: MUSIC 101; EDEL 328 and 427; or consent of Department. Note: Priority given to students in the Music Education Minor.

EDEL 432 Pedagogical Content Knowledge for Elementary Science I

★3 (fi 6) (either term, 3-0-0). An exploration of energy and how humans change energy to meet a need. Emphasis is on children's conceptions and designing appropriate teaching strategies. Specific topics include electricity and magnetism; hearing and sound; wheels and levers; mechanisms using electricity; and building devices and vehicles that move. Prerequisite: EDEL 330.

EDEL 433 Pedagogical Content Knowledge for Elementary Science II

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

EDEL 435 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 445 Teaching Second Languages in the Elementary School

★3 (fi 6) (either term, 3-0-0). An introduction to theory and practice of teaching second languages in the elementary classroom. Focus is on curricular planning, teaching methods and techniques, materials and resources, and assessment. Will include a field placement in an off-campus second language, immersion, or bilingual classroom for one half day per week. Prerequisite: The Introductory Professional Term and a working knowledge of the language to be taught or consent of Department. Note: Priority given to students in the Second Languages Minor.

EDEL 451 Methods and Programs in the Teaching of English as a Second Language

★3 (fi 6) (either term, 3-0-0). This course is designed for those interested in ESL teaching at the K-6 levels. Course focuses include orientation and assessment of ESL students, program planning, ESL teaching methods and techniques, integrating language and content, and ESL materials and resources. This course will include a field placement in an off-campus ESL classroom one morning per week. Prerequisite: EDPY 416; or consent of Department. Note: Priority given to students in Teaching English as a Second Language Minor.

EDEL 455 Play as a Teaching Strategy

★3 (fi 6) (either term, 3-0-0). This course examines how choice and self direction can enhance children's learning and thinking in the elementary school. Students will be involved in planning, implementing, and evaluating integrated curriculum projects in the elementary classroom.

EDEL 457 Theory and Practice in Early Childhood Education

★3 (fi 6) (either term, 3-0-0). Gives students an in-depth understanding of some of the major contemporary theories and philosophies of Early Childhood Education. Examines how choice and self direction can enhance children's learning and thinking in the elementary school. Students will be involved in planning, and evaluating integrated curriculum projects in the elementary classroom. Prerequisite: EDEL 355 and Introductory Professional Term; or consent of Department. Students must be registered concurrently in EDEL 458. Students may not receive credit for both EDEL 457 and 456.

EDEL 458 Practical Experience with Curriculum Models in Early Childhood Education

★3 (fi 6) (either term, 0-0-3). This lab-based course will provide opportunities to gain practical experiences in a variety of early childhood education settings. These include observations, analysis and discussion in relation to the examination of

contemporary Early Childhood Education theories in EDEL 457. Many of the field experience sites require all volunteers to have a criminal record check and a child welfare check. Prior to beginning this course it is recommended that all students have these checks completed. Prerequisites: EDEL 355 and Introductory Professional Term; or consent of Department. Students must be registered concurrently in EDEL 457. Students cannot receive credit for both EDEL 458 and 456.

EDEL 490 Supervised Independent Study in Elementary Education II

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

EDEL 495 Seminar in Group Projects in Elementary Education II

★1-12 (*variable*) (either term, variable). Prerequisite: consent of Department.

EDEL 496 Group Projects in Elementary Education II

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

Graduate Courses

EDEL 505 Theory and Practice in Language Arts

★3 (*fi 6*) (either term, 3-0-0). Examines a variety of theoretical perspectives on language and literacy and explores their implications for work with children. Questions of language acquisition, the role of language in learning, the development of literacy, and sociocultural influences are explored. Prerequisite: Equivalent to ★3 in language arts education, or consent of Department.

EDEL 508 Diagnosis and Remediation of Reading and Writing Problems I

★3 (*fi 6*) (either term, 3-0-3). Focuses on the acquisition of skills in diagnostic assessment and remediation of reading and writing difficulties in children and adults. The influences of various theoretical perspectives and social issues on diagnosis and remediation are also explored. Students must enroll in EDEL 508 and 509 in the same year. Pre- or corequisite: EDEL 505 or consent of Department.

EDEL 509 Diagnosis and Remediation of Reading and Writing Problems II

★3 (*fi 6*) (either term, 3-0-3). Provides advanced study in the diagnosis and remediation of reading and writing difficulties. Students will develop expertise with a variety of assessment and intervention strategies while extending their understanding of how various theories and social issues affect the nature and extent of the support provided to people with reading and writing difficulties. Students must enroll in EDEL 508 and 509 in the same year. Prerequisite: EDEL 508 or consent of Department.

EDEL 510 Children's Literature in the Elementary School

★3 (*fi 6*) (either term, 3-0-0). Focuses on approaches to teaching across the curriculum that will allow students to explore the value of literature in the lives of children; the development of a literature program; the creation of environments that enable children to respond to and grow through literature; the relationships between literature and literacy; and current research in literature in education. Prerequisite: Equivalent to ★3 in language arts education, or consent of Department.

EDEL 511 Leadership in Language Arts

★3 (*fi 6*) (either term, 3-0-0). Explores the development and implementation of elementary language arts programs in schools. The roles played by teachers, consultants and administrators in developing, implementing, refining and monitoring language arts programs are analyzed in relation to concepts of leadership in language arts. Prerequisite: EDEL 505 or consent of Department.

EDEL 514 Early Literacy Development

★3 (*fi 6*) (either term, 3-0-0). This course explores contemporary issues and concerns pertaining to the literacy development of young children. Aspects of theory, research, policy and practice are examined. Students will acquire a depth and breadth of understanding of how young children (up to eight years) become successful readers and writers.

EDEL 515 Developing Writing Abilities

★3 (*fi 6*) (either term, 3-0-0). This course explores current issues in writing theory and pedagogy. The focus is on the development of writing abilities of elementary and middle years students, in a variety of forms and media, in school and home/community contexts. Prerequisite: EDEL 505 or consent of Department.

EDEL 516 Contemporary Issues in Elementary Mathematics Education

★3 (*fi 6*) (either term, 3-0-0). This course explores contemporary issues related to the teaching and learning of mathematics in elementary schools. Aspects of theory, research, policy and practice are examined. Prerequisite: Equivalent to 3 credits in mathematics education or consent of Department.

EDEL 517 Classroom-Based Research in Elementary Mathematics Education

★3 (*fi 6*) (either term, 3-0-0). Current issues in teaching and learning mathematics will be examined through classroom-based research and practice. Classroom events, mathematical tasks, and student work will be used as sites for critique, inquiry and investigation into theory and practice of teaching mathematics to children.

EDEL 519 Assessment of the Language Arts

★3 (*fi 6*) (either term, 3-0-0). Aspects of theory, research, policy, and practice within the assessment of student performance in the language arts will be examined. The course explores contemporary issues and concerns in the conduct and interpretation of classroom-based language arts with a view to facilitating

informed professional and instructional decisions. Prerequisite: EDEL 505 or consent of Department.

EDEL 525 Trends and Issues in Classroom Practice

★6 (*fi 12*) (either term, 3-0-0). Focuses on elements of teaching and learning in relation to actual needs, problems, issues of elementary school, classroom practice as identified by participants. Emphasis will be placed on developing collegial relationships with other educators in the course-based Master's program and has been designed to accommodate educators who are currently in the workplace.

EDEL 533 Theory and Methodology in Second Language Teaching

★3 (*fi 6*) (either term, 3-0-0). The course examines second language acquisition theory and research in the context of classroom applications. It also critically evaluates a wide range of language teaching methods and strategies.

EDEL 535 Socio-cultural Aspects of Second Language Learning and Teaching

★3 (*fi 6*) (either term, 3-0-0). The course examines research on social and cultural aspects of second language acquisition and explores the relevance of this research for second-language teaching practice.

EDEL 537 Second Language Curriculum Design, Material Development and Assessment

★3 (*fi 6*) (either term, 3-0-0). The course examines theories that apply to conceptualizing and analyzing second language curriculum and explores how theories inform the work of designing teaching plans, selecting and developing teaching materials, and assessing teaching and student learning.

EDEL 555 Early Childhood Education: Home/School/Community Relations

★3 (*fi 6*) (either term, 3-0-0). This course is designed to investigate the teacher's role in improving communication among the school, home, and community.

EDEL 556 Program Development in Early Childhood

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: EDEL 457 or consent of Department.

EDEL 557 Research in Program Development in Early Childhood Education

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: EDEL 556 or consent of Department.

EDEL 559 Principles of Curriculum Planning and Pedagogy in Early Childhood Settings

★3 (*fi 6*) (either term, 3-0-3). A course in planning and implementing integrated curricula for children from preschool to grade three building upon principles of child development and learning. Students may not receive credit for both EDEL 558 and EDEL 559.

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 565 Research and Support Services and Skills

★3 (*fi 6*) (either term, 0-3s-0). Reports and discussion by staff and graduate students to provide candidates for advanced degrees with experience in the selection and evaluation of research problems and procedures.

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 570 Instructional Practices in the Elementary Classroom

★3 (*fi 6*) (either term, 3-0-0).

EDEL 590 Directed Individual Study in Elementary Education

★3 (*fi 6*) (variable, variable). Prerequisite: consent of Department.

EDEL 595 Special Seminar in Elementary Education: Selected Topics

★3 (*fi 6*) (either term, 0-3s-0).

EDEL 596 Special Seminar in Elementary Education

★6 (*fi 12*) (either term, 0-6s-0).

EDEL 597 Special Seminar in Elementary Education

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

EDEL 605 Theories and Models of Language

★3 (*fi 6*) (either term, 3-0-0). Provides an advanced and in-depth examination of theories and models of language acquisition and development. The characteristics, purposes, and limitations of language theories and models are explored through the critical study of a range of theoretical perspectives. Prerequisite: EDEL 505 or consent of Department.

EDEL 650 Curriculum Foundations and Inquiry

★3 (*fi 6*) (either term, 0-3s-0). A required course for doctoral students in the

Department of Elementary Education. Engages students in advanced examination of the historical foundations of the curriculum field, contemporary issues in curriculum, and current influences on curriculum. Through readings, discussions, and assignments, course participants will examine a number of perspectives for inquiring into educational practice, situating their own practice within the wider context of the field of curriculum studies, interpreting the language of curriculum, and considering the role of teachers in mediating curriculum with their students. The epistemological, ontological, axiological, and ideological bases for the forms of curriculum theory and inquiry will be studied. Prerequisite: EDEL 561 or consent of the Department.

EDEL 660 Advanced Research in Education

★3 (*fi 6*) (either term, 0-3s-0). This is a required course for doctoral students in the Department of Elementary Education. Provides students with opportunities to explore issues in educational research from a philosophical and historical perspective. Prior to choosing methods and data sources, a researcher must first be aware of and be able to defend his/her theoretical framework which is based on an understanding of ontology, epistemology, methodology and ethics. The purpose of this course is to expose students to the perspectives, issues and questions in these four areas so that they may begin to develop a philosophical understanding of the research process. Prerequisite: EDEL 567 or consent of the Department.

EDEL 665 Qualitative Research Methods in Education

★3 (*fi 6*) (either term, 3-0-0). Provides for in-depth study of qualitative research. Attention is given to research design, data collection, analysis, interpretation, and reporting. Credit cannot be given for this course if the student has already completed EDEL 568.

EDEL 667 Interpretive Inquiry

★3 (*fi 6*) (either term, 3-0-0). Intended to support participants in examining the topics within interpretive inquiry in depth; writing about their research approaches, and undertaking analyses and interpretations of data. Intended to be helpful to students wishing to undertake research that can be understood as basic or generic qualitative research or as interpretive inquiry. Prerequisite: EDEL 665 or equivalent.

EDEL 690 Individual Project

★3 (*fi 6*) (variable, variable). Comprehensive problems in Curriculum and Instruction-Elementary. Prerequisite: consent of Department.

EDEL 691 Individual Project

★6 (*fi 12*) (variable, variable). Comprehensive problems in Curriculum and Instruction-Elementary. Prerequisite: consent of Department.

EDEL 900 Directed Research Project

★3 (*fi 6*) (variable, unassigned).

231.105 Education - Elementary and Secondary, EDES

Departments of Elementary and Secondary Education
Faculty of Education

Undergraduate Courses

EDES 145 Mixed Chorus

★0 (*fi 2*) (two term, 0-0-4). A music ensemble designed to provide education students with practical experience in the organization, administration and literature of the mixed chorus. Note: This is a credit/no credit course.

EDES 251 Education Handbell Ringers I

★3 (*fi 6*) (two term, 0-2L-0). This course examines repertoire, performance practice, rehearsal techniques and program administration of the handbell choir through a process of practical application. Prerequisite: successful completion of an audition of music reading skills.

EDES 301 Introduction to Teaching in the Middle Years

★3 (*fi 6*) (either term, 3-0-0). This course is an overview of the roles of the teacher in middle years and provides an overview of the middle level curriculum. This course will provide an analysis of the unique nature of middle years education and middle years student. Emphasis is placed upon strategies for planning instruction and assessment within a positive classroom environment. (Restricted to students in the Middle Years Program offered at Red Deer.)

EDES 340 Active and Interactive Curriculum and Instruction in the Middle Years

★3 (*fi 6*) (either term, 3-0-0). Based on the distinct developmental and societal needs of adolescents, this course will examine the social and curricular frameworks for learning and teaching. It will include theoretical and practical implications of the active and interactive nature of adolescent learning, incorporating a wide range of process and strategies. Prerequisite: Introductory Professional Term. (Restricted to students in the Middle Years Program offered at Red Deer.)

EDES 346 Resource-Based Teaching

★3 (*fi 6*) (either term, 3-0-0). An introduction to planning active learning experiences using school library materials and other resources, with a focus on how teachers and teacher-librarians cooperatively implement the curriculum.

EDES 348 Reading in the Junior and Senior High School

★3 (*fi 6*) (either term, 3-0-0).

EDES 351 Education Handbell Ringers II

★3 (*fi 6*) (two term, 0-2L-0). This course examines repertoire, performance practice, rehearsal techniques and program administration of the handbell choir through a process of practical application. Prerequisite: EDES 251

EDES 361 Introduction to Curriculum and Instruction in Middle Years Art

★3 (*fi 6*) (either term, 3-0-0). This course provides an introduction to visual arts education for middle years. It is comprised of lectures, discussions, audio-visual presentations, and hands-on media experiences. No visual arts background necessary. Prerequisite: Introductory Professional Term. (Restricted to students in the Middle Years Program offered at Red Deer.)

EDES 362 Language Arts in the Middle Years

★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 middle years classrooms. Prerequisite: Introductory Professional Term. (Restricted to students in the Middle Years Program offered at Red Deer.)

EDES 363 Communication Through Mathematics in Middle Years Education

★3 (*fi 6*) (either term, 3-0-0). This course provides an introduction to the teaching and learning of mathematics in the middle years. The focus will be on using curriculum, strategies, planning and resources to meet student needs. Prerequisite: Introductory Professional Term. (Restricted to students in the Middle Years Program offered at Red Deer.)

EDES 364 Curriculum and Instruction in Middle Years Physical Education

★3 (*fi 6*) (either term, 3-0-0). This course is designed to prepare students to teach Physical Education effectively in the middle years. The goals to this end integrate understanding of child development, physical education, health, curriculum and instruction and making curricula links. Prerequisite: Introductory Professional Term. (Restricted to students in the Middle Years Program offered at Red Deer.)

EDES 365 Curriculum and Instruction in Middle Years Science Education

★3 (*fi 6*) (either term, 3-0-0). Provides an introduction to teaching middle years 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. Prerequisite: Introductory Professional Term. (Restricted to students in the Middle Years Program offered at Red Deer.)

EDES 366 Curriculum and Instruction in Middle Years Social Studies

★3 (*fi 6*) (either term, 3-0-0). An introduction to planning, resources, curriculum and strategies for meeting middle years students' needs through social studies. Prerequisite: Introductory Professional Term. (Restricted to students in the Middle Years Program offered at Red Deer.)

EDES 401 Conference Seminar

★3 (*fi 6*) (either term, 0-3s-0).

EDES 402 Conference Seminar

★6 (*fi 12*) (either term, 0-6s-0).

EDES 403 Conference Seminar

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

EDES 404 Special Topics in Art Process

★3 (*fi 6*) (either term, 1-0-4). This course combines a specific studio focus and an exploration of performance art traditions with the goal of guiding students toward an understanding of the role that the audience plays in art. This course is open to all Art Education majors and minors. Other Education and Fine Art majors may also register by consent of Department. Prerequisite: ★6 ART and ★3 ART H, or comparable experience before taking this course.

EDES 440 Constructing Integrated Curriculum in the Middle Years

★3 (*fi 6*) (either term, 3-0-0). Focuses on constructing integrated curriculum for middle years classrooms. Includes the examination of resources and existing middle years curriculum with a view to implementation and assessment. Prerequisite: Introductory Professional Term. (Restricted to students in the Middle Years Program offered at Red Deer.)

EDES 451 Education Handbell Ringers III

★3 (*fi 6*) (two term, 0-2L-0). This course examines repertoire, performance practice, rehearsal techniques and program administration of the handbell choir through a process of practical application. Prerequisite: EDES 351.

Graduate Courses

EDES 501 Conference Seminar

★3 (fi 6) (either term, 0-3s-0).

EDES 502 Conference Seminar

★6 (fi 12) (either term, 0-6s-0).

EDES 504 Special Topics in Art Process

★3 (fi 6) (either term, 1-0-4). This course combines a specific studio focus and an exploration of performance art traditions with the goal of guiding students toward an understanding of the role that the audience plays in art as a form of communication and a way of learning. Prerequisite: ★6 in ART and ★3 in ART H, or consent of Department.

EDES 509 Teaching Science in Elementary and Secondary Schools

★3 (fi 6) (either term, 3-0-0). This course allows students to consider at the graduate level current trends in learning theory, teaching strategies, program development and assessment which affect teaching science in schools.

EDES 540 Introduction to Teacher-Librarianship

★3 (fi 6) (either term, 3-0-0). Study of the concept and management of school library media resource centres in elementary and secondary schools. Includes policies and policy development; program development and scheduling; processes for acquiring, cataloguing and circulating materials; facilities planning; budgeting and staffing. Note: Not open to students with credit in LIS 540.

EDES 541 School Library Collection Development

★3 (fi 6) (either term, 3-0-0). Focuses on the principles and practices related to planning, building and maintaining information resource collections and resource-sharing systems, as well as handling the issues and demands that arise related to information resources in schools.

EDES 542 Inquiry-Based Instruction

★3 (fi 6) (either term, 3-0-0). Planning, implementing and evaluating inquiry-based learning experiences in schools. Includes media and information literacy, the process approach to student research, collaborative planning, and the role of the teacher-librarian.

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.

EDES 547 Organization of School Library Materials

★3 (fi 6) (either term, 3-0-0). Focuses on the principles and practices of organizing print and non-print resources generally acquired by 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.

EDES 549 Leadership in Information Literacy

★3 (fi 6) (either term, 0-3s-0). Current issues and challenges related to the development of information literacy programs in schools are examined in this course using a case-based learning approach. Designed to help teacher-librarians draw from major theoretical frameworks within their profession to address problems of practice. Prerequisites: LIS 540, EDES 542, and EDES 545; or consent of Department.

EDES 601 Conference Seminar

★3 (fi 6) (either term, 0-3s-0).

231.106 Education - Enseignement, EDU E

Faculté Saint-Jean

Cours de 1er cycle

EDU E 232 Introduction aux stratégies générales d'enseignement

★3 (fi 6) (l'un ou l'autre semestre, 3-0-2). Cours d'introduction aux stratégies d'enseignement qui vise à outiller l'apprenant dans les domaines tels que la planification (y compris l'introduction au programme d'études), le questionnement, les directives et le travail de groupe. Ce cours comprend des ateliers pratiques

d'enseignement. Notes: Ce cours n'est pas accessible aux étudiants ayant des crédits pour EDUC 201 et EDU E 332. Ce cours est réservé aux étudiant(e)s du programme BEd.

EDU E 331 Introduction générale à l'éducation

★3 (fi 6) (l'un ou l'autre semestre, 1-0-4). Ce cours comprend deux parties. Une partie est centrée sur l'étude des thèmes tels que la perception de l'enseignant dans la société, l'enseignant comme modèle linguistique, la réflexion professionnelle, les multiples rôles de l'enseignant et la profession d'enseignant. L'autre partie du cours est une expérience pratique d'observation participante vécue dans le milieu scolaire. Ce cours n'est pas accessible aux étudiants ayant des crédits pour EDUC 200 et EDU E 231. Ce cours est réservé aux étudiant(e)s du programme BEd.

EDU E 433 La communication et la gestion en salle de classe

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

EDU E 434 L'enseignant professionnel

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Ce cours comprend deux parties. Une partie est centrée sur un projet synthèse découlant du développement d'un portfolio professionnel. L'autre partie traite de la structure du système d'éducation en Alberta, la responsabilité des enseignants devant les lois et envers la communauté scolaire ainsi que les obligations professionnelles.

231.107 Education - Field Experience, EDFX

Division of Field Experiences
Faculty of Education

Notes

- (1) Field Experience courses other than EDFX 476 and 490 are normally not offered in Spring/Summer.
- (2) The Fee Index for these courses is one unit higher due to the practicum placement fees. See the Fee Payment Guide in the University Regulations and Information for Students section of the calendar.
- (3) The course prefix for Education (Field Experience) courses has changed from EDFXP to EDFX.

Undergraduate Courses

EDFX 325 Elementary Route Field Experience for the Introductory Professional Term

★3 (fi 6) (either term, 5 weeks full-time in schools). Prerequisite: EDPY 200. Note: This prerequisite does not apply to After Degree students. Corequisites: EDPS 310 and EDEL 321 or EDEL 330, EDPY 301 and EDPY 303. Note: Successful completion of All four of the corequisites is required prior to students being granted permission to continue into their second week of EDFX 325. Requires payment of additional miscellaneous fees (see §22.2.3). Students are not permitted to enroll or work on courses additional to the IPT.

EDFX 350 Secondary Route Field Experience for the Introductory Professional Term

★3 (fi 6) (either term, 5 weeks full-time in schools). Prerequisite: EDPY 200. Note: This prerequisite does not apply to After Degree students. Corequisites: EDPS 310 and EDSE 3xx (Curriculum and Teaching in Secondary Minor), EDPY 301 and EDPY 303. Note: Successful completion of ALL FOUR of the corequisites is required prior to students being granted permission to continue into their second week of EDFX 350. Requires payment of additional miscellaneous fees (see §22.2.3). Students are not permitted to enroll or work on courses additional to the IPT.

EDFX 425 Elementary Route: Generalist Field Experience for the Advanced Professional Term

★9 (fi 18) (either term, 9 weeks full-time in schools). Prerequisites: Introductory Professional Term and ★15 of EDEL courses. Co-requisites: EDEL 3XX (★3 from Education Core II not yet completed) and EDPS 410. Note: Successful completion of the co-requisites is required prior to students being granted permission to commence EDFX 425. Requires payment of additional miscellaneous fees (see §22.2.3). Students are not permitted to enroll or work on courses additional to the APT.

EDFX 426 Elementary Route: Special Education Field Experience for the Advanced Professional Term

★9 (fi 18) (either term, 9 weeks full-time in schools). Prerequisites: Introductory Professional Term, ★15 of EDEL courses, and completion of all courses in the Special Education Minor. Corequisites: EDEL 3XX (★3 from Education Core II not yet completed) and EDPS 410. Note: Successful completion of the corequisites is required prior to students being granted permission to commence EDFX 426. Requires payment of additional miscellaneous fees (see §22.2.3). Students are not permitted to enroll or work on courses additional to the APT.

EDFX 450 Secondary Route Field Experience for the Advanced Professional Term

★6 (*fi 12*) (either term, 9 weeks full-time in schools). Prerequisites: Introductory Professional Term, ★24 in the Major, EDSE 4XX (Curriculum and Teaching in Secondary Major), and 4XX (Curriculum and Teaching in Secondary Major). Corequisite: EDSE 451. Note: Successful completion of the prerequisites is required prior to students being granted permission to commence EDFX 450. Requires payment of additional miscellaneous fees (see §22.2.3). Students are not permitted to enroll or work on courses additional to the APT.

EDFX 476 Field Experience at the Postsecondary Level II

★3 (*fi 6*) (either term, 3 weeks full-time in schools). Course requires payment of additional miscellaneous fees (see §22.2.3).

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

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

EDFX 497 Field Experience in Adult Education

★1-12 (*variable*) (variable, variable). Prerequisite: permission of Professional Officer, Field Experiences.

EDFX 498 Field Experience in the Elementary School

★1-12 (*variable*) (variable, variable). Prerequisite: permission of Professional Officer, Field Experiences.

EDFX 499 Field Experience in the Secondary School

★1-12 (*variable*) (variable, variable). Prerequisite: permission of Professional Officer, Field Experiences.

231.108 Education - Fondements, EDU F

Faculté Saint-Jean

Cours de 1er cycle**EDU F 235 École et société : Les enjeux de la diversité contemporaine**

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Ce cours constitue une introduction à l'étude des relations entre l'école publique et la société. Il vise à sensibiliser les étudiants aux enjeux de la société pluraliste en rapport avec le milieu scolaire. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour FO ED 200.

EDU F 238 Histoire de la pensée en éducation

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Revue des grandes écoles de pensée qui ont influencé l'éducation en Occident. Les étudiants seront appelés à réfléchir sur chacune de ces écoles de pensée et à se situer par rapport aux implications éducatives de chacune de ces écoles de pensée. Chaque thème sera accompagné de ses implications dans la salle de classe et dans l'acte éducatif. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour FO ED 302.

EDU F 336 Contexte particulier des écoles françaises en milieu minoritaire

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Cours de fondement à l'intention des futurs enseignants qui se dirigent vers l'enseignement dans les écoles françaises en milieu minoritaire. L'histoire de l'école française, de son rôle, de ses buts, de ses programmes et des besoins auxquels elle doit répondre soulignera la relation particulière entre l'école francophone et la société. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FO ED 307.

EDU F 337 Contexte particulier dans les écoles d'immersion

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Cours de fondement à l'intention des futurs enseignants qui se dirigent vers l'enseignement dans les écoles d'immersion française. L'historique, le rôle, les buts, les enjeux et les traits distinctifs de la pédagogie de l'immersion française seront abordés.

231.109 Education - Instructional Technology, EDIT

Department of Educational Psychology
Faculty of Education

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 485 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 435 The Internet: Communicating, Accessing and Providing Information

★3 (*fi 6*) (either term, 3-0-3). An introduction to the Internet and to the use of basic Internet tools. Prerequisites: Experience with either Microsoft Windows or the Macintosh OS, basic file creation and management, and a word processor is required. Students may not receive credit for both EDIT 435 and EDPY 435.

EDIT 480 Introduction to Computer-Based Instruction

★3 (*fi 6*) (either term, 3-0-3). Prerequisite: EDIT 202 or EDIT 485 or an introductory course in computing science. Students may not receive credit for both EDIT 480 and EDPY 479 or EDPY 480.

EDIT 486 Interactive Multimedia

★3 (*fi 6*) (either term, 3-0-3). This lab course emphasizes the design and development of instructional lessons which incorporate learning with multimedia. Students create lessons to meet a defined instructional need or goal for a specified population of learners. The lessons employ principles of interactive design plus the multimedia elements of static and dynamic visual displays, audio, and color. They are synthesized into a coherent and tested lesson using one of several multimedia authoring systems. Final projects are distributed on CD-ROM. Prerequisite: EDIT 202 or EDIT 485 or an introductory course in computing science. Credit will not be granted for both EDIT 486 and EDIT 568 or EDPY 486.

EDIT 488 Instructional Technology and Communication

★3 (*fi 6*) (either term, 3-0-0). This course treats instructional technology as a communications system for teaching and learning. In addition to exploring communication concepts, the course examines the communications components of visual learning and the specific tools and techniques of digital presentation and interaction. Overviews of current and future practice plus research on communication are included. Students have flexibility with respect to choice of specific topics as this course is taught using an alternative delivery format. Prerequisite: EDIT 202 or EDIT 485 or an introductory course in computing science. Students will not be granted credit for both EDIT 488 and EDPY 488.

EDIT 489 Virtual Schools: Designing and Teaching Lessons Online

★3 (*fi 6*) (either term, 3-0-3). Techniques and concepts of instructional design in the school setting, especially for distance/alternate delivery and individualized instruction. Included are techniques for designing instruction for cyber schools, virtual schools, home schooling, and other forms of distance and alternate delivery. Prerequisite: EDIT 202 or EDPY 202 or EDIT 485 or EDPY 485 or consent of Department. Students will not be granted credit for EDIT 489 and EDPY 489.

Graduate Courses**EDIT 535 The Internet: Communicating, Accessing, and Providing Information**

★3 (*fi 6*) (either term, 3-0-3). An introduction to the Internet and to use of basic Internet tools. Prerequisite: Experience with either Microsoft Windows or the Macintosh OS, basic file creation and management, and a Word Processor are required.

EDIT 572 Topics in Computer-Based Instruction

★3 (*fi 6*) (either term, 3-0-3). Prerequisite: EDIT 568 or consent of Department.

EDIT 573 Designing Technology-Based Instruction

★3 (*fi 6*) (either term, 3-0-0). Explores contemporary approaches to the instructional design process in education and training. Emphasis is placed on the application of research and practice related to a number of topics including planning models, learning and performance issues, instructional strategies, and message design and evaluation. Also deals with newer alternatives to conventional ISD especially constructivist approaches.

EDIT 578 Internship in Instructional Technology

★3 (*fi 6*) (either term, 3-0-3). Note: credit cannot be earned for both EDIT 578 and EDIT 579.

EDIT 583 Digital Elements for Multimedia Production

★3 (*fi 6*) (either term, 3-0-3). Pre- or corequisites: EDIT 572 and 573, consent of Department.

EDIT 585 Introduction to Educational Programming Environments

★3 (*fi 6*) (either term, 3-0-3). A course in computer programming for education graduate students in instructional technology, career technology studies, measurement and evaluation, and curriculum. Prerequisite: EDIT 568 or equivalent, or consent of Department.

231.110 Education - Methodologie et Curriculum, EDU M

Faculté Saint-Jean

Cours de 1er cycle

EDU M 210 Moi comme apprenant de langue (élémentaire)

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). L'apprenant sera au centre d'une réflexion sur l'acquisition et l'apprentissage de sa langue maternelle et d'une langue seconde. Dans ce cours, les étudiants seront initiés aux théories socioculturelles de l'apprentissage d'une langue. C'est en explorant les différentes approches pédagogiques que l'apprenant sera invité à prendre conscience de ses attitudes, ses valeurs et son comportement vis-à-vis l'apprentissage et l'utilisation de la langue. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 308.

EDU M 251 Moi comme apprenant de langue (secondaire)

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). L'apprenant sera au centre d'une réflexion sur l'acquisition et l'apprentissage de sa langue maternelle et d'une langue seconde. Dans ce cours, les étudiants seront initiés aux théories socioculturelles de l'apprentissage d'une langue. C'est en explorant les différentes approches pédagogiques que l'apprenant sera invité à prendre conscience de ses attitudes, ses valeurs et son comportement vis-à-vis l'apprentissage et l'utilisation de la langue. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 308.

EDU M 311 Moi comme enseignant de langue

★3 (fi 6) (l'un ou l'autre semestre, 3-0-2). Ce cours portera sur l'intégration des savoirs théoriques et pratiques en littérature personnelle, scolaire et communautaire. Une approche expérientielle/analytique sera favorisée. Dans le but de se sensibiliser au programme d'études, les étudiants prépareront des séquences didactiques qu'ils exécuteront auprès d'un auditoire cible dans les contextes francophones et d'immersion française. Préalable: EDU M 210. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 309.

EDU M 315 Enseignement de l'éducation physique au niveau élémentaire

★3 (fi 6) (l'un ou l'autre semestre, 0-3L-0). Les approches pédagogiques pour l'enseignement en français de l'éducation physique à l'élémentaire. La programmation; les diverses méthodologies et stratégies d'enseignement; les systèmes d'évaluation de l'enfant et du programme. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 326.

EDU M 316 Enseignement de la musique au niveau élémentaire I

★3 (fi 6) (l'un ou l'autre semestre, 0-3L-0). Préalable(s): MUSIQ 151 et 155/156 ou l'équivalent. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 339.

EDU M 317 Initiation à la création artistique en milieu scolaire

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Découverte du langage de l'art, de sa spécificité et de son esthétique. Introduction par atelier aux principes fondamentaux des programmes d'études concernés. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour CU ME 345.

EDU M 318 Apprendre à lire / Lire pour apprendre

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Par le truchement de la littérature jeunesse, les étudiants se pencheront sur le processus de lecture, les stratégies d'enseignement de lecture ainsi que sur la découverte et la création d'oeuvres littéraires appropriées pour les élèves au niveau élémentaire. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 410.

EDU M 319 Littératie pour la petite enfance

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Ce cours vise l'éveil aux facettes de la littératie dans le monde de la petite enfance. L'apport linguistique, culturel et familial serviront de base pour explorer les enjeux pédagogiques à considérer dans les propos d'enseignement pour les jeunes enfants.

EDU M 320 Didactiques de l'anglais au niveau élémentaire

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Initiation à l'enseignement de l'anglais à l'élémentaire. Sujets étudiés: les programmes du ministère de l'Éducation, les stratégies et techniques d'enseignement et d'évaluation.

EDU M 321 Pédagogie et perfectionnement musical (Kodály et Orff)

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Travail vocal et formation auditive conduisant à la maîtrise des relations mélodiques et des formules rythmiques de base. Application des idées maîtresses de la philosophie de Kodály et d'Orff. Démarches pédagogiques au premier cycle (guide pédagogique, outils didactiques, leçons modèles.) Analyse et animation d'un répertoire folklorique de chansons.

EDU M 341 Les technologies de l'information et de la communication (TIC) en éducation

★3 (fi 6) (l'un ou l'autre semestre, 3-0-2). Regard critique sur le rôle et la place de la technologie à l'école ainsi que les méthodes d'enseignement propices à son intégration dans les matières de base. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 347.

EDU M 342 L'enseignement moral et religieux

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Revue des principes fondamentaux en éducation morale et religieuse. Fondements de l'enseignement moral et religieux dans une société libérale-démocratique. Perspectives de l'enseignement moral et religieux dans les écoles confessionnelles et non-confessionnelles. Implications pratiques dans la salle de classe et dans l'acte éducatif. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 496.

EDU M 358 Enseignement de la musique au niveau secondaire I

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). L'enseignement du chant choral et l'administration d'un ensemble vocal à l'école secondaire. Les sujets tels que le recrutement et les auditions des choristes, l'échauffement vocal, le choix de répertoire, les techniques de répétition et la planification de concerts seront tous abordés. Préalable(s) ou concomitant(s): ★9 dans la spécialisation. Incluant: MUSIQ 140 et 315. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 387.

EDU M 359 Enseignement de la musique au niveau secondaire II

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). L'enseignement d'une fanfare et l'administration d'un ensemble instrumental à l'école secondaire. Les sujets tels que la création d'une fanfare, le recrutement et les auditions de musiciens, le choix d'instrument, les techniques de répétition, le choix de répertoire et la planification de concerts seront tous abordés. Préalable(s) ou concomitant(s): ★9 dans la spécialisation incluant MUSIC 141 et un de MUSIC 209, 211 ou 216. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 388.

EDU M 360 L'art dramatique comme outil pédagogique

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Ce cours portera sur les pratiques théâtrales et leur utilisation dans les programmes d'études à l'élémentaire et au secondaire; par exemple, jeux de rôles, marionnettes, improvisation, exemple, jeux de rôles, marionnettes, improvisation. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 389.

EDU M 361 Enseignement de l'éducation physique au niveau secondaire

★3 (fi 6) (l'un ou l'autre semestre, 0-3L-0). Les approches pédagogiques pour l'enseignement en français de l'éducation physique au secondaire, la programmation; les diverses méthodologies et stratégies d'enseignement; les systèmes d'évaluation de l'élève et du programme. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 494.

EDU M 362 Didactiques de l'anglais au niveau secondaire

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Initiation à l'enseignement de l'anglais au secondaire. Sujets étudiés: les programmes du ministère de l'Éducation, les stratégies et techniques d'enseignement et d'évaluation.

EDU M 412 Didactiques des mathématiques au niveau élémentaire

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Initiation à l'enseignement des mathématiques à l'élémentaire. Sujets étudiés: les programmes d'études, stratégies et techniques d'enseignement et d'évaluation, les calculatrices, les ordinateurs, la communication, la pensée et la compréhension mathématique, les influences sur l'enseignement/l'apprentissage des mathématiques, les techniques d'évaluation. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 321.

EDU M 413 Didactiques des sciences au niveau élémentaire

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Initiation à l'enseignement des sciences à l'élémentaire. Sujets étudiés: les programmes du ministère de l'Éducation, les stratégies et techniques d'enseignement et d'évaluation, le lien entre science/technologie/société. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 322.

EDU M 414 Didactiques des études sociales à l'élémentaire

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Initiation à l'enseignement des études sociales à l'élémentaire. Étude et interprétation des exigences du programme du ministère de l'Éducation et des ressources prescrites pour enseigner les études sociales en milieu francophone et en milieu d'immersion française. Sensibilisation au rôle que jouent les études sociales dans le développement du citoyen et l'éveil à la conscience identitaire. Planification de l'enseignement des études sociales et stratégies d'enseignement. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 330.

EDU M 452 Enseignement du français au niveau secondaire

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Cours de méthodologie pour l'enseignement du français en immersion et en milieu francophone minoritaire. Étude des nouvelles tendances dans la didactique de l'écriture. Principes et démarche pour la planification d'une séquence d'apprentissage basée sur les stratégies d'écriture dans le contexte d'un type de texte spécifique. Intégration de la grammaire à la production écrite. Méthodes d'évaluation des textes. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 358.

EDU M 453 Enseignement de la littérature au niveau secondaire

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Pédagogie générale et pratique de la littérature: méthode d'enseignement du roman, de la pièce de théâtre et de la poésie. Étude des moyens de favoriser la pratique de la lecture libre en français. Étude des processus et des stratégies de lecture. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 359.

EDU M 454 Enseignement des études sociales au 1er cycle du secondaire

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Pédagogie générale et pratique de l'enseignement des études sociales; analyse des programmes d'études sociales pour les Francophones en milieu minoritaire et pour le milieu d'immersion française; étude des ressources prescrites par le ministère de l'Éducation; étude des méthodes d'enseignement et d'évaluation, des objectifs d'apprentissage et le rôle et les responsabilités de l'enseignant des études sociales. Préalable: ★6 dans la spécialisation. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 360.

EDU M 455 Enseignement des études sociales au 2e cycle du secondaire

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Pédagogie générale et pratique de l'enseignement des études sociales; analyse des programmes d'études sociales et des ressources prescrites par le ministère de l'Éducation; étude de l'historique des études sociales et des conceptions d'études sociales; étude des méthodes d'enseignement et d'évaluation des études sociales; et intégration de l'actualité aux objectifs du programme d'études sociales. Préalable ou concomitant: EDU M 454. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 361.

EDU M 456 L'enseignement des mathématiques au niveau secondaire

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Ce cours a pour but de préparer les étudiants à enseigner les mathématiques à tous les niveaux du secondaire; d'acquérir quelques principes fondamentaux nécessaires à une conception adéquate des mathématiques et de leur didactique. Ce cours propose diverses stratégies pour encourager l'apprentissage des mathématiques d'une façon concrète. Préalable: ★3 dans la spécialisation. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 363.

EDU M 457 L'enseignement des sciences au niveau secondaire

★3 (fi 6) (l'un ou l'autre semestre, 0-3L-0). Ce cours permettra à l'étudiant de connaître à fond le contenu et les objectifs du curriculum de sciences à tous les niveaux du secondaire; les différentes méthodes de présenter un concept en sciences; les nouvelles applications technologiques dans l'enseignement de la science; et l'équipement existant pour faciliter l'enseignement de la science. Préalable: ★3 dans la spécialisation. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 367.

EDU M 485 Etude personnelle dirigée dans le domaine de l'enseignement au niveau élémentaire

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Préalable(s): l'approbation du professeur et du Vice-doyen aux affaires académiques. exemple, jeux de rôles, marionnettes, improvisation. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 444.

EDU M 490 Séminaire dans le domaine de l'enseignement au niveau secondaire

★3 (fi 6) (l'un ou l'autre semestre, 0-3s-0). Le contenu du cours varie d'une année à l'autre. Les sujets sont annoncés avant la période d'inscription. Le titre du cours figurera sur le relevé de notes de l'étudiant. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 498.

EDU M 495 Etude personnelle dirigée dans le domaine de l'enseignement au niveau secondaire

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Préalable(s): l'approbation du professeur et du Vice-doyen aux affaires académiques. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour CU ME 499.

EDU M 498 Séminaire dans le domaine de l'enseignement au niveau élémentaire/secondaire

★3 (fi 6) (l'un ou l'autre semestre, 0-3s-0). Le contenu du cours varie d'une année à l'autre. Les sujets sont annoncés avant la période d'inscription. Le titre du cours figurera sur le relevé de notes de l'étudiant.

231.111 Education - Policy Studies, EDPS

Department of Educational Policy Studies
Faculty of Education

Undergraduate Courses

EDPS 310 Managing the Learning Environment

★3 (fi 6) (either term, 3-0-1). This course will assist students in clarifying the influence of social and organizational contexts and structures and help them explore the ways in which teachers can participate as professionals in the process of managing the learning environment. Prerequisites: EDPY 200 except for After Degree students. Corequisite: Courses in the Introductory Professional Term for either the Elementary Education Route or Secondary Education Route. Successful completion is required prior to being granted permission to continue into the second week of EDFX 325 or EDFX 350.

EDPS 311 Anthropology and Canadian Education

★3 (fi 6) (either term, 3-0-0). A review of the organization of schooling in Canada and of selected educational issues, from perspectives provided by socioculture, symbolic and biological anthropology. Students may not receive credit for both EDPS 311 and EDFDN 310.

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 401 Selected Topics in Educational Policy Studies

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

EDPS 402 Directed Study in Educational Policy Studies

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

EDPS 410 Ethics and Law in Teaching

★3 (fi 6) (either term, 3-0-0). This course will examine the ethical and legal responsibilities of teachers. Among the topics addressed will be the following: punishment and child abuse; freedom of speech and academic freedom in schools; parents' rights and teachers' professional autonomy; issues of quality such as inclusive education and the problems of racism and sexism; fairness in assessment and evaluation; teachers' private lives and public obligations; indoctrination and the teaching of value. 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 411 Cross Cultural Studies in Education

★3 (fi 6) (either term, 3-0-0). The ethnographic study of education and cultural change. Prerequisite: ANTHR 101, or ANTHR 207, or ANTHR 250, or consent of Department. Students may not receive credit for both EDPS 411 and EDFDN 410.

EDPS 422 Education in Developing Countries

★3 (fi 6) (either term, 3-0-0). This course has a hemispheric focus (developing areas in the South), and aims to help students critically understand and examine the role formal systems of education can play in stimulating inclusive and sustainable social development possibilities in the countries of Africa, Asia, Latin America, the Caribbean region, and, selectively, in the specific cases of indigenous populations who may be underdeveloped in the context of otherwise advanced economic and political systems. Students may not receive credit for both EDPS 422 and EDFDN 422.

EDPS 425 Global Education: Issues and Strategies for Teachers

★3 (fi 6) (either term, 3-0-0). This course explores, in theory and practice, how global education in schools can facilitate critical understanding and develop skills and values for building more peaceful futures in local, national, and global contexts. It draws on North and South scholars and educators to clarify underlying conceptual and pedagogical principles of global education and related fields (education for peace, justice, development, human rights, cultural solidarity, environmental care). Exemplars of creative curriculum content and teaching-learning strategies for global literacy will be included. Students may not receive credit for both EDPS 425 and EDFDN 425.

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.

EDPS 456 The Philosophy of Moral Education

★3 (fi 6) (either term, 3-0-0). An examination of the philosophical problems that arise in the moral education of students. Students may not receive credit for both EDPS 456 and EDFN 456.

EDPS 474 Contemporary Issues in the Education of Native Peoples: A Social Science Perspective

★3 (fi 6) (either term, 3-0-0). An analysis of current issues of debate in Indian, Metis and Inuit education, with special reference to their social origins. Students may not receive credit for both EDPS 474 and EDFDN 474.

Graduate Courses

EDPS 501 Conference Course on Selected Topics

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

EDPS 506 Individual Directed Study

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

EDPS 507 Individual Directed Study

★3 (fi 6) (either term, 3-0-0).

EDPS 509 Research Design and Data Analysis

★3 (fi 6) (either term, 3-0-0). This course is a survey course of research design principles, concepts, and applications. Emphasis is on developing research methodologies and understanding data analyses for conducting various types of research. Prerequisite EDPS 508.

EDPS 511 Evolving Concepts in Educational Administration and Leadership

★3 (fi 6) (either term, 3-0-0). Students may not receive credit for both EDAL 501 and EDPS 511.

EDPS 512 Administrative and Leadership Process in Education

★3 (fi 6) (either term, 3-0-0). Students may not receive credit for both EDAL 502 and EDPS 512.

EDPS 513 Educational Policy and Reform

★3 (fi 6) (either term, 3-0-0). The intent of this course is to explore and further our understanding of reforms in education over the past two decades in Canada and other selected OECD countries. Through academic readings, we examine how and why particular policy discourses (e.g. school choice, system accountability) have become accepted in recent years. We further consider the implications of policy reforms for practices within educational organizations. The design of this course reflects the view that reforms cannot be comprehended without considering the social, political, economic and historical contexts in which they arise.

EDPS 521 Adult Learning and Development

★3 (fi 6) (either term, 3-0-0). In this course we will examine key issues in adult learning and development, using concepts discussed in the literature. Content areas include theories of adult learning and development, and related concepts such as learning styles and orientations, personality, motivation, and intelligence. Students may not receive credit for both EDAE 521 and EDPS 521.

EDPS 522 Citizenship Education: Global Contexts

★3 (fi 6) (either term, 3-0-0). Focuses on citizenship education as a primary program for the development of societies with special reference to South countries. The concepts as well as the possible practices of citizenship and citizenship education will be analyzed to discern and critique their influence on spaces of educational and social development.

EDPS 523 Education and Development Theory

★3 (fi 6) (either term, 3-0-0). Analyzes the role of education in the development process from a global perspective, with particular attention paid to Asia, Africa, and Latin America. Explores the various explanations for social, political, and economic development put forward by selected writers. Students may not receive credit for both EDFN 523 and EDPS 523.

EDPS 525 Globalization, Global Education and Change

★3 (fi 6) (either term, 3-0-0). This course will develop a critical understanding of select perspectives on globalization and the associated implications for: (a) formal, non-formal and informal education in local, national, and international contexts; and (b) pedagogical possibilities for critical global education in schools and communities addressing global issues pertaining to international development (poverty and inequality in North-South trajectories), ecology, human rights and improved prospects for peace.

EDPS 531 Supervision of Educational Personnel

★3 (fi 6) (either term, 3-0-0). Students may not receive credit for both EDAL 521 and EDPS 531.

EDPS 532 Selected Topics in Educational Supervision

★3 (fi 6) (either term, 3-0-0). Students may not receive credit for both EDAL 522 and EDPS 532.

EDPS 536 Critical Pedagogies and Transformative Practices in Indigenous Education

★3 (fi 6) (either term, 3-0-0). This course is concerned with the practices and strategies of transformative pedagogies for indigenous education. It examines the nature of critical pedagogy and its application in indigenous education sites as a tool for policy analysis and for social and political transformation. A central focus of the course is the development of indigenous educational strategies of resistance and transformation addressing colonization.

EDPS 540 Introduction to Human Resource Development

★3 (fi 6) (either term, 3-0-0). This course focuses on concepts and strategies for the development of human resources within organizational contexts. Students may not receive credit for both EDAE 540 and EDPS 540.

EDPS 541 Organizational Learning and Change

★3 (fi 6) (either term, 3-0-0). Introduces various theoretical and conceptual orientations to organizational learning and organizational change, and involves students in practical projects exploring learning and change in organizational contexts such as workplaces, communities, schools, and post-secondary institutions.

EDPS 544 Critical and Feminist Pedagogical Research

★3 (fi 6) (either term, 3-0-0). Examines historical and contemporary perspectives

shaping critical and feminist pedagogies, both of which support inclusive and holistic teaching and research practices. Explores how these perspectives can inform research designs and methods for studying policy development, program design, and professional practice. Intent is to have students conduct analysis in relation to their own educational projects and professional interests.

EDPS 545 Adult Education in the Workplace

★3 (fi 6) (either term, 3-0-0). Designed for trainers and developers, community-based adult educators, counsellors and planners, this course will focus on informal learning and critical analysis of issues in the workplace. Students may not receive credit for both EDAE 545 and EDPS 545.

EDPS 551 Governance and Administration of Education in Canada

★3 (fi 6) (either term, 3-0-0). Students may not receive credit for both EDAL 551 and EDPS 551.

EDPS 553 Legal Aspects of Educational Administration

★3 (fi 6) (either term, 3-0-0). Students may not receive credit for both EDAL 553 and EDPS 553.

EDPS 554 The Epistemology and Ethics of Educational Research

★3 (fi 6) (either term, 3-0-0). Provides opportunity to explore epistemological and ethical issues that arise both in the conduct of educational research and in its application to practice.

EDPS 560 Instructional Practices in Adult and Higher Education

★3 (fi 6) (either term, 3-0-0). This course examines the theoretical, conceptual, philosophical and practical aspects of adult instruction using dimensions such as instructor, learner, intentions, context, content, strategies and assessment. Students may not receive credit for both EDAE 560 and EDPS 560.

EDPS 561 Program Planning in Adult and Higher Education

★3 (fi 6) (either term, 3-0-0). The course examines program planning models and issues in contexts such as the workplace, community and post-secondary institutions. Students may not receive credit for both EDAE 561 and EDPS 561.

EDPS 562 Social Theory and Education

★3 (fi 6) (either term, 3-0-0). Students may not receive credit for both EDFN 562 and EDPS 562.

EDPS 563 Education from a Sociological Perspective

★3 (fi 6) (either term, 3-0-0). Students may not receive credit for both EDFN 560 and EDPS 563.

EDPS 564 Education and Social Change

★3 (fi 6) (either term, 3-0-0). Students may not receive credit for both EDFN 564 and EDPS 564.

EDPS 565 Sociology of Higher Education

★3 (fi 6) (either term, 3-0-0). Students may not receive credit for both EDFN 565 and EDPS 565.

EDPS 571 The Organization of Postsecondary Education

★3 (fi 6) (either term, 3-0-0). Students may not receive credit for both EDAL 571 and EDPS 571.

EDPS 572 Administration of Postsecondary Institutions

★3 (fi 6) (either term, 3-0-0). Prerequisite: EDAL 571 or EDPS 571 or consent of Department. Students may not receive credit for both EDAL 572 and EDPS 572.

EDPS 577 Foundations of Adult and Higher Education

★3 (fi 6) (either term, 3-0-0). This survey course examines the various interpretations and paradigms of adult and higher education. Ways of studying adult and higher education are presented using concepts, analysis, theories, and methodologies from the various foundational disciplines. Students may not receive credit for both EDAE 577 and EDPS 577.

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.

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 580 and EDPS 581.

EDPS 585 Needs Assessment and Program Evaluation

★3 (fi 6) (either term, 3-0-0). Students may not receive credit for both EDAE 585 and EDPS 585.

EDPS 590 Foundations of Education: Perspectives on Canadian Issues

★3 (fi 6) (either term, 3-0-0). Focuses on a critical examination of Canadian educational issues from philosophical, historical, sociological and cultural perspectives. Themes may include multiculturalism, educational reform and

governance, the global economy and new technologies, changing nature of educational goals, and transformations in teaching.

EDPS 591 Foundations of Education: Perspectives on International Issues

★3 (fi 6) (either term, 3-0-0). Critically examines the role of education in the problems and prospects of international development. As an inclusive construct, development comprises enhancements in the economic, social, political, cultural and technological well-being of people's lives. Examines contemporary societal issues that influence and/or are influenced by educational policies and programs. Perspectives from regions and groups such as Africa, Asia, Latin America, Europe, the Oceania-Pacific, the Caribbean, the Middle East, and communities indigenous to different parts of the world will be included.

EDPS 594 Group Processes in Educational Leadership

★3 (fi 6) (either term, 3-0-0). Prerequisite: consent of Department. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar. Students may not receive credit for both EDAL 594 and EDPS 594.

EDPS 595 The School Principalship: Seminars and Simulations

★3 (fi 6) (either term, 3-0-1). Applied activities and academic studies which enable the student to learn skills and knowledge pertinent to the responsibilities of the principal, by disciplined reflection on their performance in simulated administrative situations. Prerequisites: EDAL 501 and 502 or EDPS 511 and 512 or consent of Department. Students may not receive credit for both EDAL 595 and EDPS 595.

EDPS 601 Selected Topics in Educational Policy Studies

★3 (fi 6) (either term, 3-0-0).

EDPS 606 Supervised Individual Study I

★3 (fi 6) (either term, 3-0-0).

EDPS 607 Supervised Individual Study II

★3 (fi 6) (either term, 3-0-0).

EDPS 612 Research Methods II

★3 (fi 6) (either term, 3-0-0). Students may not receive credit for both EDAL 612 and EDPS 612.

EDPS 621 International/Intercultural Education: Methods and Substantive Research Paper

★6 (fi 12) (either term, 0-3s-0). Students may not receive credit for both EDFN 621 and EDPS 621.

EDPS 625 Administrative Behavior I

★3 (fi 6) (either term, 3-0-0). Students may not receive credit for both EDAL 625 and EDPS 625.

EDPS 635 Organization Theory I

★3 (fi 6) (either term, 3-0-0). Students may not receive credit for both EDAL 635 and EDPS 635.

EDPS 636 Indigenous Ontologies in the Global Context

★3 (fi 6) (either term, 3-0-0). This course is concerned with the impact of the multifaceted processes of globalization on the lived realities of indigenous peoples with particular reference to education and schooling. These issues will be engaged across macro and micro levels to examine the international arena, the nation state and new forms of regionalism in the context of the reshaping of global order. Open to doctoral students. Other students require consent of the instructor.

EDPS 655 Politics of Education I

★3 (fi 6) (either term, 3-0-0). Students may not receive credit for both EDAL 655 and EDPS 655.

EDPS 656 Politics of Education II

★3 (fi 6) (either term, 3-0-0). Students may not receive credit for both EDAL 656 and EDPS 656.

EDPS 671 Issues in Administration of Postsecondary Education I

★3 (fi 6) (either term, 3-0-0). Students may not receive credit for both EDAL 671 and EDPS 671.

EDPS 672 Issues in Postsecondary Education

★3 (fi 6) (either term, 3-0-0). This course examines the challenges and opportunities posed by the complex environments in which postsecondary institutions operate. Various theoretical lenses will be used to study such aspects of colleges and universities as the institutional mission, values and societal/cultural role, teaching and research, accessibility, lifelong learning, equity and diversity, changing faculty and student roles, and curriculum. Students may not receive credit for both EDAL 672 and EDPS 672.

EDPS 680 Policy Research and Education

★3 (fi 6) (either term, 3-0-0). Focuses on a critical and disciplined examination of education and policy issues by drawing on a variety of theoretical orientations. Identifies the centrality of policy research within different educational contexts: adult education, K-12, post-secondary, and aboriginal schooling in Canada and internationally. Students will explore a multiplicity of ways to combine the study of policy with the study of practice, politics, culture and power.

EDPS 681 Frameworks for Research in Educational Policy Studies

★3 (fi 6) (either term, 3-0-0). Explores the philosophical underpinnings of selected research frameworks within the specializations of the Department of Educational Policy Studies. Students may receive credit for only one of EDAL 611, EDPS 611 and EDPS 681.

EDPS 690 Social Learning and Responsibility in Adult Education

★3 (fi 6) (either term, 3-0-0). Extends opportunities for advanced study in adult learning, focusing upon social learning and responsibility. Participants will explore situative and socio-cultural understandings of the learning process from different theoretical perspectives, and apply these to contexts of adult learning in formal settings, community action, and workplace organizations. Prerequisite: EDPS 521 or equivalent or consent of Department.

EDPS 900 Directed Research Project

★3 (fi 6) (either term, unassigned).

231.112 Education - Psychologie, EDU P

Faculté Saint-Jean

Cours de 1er cycle

EDU P 239 Introduction au développement de l'enfant et de l'adolescent

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Étude du développement de l'enfant et de l'adolescent selon cinq grands axes qui progressent simultanément et sont étroitement reliés : physique, cognitif, conatif, affectif et social. À partir de ces domaines, le développement de l'être humain est abordé en insistant particulièrement sur le milieu scolaire actuel. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour PS ED 200.

EDU P 240 Psychopédagogie de l'apprentissage

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Théories générales de l'apprentissage et les différents facteurs qui influencent l'apprentissage en milieu scolaire. Études des applications de ces théories dans l'enseignement avec une mention sur la mesure et l'évaluation. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour PS ED 201.

EDU P 241 La communication et relations interpersonnelles

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Saisir l'importance de se connaître soi-même dans nos démarches d'améliorer nos habiletés communicationnelles. Étudier les éléments impliqués dans la communication interpersonnelle et leur interdépendance dans la construction d'un message. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour PS ED 250.

EDU P 340 Mesure et évaluation

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Dans ce cours, le point sera mis sur une compréhension approfondie des principes-là et la pratique dans la classe. La deuxième composante du cours mettra l'accent sur l'analyse, la construction, et la critique des tests et différentes méthodes d'évaluations en groupes et en projets individuels.

EDU P 442 Inclusion scolaire et modèles d'intervention

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Étude des politiques, des normes et du système de codification en vigueur pour les élèves albertains ayant des besoins particuliers. Analyse des modèles courants d'inclusion scolaire. Étude des attitudes et croyances des enseignants envers l'inclusion scolaire. Rédaction d'un plan d'intervention selon les règles de l'art. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour PS ED 300.

EDU P 443 Sensibilisation aux troubles du développement et de l'apprentissage

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Étude des principaux troubles du développement et de l'apprentissage comme par exemple, l'autisme, le trouble déficitaire de l'attention/hyperactivité, la dyslexie développementale et le trouble de l'audition centrale. Élaboration de stratégies pédagogiques visant à répondre aux besoins des élèves du primaire et du secondaire ayant des troubles du développement et de l'apprentissage. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour PS ED 482.

231.113 Education - Psychology, EDPY

Department of Educational Psychology
Faculty of Education

Note: The course prefix for Education (Psychology) courses has changed from EDPY 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 EDPY 371.

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

★3 (fi 6) (either term, 3-0-0). This course reviews educationally relevant characteristics of students exhibiting mild, moderate, and severe disabilities, and exceptional educational gifts and talents. In addition, the needs of students with diverse educational, cultural, and linguistic backgrounds will be discussed. The major focus is on planning Individual Program Plans and adapting regular classroom instruction and management to the diversity of individual needs. More specialized techniques are reviewed as needed. Prerequisites: EDPY 200 except for After Degree students. Co-requisite: Courses in the Introductory Professional Term for either the Elementary Education Route or Secondary Education Route. Successful completion is required prior to being granted permission to continue into the second week of EDPY 325 or 350.

EDPY 303 Educational Assessment

★3 (fi 6) (either term, 3-0-0). 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. Co-requisite: Courses in the Introductory Professional Term for either the Elementary Education Route or Secondary Education Route. Successful completion is required prior to being granted permission to continue into the second week of EDPY 325 or 350.

EDPY 397 Educational Psychology Seminars

★1-3 (variable) (either term, variable). Prerequisite: consent of Department.

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 EDPY 329.

EDPY 410 Individual Differences in Education

★3 (fi 6) (either term, 3-0-1). Prerequisite: EDPY 200. Students may not receive credit for both EDPY 410 and EDPY 475.

EDPY 413 Principles and Practice in Teaching ESL Learners

★3 (fi 6) (either term, 3-0-0). Basic strategies for adapting instruction to accommodate ESL learners in their classes. Second language literacy, content-based instruction, and assessment will be covered. Not open to EDPY TESL Diploma or Master's students.

EDPY 416 Introduction to the Teaching of English as a Second Language

★3 (fi 6) (either term, 3-0-0). Focuses on principles of language learning, language learners, and learning contexts. Pre-/corequisite: an approved introductory course in Linguistics.

EDPY 418 Methodology in the Teaching of English as a Second Language to Adults

★3 (fi 6) (either term, 3-0-0). Students will learn how to respond to adult ESL students' learning needs using current ESL teaching principles and techniques, design lesson plans, evaluate resources, and assess learner progress. Prerequisites: EDPY 416. Students may not receive credit for both EDPY 418 and EDADU 439.

EDPY 419 TESL Supervised Practicum

★3 (fi 6) (either term, 3-0-3). This practicum is designed to provide Diploma students with an opportunity to observe and teach in an established ESL program for adults.

EDPY 432 Interpersonal Communication for Teachers

★3 (fi 6) (either term, 1.5-1.5s-0). Prerequisite: EDPY 200. Students may not receive credit for both EDPY 432 and EDPY 495.

EDPY 442 Introduction to Counselling

★3 (fi 6) (either term, 1.5-1.5s-0). Prerequisite: EDPY 200. Students may not receive credit for both EDPY 411 and 442.

EDPY 452 Assessment and Instruction of Exceptional Learners

★3 (fi 6) (either term, 3-0-1). Note: Special Education Minor-Elementary Route only. Prerequisite: Introductory Professional Term. Students may not receive credit for EDPY 452 and any of EDPY 355, EDPY 307 or EDPY 468.

EDPY 454 Behavioral Management of Severely Disruptive Children

★3 (fi 6) (either term, 3-0-1). Note: Special Education Minor-Elementary Route and Secondary Route only. Prerequisite: Introductory Professional Term. Students may not receive credit for both EDPY 454 and EDPY 307 or EDPY 357.

EDPY 456 Consultation and Collaboration in Special Education

★3 (fi 6) (either term, 3-0-1). Note: Special Education Minor-Elementary Route only. Prerequisite: Introductory Professional Term.

EDPY 458 Assessment and Programming for Children with a Specific Reading Disability

★3 (fi 6) (either term, 3-0-0). Intent is to (a) provide students with a theoretical understanding of specific reading disabilities, (b) introduce students to widely used assessment tools and the interpretation of assessment results, and (c) develop competence in designing and implementing successful interventions for students with specific reading disabilities. Restricted to Special Education Minors in the Elementary or Secondary Route. Prerequisite: EDPY 452 or 468 or consent of the instructor.

EDPY 468 Individualizing Instruction for Adolescents with Special Needs

★3 (fi 6) (first term, 3-0-1). Note: Special Education Minors-Secondary Route only. Co-requisite: Courses in the Introductory Professional Term for the Secondary Education Route. Successful completion is required prior to being granted permission to continue into the second week of EDPY 350.

EDPY 470 Deafness: An Introduction and Survey

★3 (fi 6) (either term, 3-0-2). A basic survey of the field of education of the hearing impaired. Covers theory and practice from an historical and a current perspective. A desirable prerequisite for uninitiated students entering the hearing impaired program. Students may not receive credit for both EDPY 470 and EDPY 449.

EDPY 472 Introduction to Language Development

★3 (fi 6) (either term, 3-0-1). The course content includes cognitive and social basis for language, as well as an overview of recent developments in semantic, syntactic, pragmatic and phonological development. The course focuses specifically on the impact of hearing loss on language development. Students may not receive credit for both EDPY 472 and EDPY 450.

EDPY 474 Basic Manual Communication

★3 (fi 6) (either term, 2-1s-1). This is a practical course to develop basic skills in manual communication. Students may not receive credit for both EDPY 474 and EDPY 451.

EDPY 497 Senior Seminars

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

EDPY 499 Directed Individual Study in Educational Psychology

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

Graduate Courses

Note: Graduate students in M ED and PH D programs in the Department of Educational Psychology may register in 500 and 600 level courses open to web registration. Others require consent of the Department.

EDPY 500 Introduction to Data Analysis in Educational Research

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

EDPY 501 Introduction to Methods of Educational Research

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

EDPY 502 Single-Case Research Design

★3 (fi 6) (either term, 3-0-0). Focuses on theory and practice of research on the effects of intervention on an individual or small group.

EDPY 503 Qualitative Methods of Education Research

★3 (fi 6) (either term, 3-0-3). Prerequisite: EDPY 501 or equivalent or consent of Department.

EDPY 505 Advanced Univariate Statistics in Educational Research

★3 (fi 6) (either term, 3-0-3). Prerequisites: EDPY 500 or equivalent and consent of Department.

EDPY 507 Test Theory

★3 (fi 6) (first term, 3-0-0). Prerequisites: EDPY 500 or equivalent, and consent of Department.

EDPY 508 Item Response Theory

★3 (fi 6) (either term, 3-0-0). Topics in educational and psychological measurement will be covered using an item response theory framework. Basic issues in model selection, parameter estimation, and model-data fit will be studied for both unidimensional and multidimensional models. Selecting topics such as test construction, equating, differential item functioning, and computerized adaptive testing will also be discussed. Prerequisites: EDPY 507 or equivalent and consent of Department.

EDPY 509 Child Development: Theories and Issues

★3 (fi 6) (either term, 3-0-0). Emphasis is on understanding child development from the combined perspectives of research, theory and practical experience. Stages from prenatal to the teenage years will be studied. Intended for both masters and doctoral level students. Practitioners or theoreticians from related disciplines are welcome. Prerequisite: consent of Department.

EDPY 510 Learning, Cognition and Education

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

EDPY 517 Adolescent Development: Theories and Issues

★3 (*fi 6*) (either term, 3-0-0). Emphasis is on understanding adolescent development from the combined perspectives of research, theory and practical experience. Stages from early adolescence until emerging adulthood will be studied. Intended for both masters and doctoral level students. Practitioners or theoreticians from related disciplines are welcome. Prerequisite: consent of Department.

EDPY 521 Principles of Psychological Assessment I

★3 (*fi 6*) (either term, 3-0-3). This course deals with psychological and psychoeducational assessment and covers the basic principles and skills needed to administer and interpret individual intelligence tests. Prerequisites or co-requisites: (EDPY 507 or equivalent). 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 523 The Practice of School Psychology

★3 (*fi 6*) (either term, 3-0-0). This course is intended to develop an appreciation for the professional issues and problems of concern to the school psychologist. Topics will include history and trends, evaluation and accountability, research and interventions, and international perspectives.

EDPY 525 Principles of Psychological Assessment II

★3 (*fi 6*) (second term, 3-0-3). This course deals with psychological and psychoeducational assessment and covers the basic principles and skills needed to administer and interpret individual intelligence tests. Prerequisites: EDPY 521.

EDPY 532 Systems of Counselling

★3 (*fi 6*) (either term, 3-0-0). This course introduces students, with interests in counselling, to the major theories used in the counselling/psychotherapy area. Prerequisite: consent of Department.

EDPY 533 Basic Skills, Issues and Attitudes in Counselling I

★3 (*fi 6*) (either term, 3-3s-4). This course focuses on generic counselling skills and the enhancement of counsellor self-awareness. Prerequisite: consent of Department.

EDPY 534 Basic Skills, Issues and Attitudes in Counselling II

★3 (*fi 6*) (either term, 3-3s-4). Prerequisites: EDPY 533 or equivalent and consent of Department.

EDPY 536 Ethical and Professional Issues in Psychological Practice

★3 (*fi 6*) (either term, 3-1.5s-0). Prerequisite: consent of Department.

EDPY 538 Theory and Practice in Group Counselling

★3 (*fi 6*) (either term, 3-0-3). This course is designed to develop an understanding of group theory and process and to acquire skills needed in leading a counselling group. The main goals of the course are to establish a theoretical and practical understanding of group process and to develop group facilitation skills through intensive group participation and supervised group counselling leadership experiences. Prerequisites or corequisites: EDPY 533/534.

EDPY 542 Cross-Cultural Counselling

★3 (*fi 6*) (either term, 3-0-0). Designed to establish a theoretical and practical understanding of the factors that influence the nature and effectiveness of the cross-cultural counselling process. Includes multicultural counselling competencies, ethics in cross-cultural counselling interactions, models of racial and cultural identity development, multicultural assessment procedures, and culture-specific (emic) and universal (etic) helping styles.

EDPY 544 Principles of Psychological Testing and Assessment

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

EDPY 545 Individual Psychological Assessment

★6 (*fi 12*) (two term, 3-0-3). Prerequisite: School Psychology students require EDPY 521 and EDPY 525 and consent of Department. Other students require consent of Department. Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

EDPY 549 Advanced Course in Psychoeducational Assessment and Instruction

★3 (*fi 6*) (first term, 3-0-1). To provide skill in administration and interpretation of a variety of psychoeducational measures which show potential in advancing our understanding of exceptional children. Prerequisites: EDPY 452 and consent of Department.

EDPY 553 Practicum and Capping Exercise: General Special Education

★3 (*fi 6*) (either term, 0-1s-3). Supervised practicum in a variety of special education settings. Normally taken near the end of the course-based Master's program; capping exercise will be a paper or other product prepared in conjunction with the practicum. Prerequisite: consent of Department.

EDPY 554 Behavior Management for Exceptional Individuals

★3 (*fi 6*) (either term, 0-4L-0). To provide skill in implementing behavior management practices in classroom settings as well as skills for assisting teachers to implement behavior management techniques. Prerequisite: consent of Department.

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

★3 (*fi 6*) (first term, 3-0-0). Aspects of theory, research and professional practice within the field of special education will be examined in this class. All special needs and developmental disorders are considered, particularly in the realm of the theory/practice relationships. Such issues as program evaluation, integration, personnel preparation, and the identification of special needs will be considered. Validity of current practices and beliefs will be addressed through reviews of research, theory, and legislation/policy and the relationship between these areas and professional practice. Prerequisite: consent of Department.

EDPY 560 Seminar on Research in Special Education

★3 (*fi 6*) (either term, 0-3s-0). Contemporary research and applications regarding children exhibiting exceptionalities are reviewed from the perspectives of current research paradigms and methods. Students apply these qualitative and quantitative models of exploration and knowledge development in terms of better informed practice and more adequate theory development. Pre-/corequisites: EDPY 501 or equivalent and consent of Department.

EDPY 561 Behavior Disorders of Childhood and Adolescence

★3 (*fi 6*) (either term, 2-1s-0). In depth treatment of basic topics, including definition, classification, models, assessment, education, treatment and prevention. Prerequisites: EDPY 301 or equivalent and consent of Department.

EDPY 564 Oral Communication in the Instruction of Hearing Impaired Students

★3 (*fi 6*) (either term, 2-1s-2). A practical course to develop speech teaching skills in intending teachers of hearing impaired students. Focuses on analytical and syntheical approaches to teaching speech and speech reading. Note: Limited to Special Education students in the Hearing Impaired Program or practising teachers of the hearing impaired. Prerequisite: consent of Department.

EDPY 566 Curriculum Design and Instructional Strategies for Hearing Impaired Students

★3 (*fi 6*) (either term, 2-1s-1). Explores the need for an integrated approach in planning and adapting existing curricula to meet the needs of hearing impaired students. The course will also explore the use of different instructional techniques with hearing impaired students. Prerequisite: consent of Department.

EDPY 567 Social Psychology of Hearing Impairment

★3 (*fi 6*) (either term, 2-0-2). A course designed to develop an understanding of basic psychological social processes associated with deafness. It will emphasize preventative techniques in mental health and will foster empathy with the personal and social needs of deaf students. Prerequisite: consent of Department.

EDPY 568 Audiology for Educators of the Deaf and Hard of Hearing

★3 (*fi 6*) (either term, 3-0-2). An introduction to audiology including anatomy and physiology of the auditory system, acoustics of speech, basic audiometric tests, amplification systems and habilitative procedures used by the classroom teacher. Restricted to students enrolled in the Faculty of Education Program for Deafness Studies Education. Prerequisite: consent of Department.

EDPY 569 Language Development and Remediation with Hearing Impaired Students

★3 (*fi 6*) (either term, 1-1s-3). Application and development of the skills acquired in the two first level communication courses. Focuses on evaluation and analytical skills and on a diagnostic/prescriptive approach. Prerequisites: A basic course in communication processes and consent of Department.

EDPY 570 Practicum in Education of Hearing Impaired Students

★1-12 (*variable*) (variable, variable). Supervised placement in a classroom for hearing impaired students. Prerequisite: consent of Department.

EDPY 571 Internship and Capping Exercise: Hearing Impaired Students

★1-12 (*variable*) (variable, variable). Supervised placement with hearing impaired students. Normally taken near the end of the course-based Master's program; capping exercise will be a paper or other product prepared in conjunction with the practicum. Prerequisite: consent of Department.

EDPY 573 Computer-Assisted Language Learning (CALL)

★3 (*fi 6*) (either term, 3-0-3). Acquaints students with a wide variety of CALL opportunities available for the English as a Second Language (ESL) classroom, presents guidelines for evaluating CALL resources, and provides a framework for the effective integration of CALL into ESL curricula. Basic familiarity with the computer and the Internet is required. Prerequisite: EDPY 418 or consent of the Department.

EDPY 574 Oral/Auditory Rehabilitation in the Instruction of Hearing Impaired Students

★3 (*fi 6*) (either term, 2-1s-2). A practical course to develop speech teaching skills for teachers of hearing impaired students. This course incorporates auditory training techniques and is intended for students specializing in working with students who have impaired hearing. Prerequisites: EDPY 564 or equivalent, and consent of Department.

EDPY 575 Teaching English as a Second Language (TESL) Supervised Practicum

★3 (*fi 6*) (either term, 3-0-3). This practicum is designed to provide Master's students with an opportunity to observe and teach in an established ESL program for adults.

EDPY 581 Psychological Aspects of Bilingualism and Bilingual Education

★3 (*fi 6*) (either term, 3-0-0). Introduction to the study of bilingualism. Deals with the following questions: What is bilingualism? How do we measure bilingualism? How does a person become bilingual? What are the consequences of individual and societal bilingualism? Prerequisites: LING 101; LING 320; or equivalent with consent of Department.

EDPY 585 Teaching and Learning Grammar in Second Language Education

★3 (*fi 6*) (either term, 3-0-0). Explores how grammar teaching can be contextualized according to the principles of communicative language teaching. Theories concerning the relationship between adult learners' implicit and explicit knowledge of grammar will be reviewed, and different approaches to grammar instruction will be explored. Students may not receive credit for both EDPY 420 and EDPY 585. Prerequisite: LING 204; EDPY 416; EDPY 418; or equivalent with consent of Department.

EDPY 588 Teaching English as an International Language

★3 (*fi 6*) (either term, 3-0-0). Issues relating to the teaching of English as a global language are explored. A general approach to analyzing the teaching of English for international communication in different settings is developed. Topics may include: functions of language; diglossia; World Englishes; language endangerment; language planning; communicative language teaching in non-Western settings; content-based instruction; washback in language testing. Prerequisite: EDPY 416; or equivalent with consent of Department.

EDPY 590 Classroom Research Issues in Second Language Learning

★3 (*fi 6*) (either term, 3-0-0). Introduction to applied linguistics research in second or foreign language classrooms. Topics typically include: methods of classroom research; teacher-student interaction; the effect of feedback on learner errors; form-focussed instruction; strategy training. Prerequisite: EDPY 416, 418, 501; or equivalent with consent of Department.

EDPY 591 Teaching Literacy and Reading to ESL Learners

★3 (*fi 6*) (either term, 3-0-0). Theory and practice in the instruction of literacy and reading to ESL students. Prerequisite: LING 101 and EDPY 416.

EDPY 593 ESL Assessment and Evaluation

★3 (*fi 6*) (either term, 3-0-0). Introduction to assessment practices and procedures in ESL/EFL. Prerequisite: LING 101.

EDPY 594 Teaching Pronunciation to ESL Learners

★3 (*fi 6*) (either term, 3-0-0). Introduction to relevant research and specific classroom teaching strategies. Prerequisite: LING 101 and EDPY 416.

EDPY 595 Settlement Adjustment Issues for ESL Immigrants to Canada

★3 (*fi 6*) (either term, 3-0-0). Focuses on political, curricular, social, cultural, and linguistic factors that have an impact on immigrants to Canada.

EDPY 596 Program Development in the Teaching of ESL

★3 (*fi 6*) (either term, 3-0-0). This course encompasses, planning, needs analysis, syllabus design, program implementation, classroom implementation and evaluation in ESL/EFL programs. Prerequisite: LING 101, EDPY 416, and EDPY 418.

EDPY 597 Special Seminars

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

EDPY 599 Individual Directed Reading and Research

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

EDPY 605 Multivariate Statistical Methods in Education Research

★3 (*fi 6*) (second term, 3-0-3). Prerequisites: EDPY 505 or equivalent and consent of Department. Formerly EDPY 506.

EDPY 606 Doctoral Research Seminar in Educational Psychology

★3 (*fi 6*) (second term, 0-3s-0). A research seminar course designed to help students develop and defend a doctoral level research proposal in educational psychology. Although this is a second term course, students are also required to attend several course sessions in the first term. Please consult with the course instructor prior to registration. Prerequisite: consent of Department.

EDPY 608 Selected Topics in Educational Measurement

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: EDPY 507 or equivalent.

EDPY 609 Selected Topics in Human Development

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: EDPY 509 or EDPY 517 or equivalent.

EDPY 610 Selected Topics in Learning, Cognition and Instruction

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: EDPY 510 or equivalent.

EDPY 612 Research Practicum in Psychological Studies in Education

★6 (*fi 12*) (two term, 3-3s-8). This doctoral level practicum is designed to provide students with the opportunity to acquire community-research experience. There are two components to the course: (a) the community research placement, and (b) the professional development seminars. The professional development seminars are designed to address a number of topics in this area, as well as expose students to a number of current professional issues facing educational psychologists working in the research community. Prerequisites: completed first year of doctoral studies. Consent of department.

EDPY 614 Social and Emotional Development

★3 (*fi 6*) (either term, 3-0-0). Examines current theoretical, methodological, and applied issues in social and emotional behavioural development. Discussion of atypical development will also be incorporated. Open to Master's and Ph.D. students in the Department of Educational Psychology. Other students require consent of the Department. Prerequisite: EDPY 509 or EDPY 517 or equivalent.

EDPY 615 Program Evaluation

★3 (*fi 6*) (either term, 3-0-0). This course will introduce students to the theoretical ideas and practical applications of program evaluation. Prerequisites: EDPY 501 or equivalent and consent of Department.

EDPY 621 Advanced Seminar in Special Education

★3 (*fi 6*) (either term, 0-3s-0). Deals with the theoretical foundations and current applied developments in the field of special education and student exceptionality. Prerequisite: consent of Department

EDPY 630 Counselling Psychology Internship

★1 (*fi 2*) (two term, variable). Students in the Doctoral Counselling Program must successfully complete a 1,600 hour internship accredited by the Canadian Psychological Association (or equivalent). Students are expected to participate in the Association of Psychology Postdoctoral and Internship Centers (APPIC) matching process. Prerequisites: Consent of Department, completion of required coursework and completion of doctoral candidacy exam.

EDPY 632 History and Systems of Psychology

★3 (*fi 6*) (either term, 3-0-0). Provides a historical examination of the philosophical and scientific development of the discipline of psychology. Prerequisite: consent of Department.

EDPY 633 Advanced Counselling Practicum I

★3 (*fi 6*) (first term, 3-3s-3). This doctoral level practicum is designed to provide students with an opportunity to develop an approach to counselling that is congruent with professional, social and scientific standards, is sufficiently flexible to address the range of human variability, and is facilitative of client change. Prerequisite: EDPY 533 and 534 or equivalent. Pre- or corequisites: EDPY 632 and consent of Department.

EDPY 634 Advanced Counselling Practicum

★3 (*fi 6*) (either term, 3-3s-3). This doctoral level practicum is a continuation of EDPY 633. Prerequisite: EDPY 633 and consent of Department.

EDPY 635 Counselling Speciality: Theory and Practice

★3 (*fi 6*) (either term, 3-3s-3).

EDPY 640 Theories and Models of Diagnostic Assessment

★3 (*fi 6*) (either term, 3-0-0). Prerequisites: EDPY 545 or equivalent, and consent of Department.

EDPY 641 Advanced Personality Assessment

★3 (*fi 6*) (either term, 3-0-3). Prerequisites: EDPY 545 and EDPY 640 or equivalent, and consent of Department.

EDPY 642 Applied Neuropsychological Assessment: Clinical Counselling and School

★3 (*fi 6*) (either term, 3-0-3). Prerequisites: EDPY 545 and one of EDPY 640 or 641, or equivalent, and consent of Department.

EDPY 650 School Psychology Internship

★1 (*fi 2*) (two term, variable). A supervised training program designed to provide the intern with a planned, programmed sequence of training experience. Students in the doctoral program in School Psychology must successfully complete an approved 1,600 hour internship. Prerequisites: Consent of Department, successful completion of coursework and candidacy exam.

EDPY 680 Seminar in Teaching English as a Second Language

★3 (*fi 6*) (either term, 0-3s-0). This seminar will give doctoral students the opportunity to become acquainted with research and theory in educational linguistics.

EDPY 697 Special Seminars

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

EDPY 699 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).

231.114 Education - Secondary, EDSE

(Curriculum and Instruction)
Department of Secondary Education
Faculty of Education

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

Undergraduate Courses

EDSE 312 Curriculum and Teaching for Secondary School Art Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: ★9 in the Minor subject area. Corequisite: Courses in the Introductory Professional Term for the Secondary Education Route. Successful completion is required prior to being granted permission to continue into the second week of EDFX 350.

EDSE 317 Curriculum and Teaching for Secondary School Career and Technology Studies: Business and Technology

★3 (*fi 6*) (either term, 3-0-0). Prerequisites: ★9 in the Minor subject area. Corequisite: Courses in the Introductory Professional Term for the Secondary Education Route. Successful completion is required prior to being granted permission to continue into the second week of EDFX 350.

EDSE 322 Curriculum and Teaching for Secondary School Drama Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: ★9 in the Minor subject area. Corequisite: Courses in the Introductory Professional Term for the Secondary Education Route. Successful completion is required prior to being granted permission to continue into the second week of EDFX 350.

EDSE 327 Curriculum and Teaching for Secondary School English Language Arts Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: ★9 in the Minor subject area. Corequisite: Courses in the Introductory Professional Term for the Secondary Education Route. Successful completion is required prior to being granted permission to continue into the second week of EDFX 350.

EDSE 332 Curriculum and Teaching for Secondary School Career and Technology Studies: Human Ecology Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: ★9 in the Minor subject area. Corequisite: Courses in the Introductory Professional Term for the Secondary Education Route. Successful completion is required prior to being granted permission to continue into the second week of EDFX 350.

EDSE 333 Curriculum and Teaching for Secondary School Health Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: ★9 in the Minor subject area. Corequisite: Courses in the Introductory Professional Term for the Secondary Education Route. Successful completion is required prior to being granted permission to continue into the second week of EDFX 350.

EDSE 337 Curriculum and Teaching for Secondary School Mathematics Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: ★9 in the Minor subject area. Corequisite: Courses in the Introductory Professional Term for the Secondary Education Route. Successful completion is required prior to being granted permission to continue into the second week of EDFX 350.

EDSE 343 Curriculum and Teaching for Secondary School Music Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: ★9 in the Minor subject area to include Music 230 and 315. Corequisite: Courses in the Introductory Professional Term for the Secondary Education Route. Successful completion is required prior to being granted permission to continue into the second week of EDFX 350.

EDSE 347 Curriculum and Teaching for Secondary School Physical Education Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: ★9 in the Minor subject area. Corequisite: Courses in the Introductory Professional Term for the Secondary Education Route. Successful completion is required prior to being granted permission to continue into the second week of EDFX 350.

EDSE 352 Curriculum and Teaching for Secondary School Biological Sciences Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: ★9 in the Minor subject area. Corequisite: Courses in the Introductory Professional Term for the Secondary Education Route. Successful completion is required prior to being granted permission to continue into the second week of EDFX 350.

EDSE 360 Curriculum and Teaching for Secondary School General Sciences Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: ★9 in the Minor subject area. Corequisite: Courses in the Introductory Professional Term for the Secondary Education Route. Successful completion is required prior to being granted permission to continue into the second week of EDFX 350.

EDSE 364 Curriculum and Teaching for Secondary School Physical Sciences Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: ★9 in the Minor subject area. Corequisite: Courses in the Introductory Professional Term for the Secondary Education Route.

Successful completion is required prior to being granted permission to continue into the second week of EDFX 350.

EDSE 365 Curriculum and Teaching for Secondary School Environment Education Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: ★9 in the Minor subject area. Corequisite: Courses in the Introductory Professional Term for the Secondary Education Route. Successful completion is required prior to being granted permission to continue into the second week of EDFX 350.

EDSE 368 Curriculum and Teaching for Secondary School Second Language Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: ★9 in the Minor subject area. Corequisite: Courses in the Introductory Professional Term for the Secondary Education Route. Successful completion is required prior to being granted permission to continue into the second week of EDFX 350.

EDSE 369 Curriculum and Teaching for Secondary School ESL Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: ★9 in the Minor subject area. Corequisite: Courses in the Introductory Professional Term for the Secondary Education Route. Successful completion is required prior to being granted permission to continue into the second week of EDFX 350.

EDSE 373 Curriculum and Teaching for Secondary School Social Studies Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: ★9 in the Minor subject area. Corequisite: Courses in the Introductory Professional Term for the Secondary Education Route. Successful completion is required prior to being granted permission to continue into the second week of EDFX 350.

EDSE 378 Curriculum and Teaching for Religious and Moral Education Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: ★9 in the Minor subject area. Corequisite: Courses in the Introductory Professional Term for the Secondary Education Route. Successful completion is required prior to being granted permission to continue into the second week of EDFX 350.

EDSE 388 Curriculum and Teaching for Secondary School Career and Technology Studies: Technology Education and Instructional Technology Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: ★9 in the Minor subject area. Corequisite: Courses in the Introductory Professional Term for the Secondary Education Route. Successful completion is required prior to being granted permission to continue into the second week of EDFX 350.

EDSE 393 Curriculum and Teaching for Secondary School Career and Technology Studies: Resources Minors

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: ★9 in the Minor subject area. Corequisite: Courses in the Introductory Professional Term for the Secondary Education Route. Successful completion is required prior to being granted permission to continue into the second week of EDFX 350.

EDSE 400 Conference Seminar

★1-3 (*variable*) (either term, variable).

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 412 Curriculum and Teaching in Secondary School Art I

★3 (*fi 6*) (either term, 3-0-0). Prerequisites: Introductory Professional Term and ★24 in the Major Subject area. Co-requisite: EDSE 413 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 413 Curriculum and Teaching in Secondary School Art II

★3 (*fi 6*) (either term, 3-0-0). Co-requisite: EDSE 412 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 417 Curriculum and Teaching in Secondary School Career and Technology Studies: Business and Technology I

★3 (*fi 6*) (either term, 3-0-0). Prerequisites: Introductory Professional Term, and ★24 in the Major subject. Co-requisite: EDSE 418 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 418 Curriculum and Teaching in Secondary School Career and Technology Studies: Business and Technology II

★3 (*fi 6*) (either term, 3-0-0). Co-requisite: EDSE 417 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 422 Curriculum and Teaching in Secondary School Drama I

★3 (fi 6) (either term, 3-0-0). Prerequisites: Introductory Professional Term and ★24 in the required Drama courses as specified in Education section of the Calendar under the heading Components of the Program. Co-requisite: EDSE 423 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 423 Curriculum and Teaching Secondary School Drama II

★3 (fi 6) (either term, 3-0-0). Co-requisite: EDSE 422 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 424 Theory and Practice of Drama/Theatre in Education

★3 (fi 6) (either term, 3-0-3). Designed to give students experience in the creation of shows which can tour schools for educational purposes. They will a) examine recent examples of Theatre in Education and Drama in Education experiences and the theories upon which they are based; b) design their own shows which will be taken to schools; c) design workshops with the students; and d) create their own theory of Theatre in Education and Drama in Education. Emphasizes the use of drama as a learning medium, focusing on the curricular content and social issues experienced by students throughout their schooling. Prerequisite: Introductory Professional Term or DRAMA 249 or 259.

EDSE 427 Curriculum and Teaching in Secondary School English Language Arts I

★3 (fi 6) (either term, 3-0-0). Prerequisites: Introductory Professional Term, and ★24 in the Major subject area. Co-requisite: EDSE 428 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 428 Curriculum and Teaching in Secondary School English Language Arts II

★3 (fi 6) (either term, 3-0-0). Co-requisite: EDSE 427 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 429 Teaching Print and Media Texts to Adolescents

★3 (fi 6) (either term, 3-0-0). Prerequisite: ★12 in English.

EDSE 430 Teaching Composition, Language and Culture to Adolescents

★3 (fi 6) (either term, 3-0-0).

EDSE 432 Curriculum and Teaching in Secondary School Career and Technology Studies: Human Ecology I

★3 (fi 6) (either term, 3-0-0). Prerequisites: Introductory Professional term, and ★24 in the Major subject area. Co-requisite: EDSE 433 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 433 Curriculum and Teaching in Secondary School Career and Technology Studies: Human Ecology II

★3 (fi 6) (either term, 3-0-0). Co-requisite: EDSE 432 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 437 Curriculum and Teaching in Secondary School Mathematics I

★3 (fi 6) (either term, 3-0-0). Prerequisites: Introductory Professional Term, and ★24 in the Major subject area. Co-requisite: EDSE 438 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 438 Curriculum and Teaching in Secondary School Mathematics II

★3 (fi 6) (either term, 3-0-0). Co-requisite: EDSE 437 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 439 Specialized Methods in Secondary School Mathematics Teaching

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

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

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

EDSE 443 Curriculum and Teaching in Secondary School Music I

★3 (fi 6) (second term, 3-0-0). Prerequisites: Introductory Professional term, and ★24 in the Major subject area to include Music 211, 217 and 315. Co-requisite: EDSE 444 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 444 Curriculum and Teaching in Secondary School Music II

★3 (fi 6) (either term, 3-0-0). Co-requisite: EDSE 443 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 446 The School Jazz Program

★3 (fi 6) (either term, variable). The School Jazz Program covers the essentials of running a school jazz band as a component of the secondary school instrumental

program. Jazz improvisation, repertoire, rehearsal techniques, and jazz instrumental techniques are among the topics covered. Prerequisites: Students should have knowledge of functional harmony as taught in a typical first-year university harmony course.

EDSE 447 Curriculum and Teaching in Secondary School Physical Education I

★3 (fi 6) (either term, 3-0-0). Prerequisites: Introductory Professional Term and ★24 in the Major subject area to include PEDS 294. Co-requisite: EDSE 448 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 448 Curriculum and Teaching in Secondary School Physical Education II

★3 (fi 6) (either term, 3-0-0). Co-requisite: EDSE 447 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 451 Integrating Theory and Classroom Practice in the Advanced Professional Term

★3 (fi 6) (either term, 3-0-0). Prerequisites: Introductory Professional Term and ★24 in the Major subject area. Co-requisite: Courses in the Advanced Professional Term for the Secondary Education Route including EDFX 450. Students may not receive credit for both EDFX 451 and EDSE 451.

EDSE 452 Curriculum and Teaching in Secondary School Biological Sciences I

★3 (fi 6) (either term, 3-0-0). Prerequisites: Introductory Professional Term, and ★24 in the Major subject area. Co-requisite: EDSE 453 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 453 Curriculum and Teaching in Secondary School Biological Sciences II

★3 (fi 6) (either term, 3-0-0). Co-requisite: EDSE 452 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 456 Curriculum and Teaching in Secondary School General Sciences I

★3 (fi 6) (either term, 3-0-0). Prerequisites: Introductory Professional Term, and ★24 in the Major subject area. Co-requisite: EDSE 456 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 457 Curriculum and Teaching in Secondary School General Sciences II

★3 (fi 6) (either term, 3-0-0). Co-requisite: EDSE 456 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 460 Curriculum and Teaching in Secondary School Physical Sciences I

★3 (fi 6) (either term, 3-0-0). Prerequisites: Introductory Professional Term, and ★24 in Major subject area. Co-requisite: EDSE 461 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 461 Curriculum and Teaching in Secondary School Physical Sciences II

★3 (fi 6) (either term, 3-0-0). Co-requisite: EDSE 460 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 468 Curriculum and Teaching in Secondary School Second Language I

★3 (fi 6) (either term, 3-0-0). Prerequisites: Introductory Professional Term, and ★24 in the Major subject area. Co-requisite: EDSE 469 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 469 Curriculum and Teaching in Secondary School Second Language II

★3 (fi 6) (either term, 3-0-0). Co-requisite: EDSE 468 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 473 Curriculum and Teaching in Secondary School Social Studies I

★3 (fi 6) (either term, 3-0-0). Introductory Professional Term, and ★24 in the Major subject area. Co-requisite: EDSE 474 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 474 Curriculum and Teaching in Secondary School Social Studies II

★3 (fi 6) (either term, 3-0-0). Co-requisite: EDSE 473 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 478 Computer Technology Integrated into the Curriculum

★3 (fi 6) (either term, 3-0-3). This course examines ways in which the computer

can be used to encourage critical thinking in the classroom. The Internet, spreadsheets, databases and other computer technologies are used to develop classroom activities. Prerequisite: Students must be able to use the Internet to find resources and be familiar with spreadsheets and databases.

EDSE 488 Curriculum and Teaching in Secondary School Career and Technology Studies: Technology Education I

★3 (*fi 6*) (either term, 3-0-0). Prerequisites: Introductory Professional Term, and ★24 in the Major subject area. Co-requisite: EDSE 489 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 489 Curriculum and Teaching in Secondary School Career and Technology Studies: Technology Education II

★3 (*fi 6*) (either term, 3-0-0). Co-requisite: EDSE 488 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 493 Curriculum and Teaching in Secondary School Career and Technology Studies: Resources I

★3 (*fi 6*) (either term, 3-0-0). Prerequisites: Introductory Professional Term, and ★24 in the Major subject area. Co-requisite: EDSE 494 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 494 Curriculum and Teaching in Secondary School Career and Technology Studies: Resources II

★3 (*fi 6*) (either term, 3-0-0). Co-requisite: EDSE 493 and EDSE 451. Successful completion is required prior to being granted permission to commence EDFX 450.

EDSE 495 Curriculum and Teaching in Secondary School Career Education

★3 (*fi 6*) (either term, 3-0-0).

Graduate Courses

EDSE 500 Conference Seminar

★3 (*fi 6*) (either term, variable). Selected topics in curriculum issues. Prerequisites: consent of Instructor and Department.

EDSE 501 Conference Seminar

★3 (*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

★3 (*fi 6*) (first term, 3-0-0). This course focuses on the bases of current curriculum theories and their relationship to current educational practices. May contain alternate delivery sections; see 'Details of Courses' section.

EDSE 504 Curriculum Inquiry

★3 (*fi 6*) (second term, 3-0-0). This course focuses on curriculum perspectives and possibilities. Prerequisite: EDSE 503. May contain alternate delivery sections; see 'Details of Courses' section.

EDSE 505 An Introduction to Curriculum Studies

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

EDSE 508 Media and Popular Culture in the Curriculum

★3 (*fi 6*) (either term, 0-3s-0). A seminar course examining texts and student reception of media (primarily television and film) within the rubric of popular culture for curriculum purposes.

EDSE 509 Pedagogy of Desire

★3 (*fi 6*) (either term, 0-3s-0). This course examines the sexual politics of the pedagogical relationship and is based on Lacanian psychoanalysis.

EDSE 510 Research Methods in Secondary Education

★3 (*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 alternate delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

EDSE 511 Research Design in Secondary Education

★3 (*fi 6*) (either term, 3-0-0). Designed to enable students to conceptualize and design a thesis proposal for their Master's degree. Prerequisite: EDSE 510 or consent of Department.

EDSE 512 Research Project in Secondary Education

★3 (*fi 6*) (either term, 3-0-0). Intended as a practical course to enable course-

based students to conceptualize and design a research project for their Master's degree. Prerequisite: EDSE 510 or consent of Department. May contain alternate delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

EDSE 515 Special Topics in Art Education

★3 (*fi 6*) (either term, 3-0-0). This course examines special topics in art education.

EDSE 529 Curricular Issues in English Language Arts Education

★3 (*fi 6*) (either term, 0-3s-0). Through critically considering the relationship of current theory, research, and practice, this course will address a number of issues in the development and implementation of language arts programs at the secondary school level. It will also provide an overview of the key theories and influences which have shaped and are continuing to affect language arts curriculum and instruction.

EDSE 530 Teaching Language and Writing to Adolescents in a Multimedia World

★3 (*fi 6*) (either term, 0-3s-0). This course develops an understanding of writing, composition theory, and writing instruction through involvement in the process, discussion of classroom practices, and critical examination of research and theory. The seminar will examine key aspects of composing processes, students' development as writers, curriculum, research, and evaluation. Students in this course will be expected to share their writing regularly as well as examine pedagogical and curricular concerns.

EDSE 539 Secondary Mathematics Education: Research Issues in the Teaching and Learning of Mathematics

★3 (*fi 6*) (either term, 3-0-0). Explores a range of research and issues concerned with the teaching and learning of mathematics. Possible topics include: mathematical understanding, communication, spoken and written discourse, and varied classroom practices.

EDSE 540 Secondary Mathematics Education: Examining Tasks, Curricula and Programs

★3 (*fi 6*) (either term, 3-0-0). Examines mathematical tasks, curricula and programs and explores the relationships among them and their implications for mathematics education policy.

EDSE 546 The School Jazz Program

★3 (*fi 6*) (either term, variable). The School Jazz Program covers the essentials of running a school jazz band as a component of the secondary school instrumental program. Jazz improvisation, repertoire, rehearsal techniques and jazz instrumental techniques are among the topics covered. Prerequisites: Students should have knowledge of functional harmony as taught in a typical first-year university harmony course.

EDSE 565 Current Issues in Science, Mathematics and Technology Education

★3 (*fi 6*) (second term, 0-3s-0). Participants read and discuss a selection of recent research and theoretical papers in the fields of science, mathematics and technology education. Addresses the implications of the issues raised for pedagogical practice and social policy. Although this is a second term course, students are also required to attend several course sessions in the first term.

EDSE 566 Philosophy of Science: Implications for Teaching

★3 (*fi 6*) (either term, 0-3s-0). Addresses both epistemology and philosophy of science in relation to classroom science education. Students are introduced to major perspectives in contemporary philosophy of science. They critically examine and reflect on how such perspectives relate to the practices of science teaching.

EDSE 567 Science, Technology, Society and Environment: Implications for Teaching

★3 (*fi 6*) (either term, 0-3s-0). Addresses the natures of science and of technology, and their interactions with one another and with social issues. The role of science and technology in modern Western society as examined, and issues of environmental responsibility, bioethics, alternative cultural beliefs about science and society, and the implications of science, technology, society and environment (STSE) for classroom science teaching are explored.

EDSE 568 A Critical Examination of Historical and Integrated Approaches to Teaching Second and Foreign Language Instruction

★3 (*fi 6*) (either term, 0-3s-0). Students will critically examine approaches to second and foreign language instruction such as grammar-translation, direct method, audio-lingual, functional-notional, communicative and the informed eclectic. Educational ideas that influence each approach will be discussed.

EDSE 569 Issues and Approaches in Second and Foreign Language Literacy Development

★3 (*fi 6*) (either term, 0-3s-0). Students will examine issues unique to second and foreign language students as they learn to read. From the beginning reader to the advanced, explorations will draw from upon top-down, bottom-up and interactional views of literacy as well as socio-political factors.

EDSE 578 Computer Technology Integrated into the Curriculum

★3 (*fi 6*) (either term, 3-0-3). This course will examine ways in which the computer can be used to encourage critical thinking in the classroom. Students will use

research findings, the Internet, spreadsheets, databases and other computer technologies to guide the development of classroom activities. Prerequisite skills: Students must be able to use the Internet to find resources and be familiar with spreadsheets and databases.

0 EDSE 579 Integrating Technology into the Classroom: A Research Project

★3 (*fi 6*) (either term, 0-3s-0). Students will develop and implement an information and communication technology research project. Students focus on technology activities that may lead to gains in learning and/or lead to changes in teaching and learning. Prerequisite: EDSE 578 or consent of the Department and the student must be in a position to implement technology activities in an educational setting.

0 EDSE 580 Curriculum and Teaching for Religious and Moral Education

★3 (*fi 6*) (either term, 3-0-0).

0 EDSE 601 Conference Seminar in Secondary Education II

★1-3 (*variable*) (variable, 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 602 Advanced Level Guided Individual Study in Secondary Education

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

0 EDSE 605 Seeing Cinema Pedagogically

★3 (*fi 6*) (either term, 0-3s-0). Pedagogical concepts and understandings are explored through cinematographic and scholarly sources. Traditional, contemporary, and radical forms of pedagogical literature are pursued and compared with culturally diverse cinema. Some issues to be addressed include depiction of children in movies, (re)presentation of pedagogical relations, languages and practice of pedagogy, ethical relations, and what cinematographic images reveal about perception and treatment of children.

0 EDSE 606 Theory and Practice in Action Research

★3 (*fi 6*) (first term, 3-0-0). Prerequisites: EDSE 503 and 504 or consent of Department.

0 EDSE 607 Action Research Practicum

★3 (*fi 6*) (second term, 3-0-0). Prerequisites: EDSE 503, 504, and 606 or consent of Department.

0 EDSE 608 Cognition and Curriculum

★3 (*fi 6*) (either term, 3-0-0). Theories of cognition will be studied and used to interpret curriculum. Prerequisites: EDSE 503/504 or consent of the Department.

0 EDSE 610 Advanced Research Seminar in Secondary Education I

★3 (*fi 6*) (either term, 0-3s-0). A doctoral-level research seminar that deals with selected topics and addresses all stages of the research process. Prerequisite: consent of Department.

EDSE 611 Phenomenological Research and Writing

★6 (*fi 12*) (two term, 0-3s-0). This research seminar explores human science methodology and focuses on hermeneutic phenomenology. The course investigates and develops descriptive, interpretive, vocative, and ethical dimensions of reflective writing. The meaning of any possible human experience can be a topic for phenomenological inquiry. This course is especially relevant to persons interested in the study of phenomenological meaning in the domains of education, psychology, counselling, the health sciences, and related professional and academic fields.

EDSE 612 Theory and Practice of Arts Based Educational Research

★3 (*fi 6*) (either term, 3-0-0). Qualitative research data can be collected, analyzed and disseminated in a variety of ways. Using current theories in qualitative research and creative activities from art, music, dance and drama, participants actively and creatively examine how to employ arts approaches in all phases of their research. Prerequisite: EDSE 510 or consent of Instructor and Department. Students may not receive credit in both EDSE 513 and 612.

EDSE 620 Advanced Research Seminar in Secondary Education II

★3 (*fi 6*) (either term, 0-3s-0). A doctoral-level research seminar that deals with selected topics and addresses all stages of the research process. This course is a continuation of EDSE 610. Prerequisites: EDSE 610 and consent of Department.

EDSE 629 Reading and Teaching Print and Media Texts with Adolescents

★3 (*fi 6*) (either term, 0-3s-0). This course examines current theory and research on literary texts, their reading and teaching, and consider implications for classroom practice. Processes involved in reading literary texts, reader-response theories, and approaches for teaching, assessing, and researching are explored. The implications for the secondary school curriculum or trends and developments in literary theory are considered.

0 EDSE 630 Perspectives on English Language Arts Learning and Teaching

★3 (*fi 6*) (either term, 0-3s-0). This course will provide an in-depth critical

examination of the theory and research associated with selected topics in English language arts curriculum and instruction. Topics of historical and current relevance will be explored, such as emerging definitions of the field of English language arts education, English curriculum and teaching models, and approaches to evaluation. Students will examine landmark research studies in English language arts education to learn more about appropriate research approaches for different types of studies, as well as consider the ideas presented through the studies. Prerequisites: EDSE 529, 530, 629, or consent of Instructor.

EDSE 669 Curriculum and Resource Development in Second Languages

★3 (*fi 6*) (either term, 0-3s-0). Students will address issues of philosophy, rationale, learner expectations, unit organization, learner needs, and linguistic, strategic and cultural competence in resource analysis and development. As well, evaluation of resources will be included.

EDSE 670 Postcolonial Perspectives, Theories and Curriculum

★3 (*fi 6*) (either term, 3-0-0). Students consider key concepts and reading practices in postcolonial studies and explore their relationship to and significance for teaching, learning, and curriculum.

EDSE 900 Directed Research Project

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

231.115 Education - Stage, EDU S

Faculté Saint-Jean

Note: Des frais de placement seront exigés pour les cours suivants. Veuillez consulter \$22.2.1 pour de plus amples détails.

Cours de 1er cycle

EDU S 350 Stage de formation sur la diversité

★3 (*fi 6*) (l'un ou l'autre semestre, 7 weeks). Ce stage offre aux étudiants l'occasion d'améliorer leur compréhension des enjeux liés à la diversité culturelle dans le cadre d'une expérience de vie (ou d'un séjour) en milieu communautaire soit en Alberta, soit à l'étranger. Préalable : EDU M 498 ou EDU M 355

EDU S 420 Enseignement pratique: niveau élémentaire

★6 (*fi 12*) (l'un ou l'autre semestre, 7 weeks). Stage pratique de 7 semaines dans un milieu scolaire (immersion française ou français en milieu minoritaire) à partir de la rentrée scolaire. Préalable: EDU E 231 ou l'équivalent. Note(s): Ce cours occasionne des frais additionnels (voir 22.2.3). Ce cours n'est pas accessible aux étudiants ayant des crédits pour ENPRQ 300. Dates limites pour les inscriptions : 15 mai pour la session d'automne et 1er décembre pour la session d'hiver.

EDU S 421 Enseignement pratique: niveau élémentaire

★6 (*fi 12*) (l'un ou l'autre semestre, 7 semaines). (Semestre d'hiver) Stage pratique de 7 semaines dans un milieu scolaire (immersion française ou français en milieu minoritaire). Préalable(s): EDU S 420 Note(s): Ce cours occasionne des frais additionnels (voir \$22.2.3). Ce cours n'est pas accessible aux étudiants ayant des crédits pour ENPRQ 350. Dates limites pour les inscriptions : 15 mai pour la session d'automne et 1er décembre pour la session d'hiver.

EDU S 470 Enseignement pratique: niveau secondaire

★6 (*fi 12*) (l'un ou l'autre semestre, 7 weeks). Stage pratique de 7 semaines dans un milieu scolaire (immersion française ou français en milieu minoritaire) à partir de la rentrée scolaire. Préalable(s): EDU E 231. Note(s) Ce cours occasionne des frais additionnels (voir \$22.2.3). Ce cours n'est pas accessible aux étudiants ayant des crédits pour ENPRQ 310. Dates limites pour les inscriptions : 15 mai pour la session d'automne et 1er décembre pour la session d'hiver.

EDU S 471 Enseignement pratique: niveau secondaire

★6 (*fi 12*) (l'un ou l'autre semestre, 7 semaines). Stage pratique de 7 semaines dans un milieu scolaire (immersion française ou français en milieu minoritaire). Préalable(s): EDU S 470. Note: Ce cours occasionne des frais additionnels (voir \$22.2.3). Ce cours n'est pas accessible aux étudiants ayant des crédits pour ENPRQ 360. Dates limites pour les inscriptions : 15 mai pour la session d'automne et 1er décembre pour la session d'hiver.

231.116 Electrical and Computer Engineering, ECE

Department of Electrical and Computer Engineering
Faculty of Engineering

Undergraduate Courses

ECE 200 Technical Communication in Computer and Electrical Engineering

★2 (*fi 4*) (either term, 2-0-0). Description of the areas of study in electrical and

computer engineering and the related industry in Alberta, including coverage of elements of ethics, equity, concepts of sustainable development and environmental stewardship, public and worker safety and health considerations including the context of the Alberta Occupational Health and Safety Act. Introduction to technical communications in the electrical engineering discipline. Concepts of effective written and oral technical communication, both individual and team delivered; audience identification, planning and research, drafting prose elements and creating persuasive visual graphics. Case studies based on presentations by invited industrial speakers. Student oral presentations.

Graduate Courses

ECE 502 Probability and Random Processes for Electrical Engineers

★3 (fi 6) (either term, 3-0-0). Review of probability theory, random variables, probability distribution and density functions, characteristic functions, convergence of random sequences, and laws of large numbers. Analysis of random processes, including stationarity, ergodicity, autocorrelation functions power spectral density, and transformation of random processes through linear systems. Application to communication systems.

ECE 510 Computer System Architecture

★3 (fi 6) (either term, 3-0-0). Evolution of computer architecture and factors influencing the design of hardware and software elements of computer systems. Instruction set design; processor micro-architecture and pipelining; cache and virtual memory organizations; protection and sharing; I/O architectures; VLIW machines; vector supercomputers; multithreaded architectures; symmetric multiprocessors, DSP processors, and other parallel computers.

ECE 511 Digital ASIC Design

★4.5 (fi 6) (either term, 3-0-3). Design of digital application-specific integrated circuits (ASICs) using synthesis CAD tools. Topics include design flow, hierarchical design, hardware description languages such as VHDL, synthesis, design verification, IC test, chip-scale synchronous design, field programmable gate arrays, mask programmable gate arrays, CMOS circuits and IC process technology. For the project, students will design and implement a significant digital system using field programmable gate arrays. Note: Only one of the following courses may be taken for credit: ECE 511 or E E 552.

ECE 512 Digital System Testing and Design for Testability

★3 (fi 6) (either term, 3-0-0). Designing and testing digital VLSI/ULSI systems. Reliability issues of digital systems, testing algorithms, design-for-testability strategies. Fault modelling, fault simulation, automatic test generation, data compaction, and pseudorandom techniques. Design for testability (DFT), scan test, built-in self-test, boundary scan. Memory testing, error control code. DFT CAD tools. Note: Only one of the following courses may be take for credit: ECE 512 or E E 651.

ECE 521 Software Requirements Engineering and Software Design

★3.8 (fi 6) (either term, 3-0-3/2). Understanding needs of software-intensive systems. Converting the statement of needs into complete and unambiguous description of the requirements. Techniques for elicitation, analysis, and specification of requirements. Mapping of requirements into a description of their implementation. Software design techniques for capturing and expressing a different view of the system. Elements of architectural design, abstract specification, interface design, data structure and algorithm design.

ECE 522 Software Construction, Verification and Evolution

★3.8 (fi 6) (either term, 3-0-3/2). Construction of software components identified and described in design documents. Translation of a design into an implementation language. Program coding styles. Concepts, methods, processes, and techniques supporting the ability of a software system to change, evolve, and survive. Verification of software ensuring fulfillment of the requirements. Validation of software products at different stages of development: unit testing, integration testing, system testing, performance testing, and acceptance testing.

ECE 523 Software Project Management and Software Quality

★3.8 (fi 6) (either term, 3-0-3/2). Methods and techniques for defining project objectives, assessing project needs and resources, developing estimates for the work to be performed, establishing the necessary commitments, and defining the plan for the work. Technical aspects of the software development process: activities, practices, and transformations used to develop and maintain software. The concepts, methods, and techniques for managing risks. The procedures and standards for producing high-quality software products. Quality planning and control. Verification and validation activities. Measurement of product and process attributes.

ECE 530 Power Quality

★3 (fi 6) (either term, 3-0-0). Introduction to power quality. Definition and characteristics of power system disturbances. Generation, characterization, mitigation and analysis of key power quality disturbances: harmonics, voltage sags and swells, and electromagnetic transients. Case studies using transients and harmonics programs. Application of power quality standards and practical aspects of power quality assessment; custom power technologies and current

developments. Note: May not be taken for credit if credit has already been obtained in either E E 529 or E E 627.

ECE 541 Digital Signal Processing

★3 (fi 6) (either term, 3-0-0). Discrete-time signals and systems, Discrete Fourier Transform, Fast Fourier Transform, Fourier analysis, short-time Fourier transform, wavelet transform. Digital filters, optimal filter design, polyphase filterbanks, subband analysis. Random signal analysis, Karhunen-Loève expansion, power spectrum estimation, autoregressive models.

ECE 551 Design of CMOS Analog Integrated Circuits

★3 (fi 6) (either term, 3-0-0). MOS devices and modelling. Processing and layout. CMOS design rules. Basic current mirrors and single-stage amplifiers. High-output impedance current mirrors. MOS differential pair and gain stage. Basic opamp design and compensation. Two-stage CMOS opamp. Feedback and opamp compensation. Advanced current mirrors and opamps. Folded-cascode opamp. Current-mirror opamp. Fully differential opamps. Common-mode feedback circuits. Switched-capacitor circuits. Basic building blocks. Basic operation and analysis. First-order filters. Biquad filters. Continuous-time filters. CMOS transconductors. MOSFET-C filters. Noise analysis. Note: Only one of the following courses may be taken for credit: ECE 551 or E E 633.

ECE 553 Digital Integrated Circuit Design

★3.8 (fi 6) (either term, 3-0-3/2). Review of semiconductor materials, integrated circuit processing, and basic design flows using CAD tools. Electrical characteristics of interconnect, passive elements, diodes, MOSFETs and logic gates. Sequential elements, memory and datapath circuits. Pad design. Chip-level design including power and clock distribution. Scaling theory. Testing and design for testability. Emerging technologies. Note: Only one of the following courses may be taken for credit: ECE 553 or E E 483 or 653.

ECE 558 Microfabrication and Nanofabrication Topics I

★3 (fi 6) (either term, 3-0-0). Vacuum principles: gas kinetics and flow, pumping speed theory, pumping methods, pressure, measurement, sorption processes, vacuum system design basics. Thin film growth by sputtering, evaporation and chemical techniques. Characterization and classification of optical, electrical and mechanical properties. Applications of thin films. Note: May not be taken for credit if credit has already been obtained in either E E 641 or 642.

ECE 559 Microfabrication and Nanofabrication Topics II

★3 (fi 6) (either term, 3-0-0). The VLSI fabrication process for microelectronics and MEMs applications. Overview of processing steps: silicon wafer material, oxidation, lithography, diffusion and ion implantation, chemical vapor deposition, metallization. Process model. Yield, packaging, and assembly. Note: Only one of the following courses may be taken for credit: ECE 559 or E E 619.

ECE 560 Modern Control Theory

★3 (fi 6) (either term, 3-0-0). Linear vector spaces. Basis, subspaces, review of matrix theory. State space realizations of linear time-invariant systems. Controllability and observability. Observers. State feedback. The separation principle. Quadratic optimal control. Note: Only one of the following courses may be taken for credit: ECE 560 or E E 660.

ECE 561 Nonlinear Control Systems

★3 (fi 6) (either term, 3-0-0). Nonlinear system examples. Stability in the sense of Lyapunov. Lyapunov functions. The invariance principle. Lyapunov-based design. Backstepping. Input-output stability. Passivity and small-gain theorems. Input to state stability. Dissipativity. Note: Only one of the following courses may be taken for credit: ECE 561 or E E 666.

ECE 570 Computational Electromagnetics

★3 (fi 6) (either term, 3-0-0). Review of techniques and applications in computational electromagnetics. Finite-Difference Time-Domain solution of Maxwell's equations: boundary conditions, numerical stability, numerical dispersion, near-to-far field transformation. Introduction to Finite-Elements Technique: basis and weighting functions, Galerkin's method, nodal and edge elements, variational formulation, applications. Introduction to the Method of Moments: integral formulation of electrostatics, Green's function, point matching and Galerkin's method, treatment of open regions.

ECE 571 Optical and Quantum Electronics

★3 (fi 6) (either term, 3-0-0). Optical resonators. Interaction of radiation and atomic systems. Fabry-Perot lasers, specific laser systems. Modelocked and Q-switched lasers. Second-harmonic generation and parametric oscillation, electro-optic modulation of laser beams. Interaction of light with sound. Semiconductor lasers: theory and applications. Ultrafast lasers and phenomena.

ECE 582 Information Theory and Channel Coding

★3 (fi 6) (either term, 3-0-0). Information theory as applied to digital signals. Source coding. The channel coding theorem, linear error control codes, and algebraic error correction coding. Concatenation of codes and iterative decoding.

ECE 583 Digital Communications

★3 (fi 6) (either term, 3-0-0). Analysis and design of digital communication systems based on probability theory, signal space representation and optimum detection principles. Modulation techniques and their performance in AWGN and dispersive

channels. Channel equalization, carrier and symbol synchronization. Note: Only one of the following courses may be taken for credit: ECE 583 or E E 656.

ECE 601 MSc Research Project Definition

★2.5 (*fi 5*) (second term, 0-1s-0). Basics of how to prepare a good research proposal. Preparation of a report defining the proposed MSc thesis research. Presentations by MSc students on their thesis research proposal.

ECE 602 PhD Research Project Definition

★2.5 (*fi 5*) (second term, 0-1s-0). Basics of how to prepare a good research proposal. Preparation of a report defining the proposed PhD thesis research. Presentations by PhD students on their thesis research proposal.

ECE 612 Semiconductor Memory Circuits and Architectures

★3 (*fi 6*) (either term, 3-0-0). Memory circuits and architectures of several families of semiconductor memories, with emphasis on DRAM. Topics include SRAM, DRAM, flash, ferroelectric memories, sensing, decoding speed-area-power trade-offs, redundancy, interfaces and novel applications. Focused literature review and a design project. Note: Only one of the following courses may be taken for credit: ECE 612 or E E 652.

ECE 613 VLSI CAD Algorithms

★3 (*fi 6*) (either term, 3-0-0). Design of algorithms for VLSI CAD tools. Review of algorithmic graph theory, optimization methods and computational complexity; algorithms for layout compaction, placement and partitioning, routing, simulation, logic synthesis, and verification.

ECE 614 SIMD Parallel Processor Architectures and Applications

★3 (*fi 6*) (either term, 3-0-0). Single Instruction stream, Multiple Data stream (SIMD) parallel processor architectures and their applications. Course work includes a focused literature review and a parallel programming project. Note: Only one of the following courses may be taken for credit: ECE 614 or E E 654.

ECE 621 Software Technology Evaluation

★3.8 (*fi 6*) (either term, 3-0-3/2). Introduction to mechanisms for comparing and evaluating various software artifacts and procedures. Quantitative comparison, based upon scientific practice and discipline, of such objects as: software engineering techniques, processes, methods, tools and systems. Provides a solid basis for comparing new research against the existing state of the art.

ECE 630 Circuit Design Techniques for Power Electronics

★3 (*fi 6*) (either term, 3-0-0). Introduction to power semiconductors, switchmode power supplies, MOSFET and IGBTs, current and voltage sensing, pulse width modulation control, printed circuit board design software. Design project.

ECE 631 Simulation Techniques for Power Electronics

★3 (*fi 6*) (either term, 3-0-0). Introduction to simulation tools, transient analysis, power semiconductor models, circuit elements for electric drives, functional simulation of switchmode power supplies, control techniques. Simulation project.

ECE 632 Electromagnetic Modeling of Electromechanical Systems

★3 (*fi 6*) (either term, 3-0-0). Electromagnetics in electromechanical devices. Traditional electromagnetic models. Finite element analysis applied to magnetostatic, frequency and time domains. Consideration of linear and non-linear materials. Solution of non-linear models using Newton-Raphson equations. Motion.

ECE 633 Modeling and Simulation of Electromagnetic Transients in Electrical Circuits

★3 (*fi 6*) (either term, 3-0-0). Electromagnetic transients. Modeling basic elements, transmission lines and power electronic apparatus. Real time transient simulation including FACTS and HVDC.

ECE 634 Design of Reliable Industrial and Commercial Power Systems

★3 (*fi 6*) (either term, 3-0-0). Fundamentals of reliability analysis as it applies to planning and design of industrial and commercial electric power distribution systems. Cost of power outage analysis, economic evaluation of reliability. Reliability compliance and reliability demonstration for electronic and electrical equipment and systems. Design of emergency and standby systems. Design and reliability analysis of radial primary and secondary selective distribution systems. Preventive maintenance. Note: Only one of the following courses may be taken for credit: ECE 634 or E E 528.

ECE 643 Multimedia Signal Processing

★3 (*fi 6*) (either term, 3-0-0). History of multimedia systems, multimedia authoring. Digital audio and color representation. Text, audio, and image compression, television fundamentals, digital video compression and streaming principles, high definition TV standard, audio, image and video processing techniques. Corequisite: ECE 541 or consent of Instructor. Note: Only one of the following courses may be taken for credit: ECE 643 or E E 587.

ECE 644 Digital Image and Video Processing

★3 (*fi 6*) (either term, 3-0-0). Image and video processing: problems and applications. Two-dimensional unitary transforms. Image analysis, feature extraction, edge detection, image segmentation. Image restoration: inverse filter, least-squares filtering, deconvolution. Digital video: segmentation, filtering, and analysis. Storage and retrieval. Low bitrate and object-based techniques, digital library, search and retrieval. Prerequisite: ECE 643 or EE BE 540 or consent of Instructor.

ECE 651 Design of CMOS Radio-Frequency Integrated Circuits

★3 (*fi 6*) (either term, 3-0-0). Passive RC-components in CMOS microelectronics; high-frequency amplifier design; LNA design. Mixers. RF power amplifier. Phase-locked loops; oscillators and synthesizers: Phase noise. Transmitters and receivers; transceivers in the frequency domain; performance of transceivers; high level synthesis. Note: Only one of the following courses may be taken for credit: ECE 651 or E E 671.

ECE 658 Fabrication and characterization of Microelectromechanical Systems

★3 (*fi 6*) (either term, 3-0-0). Fabrication and characterization of MEMs devices: state-of-the-art technologies for RF, electronic, optical, and fluidic MEMs devices. MEMs devices: sensors, actuators, resonant structures, optical switches and filters, microfluidics for chemical and biological sensing, analysis and manipulation.

ECE 659 Applications of Nanotechnology

★3 (*fi 6*) (either term, 3-0-0). Quantum, nanophotonic, nanoelectronic and nanobiotechnological devices. Fabrication techniques for devices: self-assembly, organic and hybrid materials and devices, lithographic technologies. Applications of nanotechnology devices in computing, human health, telecommunications.

ECE 662 Sampled Data Control Systems

★3 (*fi 6*) (either term, 3-0-0). Analysis and design of sampled data control systems. Basic concepts of linear discrete-time systems. Norms of signals and systems. State-space models. Discretization of analog systems. Internal stability and stabilization. Parameterization of all stabilizing controllers. H-2 and H-infinity optimal control. Digital design by fast discretization. Direct digital design. Note: Only one of the following courses may be taken for credit: ECE 662 or E E 662.

ECE 664 Nonlinear Control Design with Applications

★3 (*fi 6*) (either term, 3-0-0). Model based design methods for systems described by nonlinear differential equations. Exact error linearization for nonlinear observer design. Approximate linearization methods. Adaptive linearization for robustness. Differential flatness. Trajectory planning.

ECE 671 Nonlinear Optics and Nanophotonics

★3 (*fi 6*) (either term, 3-0-0). Fundamental description of nonlinear optical phenomena in terms of higher order susceptibilities. Various specific nonlinear phenomena: electrooptic modulation, acoustooptic modulation, harmonic generation and frequency conversion, stimulated Raman and Brillouin scattering and amplification, parametric oscillation and amplification, self phase modulation, soliton propagation, and photorefractive effects. Nanocomposites, quantum well and quantum dot devices, photonic bandgap crystals. Applications to engineering laser and fiber optic communication systems. Note: Only one of the following courses may be taken for credit: ECE 671 or E E 684.

ECE 673 Laser Applications

★3 (*fi 6*) (either term, 3-0-0). Laser systems and beam optics. Fundamentals of laser materials interaction including laser absorption, energy transport and laser ablation mechanisms. Laser applications in microscale engineering, nanoscale engineering, photonics, science and medical science. Note: Only one of the following courses may be taken for credit: ECE 673 or EE 645.

ECE 674 Radio Astronomy Techniques

★3 (*fi 6*) (either term, 3-0-0). Radiometry; galactic background and sources; antennas and arrays as spatial frequency filters; aperture synthesis; earth-rotation synthesis; interferometry; correlation receivers. Note: Only one of the following courses may be taken for credit: ECE 674 or E E 628.

ECE 675 Plasma Engineering

★3 (*fi 6*) (either term, 3-0-0). Engineering of plasmas for applications in fusion, space, astrophysics, microelectronic processing, plasma-assisted manufacturing and microwave generation. Characterization of the plasma state, charged particle dynamics in electric and magnetic fields, the two-fluid model, magnetohydrodynamic model, linear and nonlinear waves, atomic and collisional processes, transport properties.

ECE 681 Survivable Networks

★3 (*fi 6*) (either term, 3-0-0). History concepts, theories, and technologies of high speed restoration of the backbone telecommunications transport network. Unavailability, network reliability, survivability, impact of failures, k-shortest paths rerouting, max flow, distributed restoration, selfhealing network protocol, optimal capacity allocation, path vs span restoration, selfhealing rings, matched nodes, uni- and bi-directional rings, optimal ring design problem, dual feeding, diverse path pairs. Current research topics: preconnection, node recovery, distributed preplanning, self-traffic engineering, hybrid networks. Student projects and seminars. Note: Only one of the following courses may be taken for credit: ECE 681 or E E 681.

ECE 682 Error Control Coding

★3 (*fi 6*) (either term, 3-0-0). Advanced state-of-the art algorithmic channel coding and decoding for reliable digital data communications over noisy communications channels. Channel capacity and performance bounds. Trellis coding and trellis coded modulation. Concatenated coding, turbo codes. Turbo coded modulation. Prerequisites: ECE 502 and 582.

ECE 683 Broadband Digital Communications

★3 (fi 6) (either term, 3-0-0). Direct sequence and frequency hopping spread spectrum techniques, and code division multiple access (CDMA). Orthogonal frequency division multiplexing and multicarrier CDMA. Capacity of multiple-input multiple-output systems, space-time coding, and space-time layering. Principles of multi-user detection with optimum and sub-optimum approaches. Selected industry standards. Prerequisites: ECE 502, 582, and 583.

ECE 684 Wireless Communication Systems

★3 (fi 6) (either term, 3-0-0). Cellular system design fundamentals, propagation in mobile radio channels: large and small scale effects, modulation techniques for mobile radio, diversity and diversity combining techniques, multiple access techniques. Prerequisites: ECE 502 and 583.

ECE 685 Photonic Devices for Communications

★3 (fi 6) (either term, 3-0-0). Overview of integrated photonic devices for information and communications applications. Light-matter interactions in waveguides: material response and dispersion, absorption and emission. Guided waves in structured media: modal theory, loss and gain mechanisms in guided modes. Coupled-mode theory and application to basic guided-wave devices. Active control of light by electrical and optical control signals. Switching, modulation, and bistable devices. Photonic crystals and selected topics. Note: Only one of the following courses may be taken for credit: ECE 685 or E E 682.

ECE 710 Advanced Topics in Computer Engineering

★3 (fi 6) (either term, 3-0-0).

ECE 720 Advanced Topics in Software Engineering

★3 (fi 6) (either term, 3-0-0).

ECE 730 Advanced Topics in Power Engineering

★3 (fi 6) (either term, 3-0-0).

ECE 740 Advanced Topics in Digital Signal Processing

★3 (fi 6) (either term, 3-0-0).

ECE 750 Advanced Topics in Micro- and NanoSystems

★3 (fi 6) (either term, 3-0-0).

ECE 760 Advanced Topics in Control

★3 (fi 6) (either term, 3-0-0).

ECE 770 Advanced Topics in Electromagnetics

★3 (fi 6) (either term, 3-0-0).

ECE 780 Advanced Topics in Communications

★3 (fi 6) (either term, 3-0-0).

ECE 790 Advanced Topics in Biomedical Engineering

★3 (fi 6) (either term, 3-0-0).

ECE 900 Directed Research Project

★6 (fi 12) (variable, unassigned).

ECE 910 Directed Research Project

★3 (fi 6) (variable, unassigned).

231.117 Electrical and Computer Engineering/Biomedical Eng, EE BE

Departments of Electrical and Computer Engineering/Biomedical Engineering
Faculties of Engineering; and Medicine and Dentistry

Undergraduate Courses

EE BE 512 Biophysical Measurement and Instrumentation

★3 (fi 6) (first term, 3-0-0). An introduction to the principles that underlie biophysical instrumentation. Various biomedical sensors are examined and their application to the measurement of blood pressure, cardiac output, and respiratory parameters discussed. The origin of biopotentials is developed and extended to the membrane and action potentials. The measurement of bioelectrical signals such as the ECG and EMG is presented. Applications of electrodes, biochemical sensors, and lasers are examined. Biostimulation, including cardiac pacemakers, defibrillators, and functional neuromuscular stimulation are introduced. Prerequisite: consent of Department of Biomedical Engineering or Department of Electrical and Computer Engineering.

EE BE 540 Digital Computer Processing of Images

★3 (fi 6) (either term, 3-0-3/2). Extension of sampling theory and the Fourier transform to two dimensions, pixel operations including gray-level modification, algebraic and geometric transformations. The design of spatial filters for noise reduction, image sharpening and edge enhancement, and some discussion of interpolation techniques. An introduction to the concepts of image restoration

from known degradations and the reconstruction of images from parallel and fan projections. Prerequisite: E E 338 or consent of Instructor.

231.118 Electrical Engineering, E E

Department of Electrical and Computer Engineering
Faculty of Engineering

Undergraduate Courses

E E 231 Numerical Analysis for Electrical and Computer Engineers

★3.8 (fi 6) (either term or Spring/Summer, 3-0-3/2). The analysis of various numerical techniques for solving Electrical and Computer Engineering problems. Topics include numerical integration, differentiation, numerical solution of ordinary differential equations (ODEs), finding roots of nonlinear equations, the solution of linear systems of equations and the solution of optimization problems. Consideration of the sources of error in numerical computation. Prerequisites: E E 240, MATH 101, MATH 102. Corequisite: MATH 201.

E E 238 Continuous Time Signals and Systems

★3.5 (fi 6) (either term, 3-1s-0). Introduction to linear systems and signal classification. Delta function and convolution. Fourier series expansion. Fourier transform and its properties. Laplace transform. Analysis of linear time invariant (LTI) systems using the Laplace transform. Prerequisites: E E 240, MATH 102 and 201.

E E 239 Fundamentals of Electrical Engineering

★3.8 (fi 6) (either term or Spring/Summer, 3-0-3/2). Physical concepts of passive circuit elements, Kirchhoff's laws and DC circuit equations. Energy concepts, time domain analysis of AC circuits. Impedance, complex numbers and phasor algebra. AC power concepts, resonance, three phase circuits, introduction to machines.

E E 240 Electrical Circuits I

★4.3 (fi 6) (first term, 3-1s-3/2). Circuit element definitions. Circuit laws: Ohm's, KVL, KCL. Resistive voltage and current dividers. Basic loop and nodal analysis. Dependent sources. Circuit theorems: linearity, superposition, maximum power transfer, Thevenin, Norton. Time domain behavior of inductance and capacitance, energy storage. Sinusoidal signals, complex numbers, phasor and impedance concepts. Magnetically coupled networks. Single phase power and power factor. Prerequisites: MATH 101, 102.

E E 250 Electrical Circuits II

★4.3 (fi 6) (second term or Spring/Summer, 3-1s-3/2). Nonlinear circuit analysis. Diodes: ideal and simple models, single phase rectifiers. Ideal and finite gain op-amps. Treatment of RLC circuits in the time domain, frequency domain and s-plane. Two port networks. Prerequisites: E E 240, MATH 102 and 201. Corequisite: E E 238.

E E 280 Introduction to Digital Logic Design

★3.8 (fi 6) (either term, 3-0-3/2). Boolean algebra, truth tables, Karnaugh maps. Switching devices and their symbology with an introduction to NAND and NOR logic. Number systems, codes, minimization procedures, synthesis of combinational networks. Synchronous sequential circuits, flip-flops, counters. Arithmetic circuits. Introduction to computer-aided design and simulation tools for digital design and implementation. 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. Credit may be obtained in only one of E E 280 or CMPUT 329.

E E 315 Engineering Electromagnetics I

★3.5 (fi 6) (first term, 3-1s-0). Review of vector calculus, electrostatics, and magnetostatics. Electric and magnetic fields in material media, including polarization mechanisms and general boundary conditions. Solutions to static field problems. Maxwell's equations and waves in free space, dielectrics and conducting media. Reflection and refraction, standing waves. Prerequisites: MATH 102, 209 and PHYS 230.

E E 317 Electromagnetics for Computer Engineers

★3 (fi 6) (second term, 3-0-0). Review of electrostatics, magnetostatics and vector theorems. Introduction to Maxwell's equations. Ideal transmission line, wave equation, travelling waves. Characteristic impedance, reflection coefficient, power flow, multiple reflections and transient response of a transmission line. AC steady-state and lossy transmission lines. Smith chart, plane wave propagation, reflection and transmission coefficients. Implications on transmission rates of digital data. Local area networks, instrumentation buses. Prerequisite: PHYS 230 or equivalent.

E E 323 Analytical Methods of Electrical Engineering

★3.5 (fi 6) (either term, 3-1s-0). Applications of the theory of partial differential equations to Maxwell's equations, heat flow problems, the transmission line equation and Laplace's equation. Transform methods and special functions. Prerequisites: E E 238 and MATH 309 or 311.

E E 330 Introduction to Power Engineering

★3 (fi 6) (either term, 3-0-0). DC and AC magnetic circuit analysis. Ideal and

non-ideal transformers. Introduction to per-unit calculation. Three-phase network and symmetrical components theory. Introduction to power systems. Generation, transmission and distribution of power. Prerequisite: E E 250.

E E 332 Electric Machines

★3.8 (fi 6) (either term, 3-0-3/2). Principles of electromagnetic force and torque in rotating machinery. Simple AC and DC machines. Induction motor theory. Practical aspects of induction motor use: characteristics, standards, starting, variable speed operation. Synchronous machine theory and characteristics. Fractional HP motor theory. Safety in electrical environments. Prerequisite: E E 330 or consent of Department.

E E 338 Discrete Time Signals and Systems

★3.5 (fi 6) (either term, 3-1s/2-1/2). Discrete-time signals and systems; sampled signals and sampling theorem; the z-transform; design of digital filters; discrete Fourier transform, the periodogram. Fast Fourier transform, algorithms, aliasing, leakage; spectral analysis, applications. Prerequisite: E E 238.

E E 340 Electronic Devices

★4.3 (fi 6) (first term, 3-1s-3/2). PN junction semiconductor basics, charge flow and diode equation. Zener diodes. BJT and MOSFET devices and operating regions. Amplifier basics: biasing, gain, input and output resistance, analysis and design. Large signal effects. Differential amplifiers. "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: E E 250.

E E 350 Analog Electronics

★4.3 (fi 6) (either term, 3-1s-3/2). Frequency response of transistor amplifiers: basic high frequency model, dominant pole calculation and design. Feedback application in amplifier circuits. Op-amp circuit design, real op-amps, open and closed loop response. Filters and tuned amplifier circuits. A/D and D/A converter circuits. 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: E E 340.

E E 351 Digital Electronics

★4.3 (fi 6) (either term, 3-1s-3/2). MOS digital circuits, logic gates, threshold voltages. MOS logic families: design and simulation. CMOS timing: propagation delay, rise and fall times. Storage elements, memory, I/O and interfacing. Prerequisites: E E 280 or CMPUT 329, and E E 340.

E E 357 Control Systems I

★3.8 (fi 6) (either term, 3-0-3/2). Linear system models. Time response and stability. Block diagrams and signal flow graphs. Feedback control system characteristics. Dynamic compensation. Root locus analysis and design. Frequency response analysis and design. This course may not be taken for credit if credit has already been obtained in either E E 462 or 469. Prerequisites: E E 250 and 238.

E E 380 Introduction to Microprocessors

★3.8 (fi 6) (either term or Spring/Summer, 3-0-3/2). Microcomputer architecture, assembly language programming, sub-routine handling, memory and input/output system and interrupt concepts. Prerequisite: E E 280 or CMPUT 329. Credit may be obtained in only one of E E 380 or CMPUT 229.

E E 387 Probability for Electrical and Computer Engineers

★3.5 (fi 6) (either term, 3-1s-0). Deterministic and probabilistic models. Basics of probability theory: random experiments, axioms of probability, conditional probability and independence. Discrete and continuous random variables: cumulative distribution and probability density functions, functions of a random variable, expected values, transform methods. Pairs of random variables: independence, joint cdf and pdf, conditional probability and expectation, functions of a pair of random variables, jointly Gaussian random variables. Sums of random variables: the central limit theorem; basic types of random processes, wide sense stationary processes, autocorrelation and crosscorrelation, power spectrum, white noise. Prerequisites: EE 231 and 238.

E E 390 Introduction to Communication Systems

★3.8 (fi 6) (either term, 3-0-3/2). Basics of analog communication: amplitude, angle, and analog pulse modulation; modulators and demodulators; frequency multiplexing. Basics of digital communication: sampling, quantization, pulse code modulation, time division multiplexing, binary signal formats. Prerequisite: E E 238.

E E 400 Engineering Design Project I

★2.5 (fi 6) (first term, 1-0-3). The first of two design courses that must be taken in the same academic year. Student teams research, propose, design, develop, document, prototype, and present a practical engineering system or device; teams exercise creativity and make assumptions and decisions based on technical knowledge. This first course includes project definition, planning, and initial prototyping. Formal reports and presentation of the project proposal is required. Corequisites: E E 350, 380.

E E 401 Engineering Design Project II

★2.5 (fi 6) (second term, 1-0-3). The second of two design courses that must be taken in the same academic year, in which student teams develop an electronic system or device from concept to working prototype. Emphasis is placed on

continued execution of the project plan developed in E E 400. Formal interim and final reports are required; groups demonstrate and present their designs. Prerequisite: E E 400 in the preceding Fall term.

E E 404 Reliability Engineering

★3 (fi 6) (either term, 3-0-0). Study of how and why electrical and mechanical systems and components fail; Murphy's law; definitions of reliability and failure modes; practical statistical distributions and frequency and duration approach for designing and evaluating system and component reliability levels; repairable, non-repairable and standby systems. Prerequisite: E E 387 or equivalent.

E E 430 Power Systems I

★3 (fi 6) (either term, 3-0-0). Power system components and performance; per unit analysis of power systems; transmission line parameters; transmission line steady state operation; load flow methods; economic operation of power systems. Prerequisite: E E 330.

E E 431 Power Electronics

★3.8 (fi 6) (either term, 3-0-3/2). Introduction to power electronics. AC-DC conversion. DC-AC conversion. DC-DC conversion. AC-AC conversion. Prerequisite: E E 340.

E E 432 Variable Speed Drives

★3.8 (fi 6) (either term, 3-0-3/2). Introduction to variable speed drives. Frequency, phase and vector control of induction motors. Dynamic models for induction motors. Permanent magnet synchronous and brushless dc motor drives. Prerequisite: E E 332.

E E 433 Power Systems II

★3.8 (fi 6) (either term, 3-0-3/2). Introduction to power system transient states. Analysis of faulted power systems and introduction to power system protection. Power system voltage stability; PV and QV curve methods. Power system angular stability; transient stability and equal area criterion; steady-state stability and power system stabilizer. A power system design and simulation lab is included in this course. Prerequisite: E E 430 or consent of Instructor.

E E 441 Digital Filters

★3.8 (fi 6) (either term, 3-0-3/2). Review of discrete-time signals and systems. Design of FIR filters: windowing methods, Least square design methods, Parks-McClellan technique. Design of IIR filters: Butterworth and Chebyshev analog lowpass prototype filters, analog frequency transformations, bilinear transformation method, allpass filters, ladder and lattice structures, compensation for phase distortion, and startup transient effects. Filter structures and implementations: direct-forms, cascade and parallel structures. Sensitivity to coefficient quantization. Implementation of digital filter algorithms. Practical applications in digital multimedia. Prerequisite: E E 338.

E E 451 RF Communication Circuits

★4.5 (fi 6) (either term, 3-0-3). Introduction to radio communications systems. Frequency selective circuits and transformers. Parallel resonant circuits including transformers. Double-tuned circuits. Impedance matching. Oscillators. Conditions for oscillation. Amplitude limitation mechanisms. Phase stability. Crystal oscillators. Mixers. Diode-ring mixers. Square-law mixers. BJT mixers. Intermodulation distortion. Modulators and demodulators. Average envelope detectors. FM demodulators. High frequency amplifiers and automatic gain control. Broadband techniques. Neutralization. Phase-lock loops. Phase detectors. Voltage-controlled oscillators. Loop filters. Phase-locked loop applications. Power amplifiers. Prerequisite: E E 350. Corequisite: E E 357 or 462.

E E 452 Physical Electronics

★3 (fi 6) (either term, 3-0-0). Crystal structures; Semiconductor quantum mechanics and band model; carrier conduction and recombination/generation, light absorption, and emission; pn junctions, Schottky junctions, heterojunctions; FET and MOSFET operation. Prerequisite: E E 340.

E E 453 Integrated Circuit Design

★3.8 (fi 6) (either term, 3-0-3/2). Very Large Scale Integration (VLSI) design techniques and their application. Electrical characteristics of MOSFET devices and CMOS circuits. Use of CAD tools for simulation and integrated circuit layout. Modeling delays, advanced digital logic circuit techniques, memory. Prerequisites: CMPE 480.

E E 455 Engineering of Nanobiotechnological Systems

★3 (fi 6) (either term, 3-0-0). Microfluidic and nanobiotechnological devices. Fabrication techniques for devices: self-assembly, lithographic technologies. Applications of nanobiotechnology in computing, electronics, human health, environment and manufacture.

E E 456 Introduction to Nanoelectronics

★3 (fi 6) (either term, 3-0-0). Fundamental concepts related to current flow in nanoelectronic devices. Energy level diagram and the Fermi function. Single-energy-level model for current flow and associated effects, such as the quantum of conductance, Coulomb blockade, and single electron charging. The Schrodinger equation and quantum mechanics for applications in nanoelectronics. Matrix-equation approach for numerical band structure calculations of transistor channel materials. k-space, Brillouin zones, and density of states. Subbands for

quantum wells, wires, dots, and carbon nanotubes. Current flow in nanowires and ballistic nanotransistors, including minimum possible channel resistance, quantum capacitance, and the transistor equivalent circuit under ballistic operation. Prerequisite: E E 340.

E E 457 Microfabrication and Devices

★4 (fi 6) (either term, 3-0-2). Microfabrication processes for CMOS, bipolar, MEMS, and microfluidics devices. Laboratory safety. Deposition processes of oxidation, evaporation and sputtering. Lithography, wet and dry etch, and device characterization. Note: Consent of Department required.

E E 459 Introduction to Nanotechnology

★3 (fi 6) (either term, 3-0-0). Existing micro/nanofabrication and characterization technologies including advanced nanolithography and soft lithography techniques. Overview of scanned probe microscopy techniques such as AFM, STM, and NSOM. Introduction to nanomaterials such as fullerenes, carbon nanotubes, and block copolymers. Quantum mechanical effects and properties of nanostructures. Overview of applications of nanotechnology in microelectronics, photonics and MEMS devices.

E E 460 Control Systems II

★3.8 (fi 6) (either term, 3-0-3/2). State space analysis methods, stability, observability and controllability. State space design methods, pole placement and optimal state feedback control, observer design. Introduction to nonlinear control systems, phase-plane method, describing function method, stability and limit cycles, Lyapunov method. Introduction to adaptive control, neural network control and fuzzy control systems with case study examples. Prerequisite: E E 357.

E E 461 Digital Control

★3.8 (fi 6) (either term, 3-0-3/2). Sampled-data control systems, discretization, transfer function and state space models. Controllability and observability, pole assignment, deadbeat control. State observers, observer based controllers, introduction to optimal control. Prerequisites: E E 338 and either E E 357 or E E 462.

E E 462 Fundamentals of Control Systems Engineering

★3.8 (fi 6) (second term, 3-0-3/2). Laplace transforms. Transfer function models of physical systems. First and second order systems. Stability and properties of feedback. PID controllers. Frequency domain analysis and design. Digital control. Case studies. Prerequisites: MATH 201. Note: This course may not be taken for credit if credit has already been obtained in either EE 357 or 469.

E E 470 Electromagnetics of Waveguides

★3.8 (fi 6) (either term, 3-0-3/2). Distributed circuits, propagation and radiation of energy. Transient and time harmonic signals in transmission lines, including impedance matching. Microwave and optical waveguides. Prerequisite: E E 315.

E E 471 Photonics I

★3.8 (fi 6) (either term, 3-0-3/2). Electromagnetic wave propagation at optical frequencies and approximations. Thermal and luminescent light sources, optical beams. Ray and Gaussian optics and simple optical components. Wave optics, polarization, interference, interferometric devices. Light-matter interactions. Optics of crystals; polarizers and waveplates. Photodetectors. Photonic engineering applications. Prerequisite: E E 315. Note: Only one of the following courses may be taken for credit: E E 471 or PHYS 362.

E E 472 Photonics II

★3 (fi 6) (either term, 3-0-0). Interaction of radiation with atoms, laser oscillations and threshold conditions, 3- and 4-level laser systems, rate equations, special properties of laser light, cavity Q and photon lifetime, optical resonators and lens waveguides, Gaussian beams, gain saturation, Q-switching, mode locking, interaction of light and sound, holography. Description of various lasers: solid, gas, semiconductor, dye, Raman and chemical. Laser applications. Prerequisite: E E 471 or PHYS 362 or consent of Instructor.

E E 473 Antennas and Propagation

★3 (fi 6) (second term, 3-0-0). Antenna fundamentals, arrays of antennas, corner reflectors, helices, slots, paraboloids, practical considerations and feeding methods. Friis transmission equation, propagation between elevated antennas over lossy earth, Fresnel zones and the effect of obstacles, earth curvature and the effects of refraction, ionospheric reflection. Prerequisites: E E 315.

E E 474 Introduction to Plasma Engineering

★3 (fi 6) (either term, 3-0-0). Definition of plasma. Behavior in electric and magnetic fields. Particle, kinetic and fluid description of flow and transport phenomena. Waves in plasmas. Current approaches to thermonuclear fusion. High temperature laser produced plasmas and low temperature DC and RF discharge plasmas. Applications in discharge pumping of lasers, plasma etching, thin film deposition and generation of x-rays. Prerequisite: E E 315 or equivalent.

E E 485 Digital Communications

★3.8 (fi 6) (either term, 3-0-3/2). Principles of digital communication techniques such as source coding, channel coding, signal space concepts, digital modulation, intersymbol interference, and pulse shaping. Design of optimal receivers and the study of their performance in the presence of channel noise. Prerequisites: E E 387, 390.

E E 486 Wireless Communications

★3 (fi 6) (either term, 3-0-0). Basic concepts of wireless communication systems such as propagation loss and antenna gains, cellular system design, multi-path propagation, fading channel models, multiple-access techniques, and diversity. Discussion of digital modulation schemes for wireless systems as well as introduction to differential and non-coherent wireless communication systems. Prerequisites: E E 387, 390.

E E 489 Telecommunication Systems Engineering

★3 (fi 6) (either term, 3-0-0). Telephony basics, subscriber loop plant, 2 Wire-4 Wire conversion, loss plan for echo-loss-delay. Traffic theories: Poisson, Erlang B, Engset, Erlang C, efficiency of large groups. Optimum alternate route design, network architecture, volume, stability assurance, call routing, multi-stage circuit switch design, central office functions, time-space-time and space-time-space switching. Point-to-point fibre links, optical networks. Prerequisites: E E 387 and E E 390.

E E 494 Research and Design Project Seminar

★0.5 (fi 2) (either term, 0-1s-0). Organization seminars for the research and design project in the following term. Coverage of elements of ethics, equity, concepts of sustainable development and environmental stewardship, public and worker safety and health considerations including the context of the Alberta Occupational Health and Safety Act.

E E 495 Research Project

★3 (fi 6) (either term, 0-0-6). Engineering Physics student research projects.

E E 496 Nanoengineering Option Research and Design Project Seminar

★0.5 (fi 2) (second term, 0-1s-0). Organization seminars for the research and design project in the following term. Coverage of elements of ethics, equity, concepts of sustainable development and environmental stewardship, public and worker safety and health considerations including the context of the Alberta Occupational Health and Safety Act.

E E 497 Nanoengineering Option Research Project

★3 (fi 6) (second term, 0-0-6). Engineering Physics (Nanoengineering Option) student research projects.

E E 498 Special Topics in Electrical Engineering

★3 (fi 6) (first term, 3-0-0). Intended to enable individuals or a small group of students to study topics in their particular field of interest under the supervision of a member of the Department of Electrical and Computer Engineering or other appropriate departments.

E E 499 Special Topics in Electrical Engineering

★3 (fi 6) (second term, 3-0-0). Intended to enable individuals or a small group of students to study topics in their particular field of interest under the supervision of a member of the Department of Electrical and Computer Engineering or other appropriate departments.

Graduate Courses

Note: See listing of Electrical and Computer Engineering (ECE) graduate courses.

231.119 Engineering, Computer, ENCMP

Department of Electrical and Computer Engineering
Faculty of Engineering

Undergraduate Courses

ENCMP 100 Computer Programming for Engineers

★3.8 (fi 6) (either term, 3-0-1.5). Fundamentals of computer programming with emphasis on solving engineering problems. Syntax, variables, statements, control structures, functions, data structures, files, pointers, memory use, searching, sorting, recursion.

231.120 Engineering, General, ENGG

Faculty of Engineering

Undergraduate Courses

ENGG 100 Orientation to the Engineering Profession I

★1 (fi 2) (first term, 1-0-0). An introduction to the Faculty of Engineering and the engineering profession: the engineering disciplines; study skills; cooperative education; work opportunities; engineering and society including elements of ethics, equity, concepts of sustainable development and environmental stewardship, public and worker safety and health considerations including the context of the Alberta Occupational Health and Safety Act.

ENGG 101 Orientation to the Engineering Profession II

★1 (fi 2) (second term, 1-0-0). An introduction to the engineering profession

and its challenges: the engineering disciplines, career fields; professional responsibilities of the engineer including elements of ethics, equity, concepts of sustainable development and environmental stewardship, public and worker safety and health considerations including the context of the Alberta Occupational Health and Safety Act.

ENGG 130 Engineering Mechanics

★4 (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.

ENGG 208 Introductory Computer Aided Design

★3 (fi 6) (either term, 2-0-2). Introduction to microcomputers and microcomputer-aided drafting and design. Introduction to technical sketching for a variety of applications. Students registered in Business, Bachelor of Design, Bachelor of Fine Arts, or Bachelor of Arts with a major in Industrial Design or Visual Communications Design should enroll in ENGG 209. This course is not open to students registered in Engineering or Science.

ENGG 209 Intermediate Computer Aided Design

★3 (fi 6) (first term, 2-0-2). Introduction to microcomputers and microcomputer-aided drafting and design, with emphasis on advanced applications. Introduction to technical sketching for a variety of applications. This course is open to students registered in Business, Bachelor of Design, Bachelor of Fine Arts, and Bachelor of Design, Bachelor of Fine Arts, and Bachelor of Arts with a major in Industrial Design or Visual Communication Design, or with the Instructor's approval. This course is not open to students registered in Engineering or Science.

ENGG 299 Orientation to Cooperative Education

★1.5 (fi 2) (first term, 1-1s-0). An examination of the history, philosophy and objectives of Cooperative Education; introduction to the operation of the Cooperative Education Program; self-assessment of transferable skills and work values; preparation of the resume; practice of job interview skills; goal setting on the job; ethics; human rights; and public and worker safety and health considerations including the context of the Alberta Occupational Health and Safety Act. Note: This course is only open to students registered in the Cooperative Education Program and must be taken prior to a student's first work placement.

ENGG 400 The Practice of the Engineering Profession

★1 (fi 2) (second term, 1-0-0). The technical and professional duties and responsibilities of the engineer; the ethics of the engineering profession; technical and professional organizations. The role of the engineer in the social environment including elements of equity, concepts of sustainable development and environmental stewardship, public and worker safety and health considerations including the context of the Alberta Occupational Health and Safety Act. Note: Restricted to fourth-year traditional and fifth-year co-op engineering students.

ENGG 402 Project Management and Entrepreneurship

★3 (fi 6) (either term, 3-0-0). Introduction to the conceptual and practical considerations in identifying and developing new products. The theory and practice of project management applied to the creation of new business activities and ventures will be discussed. Topics include project management, innovation and entrepreneurship, business planning, marketing, and mobilizing human and financial resources. These will be applied in the development of a business plan for a business concept. The course is intended to provide engineering and business students with an awareness of specific planning, budgeting and scheduling techniques that can be used to implement and monitor new business activities. Prerequisites: Completion of at least six academic terms. This course is open to Business and Science students with consent of Instructor.

ENGG 403 Engineering, Environment and Society

★3 (fi 6) (either term, 3-0-0). The role of engineering and management in addressing environmental and socioeconomic factors associated with engineered projects and the impact of technology on society. This course covers the various roles that engineers can play in the development and delivery of new enterprises and projects with particular emphasis on evolving environmental and social demands placed upon project proponents. The impact of these projects on society and the various approaches that can be used to promote the successful delivery of projects are covered.

ENGG 404 Industrial Safety and Loss Management

★3.8 (fi 6) (first term, 3-3s/2-0). A broad study of the principles and practices of providing a safe and reliable working environment in all types of major industries. Government regulatory requirements are reviewed. The key topics of study, using leading industry practices, are industrial health, safety, and environmental risks. The course emphasizes the importance of the decisions of engineers and business managers in protecting workers, the environment, assets, production, and the public in general. Plant visits, case studies, and guest lecturers from industry and government are included. 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: Completion of at least two years of study in Engineering or Business or by consent of the Instructor.

ENGG 405 Engineering, Business and Society

★3 (fi 6) (either term, 3-0-0). The role of engineering and management in achieving the objectives of technology oriented enterprises, and the impact of technology on society. The course covers alternate forms of organization, key differences between management of a one time project and an ongoing operation, the impact of work on society, individual variations in personality and management style and the implications for managing, and specific issues in human resource and quality management.

ENGG 406 Industrial Safety and Risk Management

★3.8 (fi 6) (second term, 3-3s/2-0). A comprehensive study of the theories and practices of providing a low-risk working environment in all types of major industries, with particular emphasis on risk analysis/management solutions. Case studies of recent industrial disasters and industrial site visits are used to focus on proactive management techniques. The course strongly emphasizes risk analysis, risk management, and loss control. Techniques of leadership, management, and motivation to provide excellence of results are emphasized. Legal and ethical responsibilities of engineers and business managers are reviewed. 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: Completion of at least two years of study in Engineering or Business or by consent of the Instructor.

ENGG 420 Engineering Law

★3 (fi 6) (either term, 3-0-0). Contracts; specifications; tenders; bonds; construction contract forms; Public Works Act; Workers' Compensation Act; building trades; company law; the engineer as an expert witness; patents; trade marks; copyrights; negligence; arbitration. Note: Restricted enrolment. Registration approval by Dean's office only.

Graduate Courses

ENGG 600 Engineering Ethics and Integrity

★0.5 (fi 1) (either term, 0-1s-0). The technical and professional duties and responsibilities of the engineer. Academic integrity and research ethics. Intellectual property. The ethics of the engineering profession; technical and professional organizations. The impact of engineering decisions on society, including elements of equity, concepts of sustainable development and environmental stewardship, public and worker safety and health considerations including the context of the Alberta Occupational Health and Safety Act. Intellectual property. Note: Restricted to engineering graduate students.

231.121 Engineering Management, ENG M

Department of Mechanical Engineering

Faculty of Engineering

Undergraduate Courses

ENG M 310 Engineering Economy

★3 (fi 6) (either term or Spring/Summer, 3-0-0). The application of the fundamentals of economics to engineering alternatives in planning, developing and managing industrial projects. Note: Credit cannot be obtained for more than one of ENGG 310, 401, ENG M 310 or 401.

ENG M 401 Fundamentals of Engineering Management

★3 (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 both ENGG 401 and ENGG 310.

Graduate Courses

ENG M 501 Production and Operations Management

★3 (fi 6) (either term, 3-0-0). Production and operations management, analysis, and design of work, forecasting, inventory management including MRP, JIT, and Kanban, maintenance management, facility layout, operations scheduling, and project planning and management. Credit cannot be obtained in both ENG M 501 and MEC E 513. Prerequisites: ENGG 310 or 401; and STAT 235 or equivalent.

ENG M 508 Energy Auditing and Management

★3 (fi 6) (either term, 3-0-0). Concepts and value of energy management and conservation. Methodologies for energy management in energy intensive systems in various industries. Energy auditing methods and implementation. Energy accounting and economic analysis. Energy audits and maintenance. Exposure to software for energy auditing.

ENG M 510 Quality Engineering and Management

★3 (fi 6) (either term, 3-0-0). Quality engineering and management evolution, definitions, concepts and principles. Essential quality management theories and models. ISO 9000 principles models and applications. Seven quality engineering

and management tools. Quality function deployment. Failure analysis. Quality costing. Statistical quality. Credit cannot be obtained in both ENG M 510 and MEC E 512. Prerequisites: STAT 235 or equivalent.

ENG M 514 Reliability for Design

★3 (fi 6) (either term, 3-0-0). Concepts of reliability, failure rate, maintainability, and availability. Properties of various statistical distributions and their applications in reliability engineering. Failure data analysis techniques including probability plotting. Load and strength interference in mechanical component design. Design of components for high reliability. System reliability models and system reliability evaluation methods. Optimal system design considering reliability issues. Models for operation and maintenance of equipment. Credit may not be obtained for more than one of MEC E 514, ENG M 514, or E E 404. Prerequisite: STAT 235.

ENG M 516 Maintenance Management of Industrial Systems and Facilities

★3 (fi 6) (either term, 3-0-0). Management of maintenance of industrial assets. Maintenance philosophies. Types of maintenance. Reliability centered maintenance. Scheduling and computerized maintenance management systems. Spare parts provisioning. Maintenance implementation. Prerequisite: ENG M 515 or consent of Instructor.

ENG M 530 Engineering Project Management

★3 (fi 6) (either term, 3-0-0). Introduction to project management tools, techniques, templates, and methodologies. This course examines the eight knowledge areas of the Project Management Institute (PMI) which provide an integrated approach to managing engineering projects. Prerequisites: ENGG 310 or 401 and completion of at least six academic terms, or consent of instructor.

ENG M 540 Introduction to Optimization Models and Algorithms

★3 (fi 6) (either term, 3-0-0). An introduction to optimization methods in solving engineering management problems. Both modeling techniques and algorithms will be covered. Topics include linear programming, formulation and modeling techniques, the simplex method, sensitivity analysis, duality, transportation and network problems, algorithmic and heuristic methods, integer programming, and/or non-linear programming. Credit cannot be obtained in both ENG M 540 and ENG M 640.

ENG M 541 Modeling and Simulation of Engineering Systems

★4.5 (fi 6) (either term, 3-0-3). Modeling and analysis of systems and processes that include human decision making. Formulation and solution methods for systems involving associated economic functions. Numerical methods for simulation. Projects will utilize simulation software to support analysis and design of engineering systems and processes.

ENG M 558 Ergonomics and Work Design

★3 (fi 6) (either term, 3-0-0). Fundamental methods for the analysis of human systems in industrial engineering. Human-machine interaction. Engineering of the workplace and the work environment. Motion and time study. Standards in ergonomics and work design.

ENG M 607 Lean Manufacturing

★3 (fi 6) (either term, 3-0-0). Overview of lean manufacturing concepts, tools and techniques. Identifying waste. Value stream mapping, push vs. pull systems data analysis tools, cell layout design, operator balance charts, 5S, set up time reduction, work in process minimization, standardized work, visual management, and optimized floor space. Introduction to six sigma tools.

ENG M 611 Design and Integration of Standardized Systems

★3 (fi 6) (either term, 3-0-0). Design, development and use of international assurance and management standards in manufacturing, service and energy industries. Creation of standardized systems for quality, environmental, safety, security, responsibility, risk and other aspects of the organization. Modeling of integration frameworks and methodologies. Auditing, maintenance and improvement of integrated management systems.

ENG M 612 Quality Assurance and Assessment Systems

★3 (fi 6) (either term, 3-0-0). Current theory and practice of quality management systems. Modeling of systems and supporting technologies for performance management and improvement. ISO 9000 and 10000 standards, business excellence models and performance measurement. Application of quality assurance schemes in manufacturing, service and not-profit organizations. Design, implementation and improvement of assurance systems using auditing and self-assessment models. Auditing standards and self-assessment guidelines.

ENG M 620 Engineering Economic Analysis

★4 (fi 6) (either term, 3-2s-0). Advanced topics in engineering economics including operating and capital budgets, financial statement use by managers, replacement analysis, cost of capital and leasing. Credit cannot be obtained for both ENG M 620 and ENGG 401.

ENG M 630 Project Management Techniques

★3 (fi 6) (either term, 3-0-0). This course involves study of the management techniques that are particularly relevant to the design, development and control of engineering projects. Special attention will be given to network (CPM, PERT) systems and the use of computers for time and cost control.

ENG M 632 Project Risk Management

★3 (fi 6) (either term, 3-0-0). An in-depth study of the risk management framework as adopted by Project Management Institute. Responsibilities and risks encountered while managing any project. Identification and quantification of risk in design and execution of projects, strategies to handle risk, and issues related to decision making in the face of uncertainty.

ENG M 643 Energy Simulation and Modeling

★3 (fi 6) (either term, 3-0-0). Methodologies for simulation of energy systems. Energy forecasting and planning models. Modeling and forecasting of energy and environmental scenarios. Use of energy and environment database models. Decision support systems for the energy industry. Exposure to software relevant to the energy industry.

ENG M 646 Engineering Optimization

★3 (fi 6) (either term, 3-0-0). The applications of optimization techniques in solving engineering problems. Linear programming, non-linear programming, dynamic programming, integer programming, stochastic programming, genetic algorithms, heuristic methods, queuing theory, and new optimization methods. Credit may not be obtained in more than one of ENG M 640, MEC E 612, and ENG M 646. Prerequisite: ENG M 540 or consent of Instructor.

ENG M 650 Managing in a Technical Environment

★3 (fi 6) (either term, 3-0-0). Design concepts for management systems, philosophy of engineering management, the management function, matrix management, management by objectives.

ENG M 655 Personality Theory and Technical Management

★3 (fi 6) (either term, 3-0-0). This course reviews current thinking on personality theory (using Carver and Scheier's model of seven theoretical perspectives on personality), and looks at the implications for managing that arise from each theoretical perspective. In particular, managing in technical settings with a diverse range of skill types and levels frequently calls for diversity in management approaches that reflect the inherent diversity in the people being managed. The Myers Briggs Type Indicator, widely used in business settings, is reviewed in greater detail. Management styles and the nature of management thinking and decision making are discussed.

ENG M 657 Interpersonal Skills for Project Managers

★3 (fi 6) (either term, 3-0-0). Theoretical basis of speaking and listening skills supported by exercises and practical examples. Non-verbal clues, assumptions and perceptions in communication. Applications in negotiations, conflict management and decision making.

ENG M 660 Special Topics in Technology Commercialization

★3 (fi 6) (second term, 3-0-0). This course examines the fundamentals of starting, financing and managing an advanced technology business. Teams of students will each find a high-tech opportunity and develop a business and financing plan to start and grow the business. Guest lectures from experts who have practical experience in the various subject areas of business development will be coordinated with the main course lectures and the various stages of developing the business and financing plans. Oral and written presentation of various phases of the plan will be prepared by each group and delivered at various intervals. By the end of the term the team will have developed a written business plan/investment proposal and a financing plan to demonstrate the viability of the opportunity.

ENG M 665 Introduction to Intellectual Property and New Technology Commercialization

★3 (fi 6) (either term, 3-0-0). Intellectual property in the context of technology transfer and commercialization. Key topics include intellectual property, product development, valuation of technology, capturing value, and securing the deal. Considerations in identifying and developing new products, exploitation of intellectual property as a corporate strategy, the impact of intellectual property in new company formation and growth.

ENG M 666 Knowledge Management

★3 (fi 6) (either term, 3-0-0). Knowledge Management (KM) concepts, Knowledge Acquisition, Building and Sharing Corporate Memory, Knowledge Driven Innovation, Knowledge Capital Value, Knowledge Professionals, KM Technologies, Case Studies, Team Projects. Prerequisite/Co-requisite: approval of instructor.

ENG M 670 Advanced Topics in Engineering Management I

★3 (fi 6) (either term, 3-0-0).

ENG M 680 Advanced Topics in Engineering Management II

★3 (fi 6) (either term, 3-0-0).

231.122 Engineering Physics, EN PH

Department of Physics
Faculties of Engineering and Science

Undergraduate Courses

EN PH 131 Mechanics

★4.3 (fi 6) (either term, 3-1s-3/2). Kinematics and dynamics of particles; gravitation;

work and energy; linear momentum; angular momentum; systems of particles; introduction to dynamics of rigid bodies. Prerequisites: MATH 100, ENGG 130. Corequisite: MATH 101. Prerequisite or corequisite: PHYS 130. Restricted to Engineering students. Other students who take this course will receive ★3.0.

231.123 English, ENGL

Department of English and Film Studies
Faculty of Arts

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

See also Writing, WRITE. Except as noted, WRITE courses may be taken as ENGL courses.

Undergraduate Courses

Notes

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

ENGL 104 Readings in Poetry

★3 (*fi 6*) (either term, 3-0-0). A close study of selected modern and traditional verse to introduce the student to ways of approaching and critically evaluating poetry. Note: Not for degree credit to students enrolled in the BA degree program.

ENGL 105 Readings in Prose

★3 (*fi 6*) (either term, 3-0-0). A close study of novels, short stories, essays, and other forms, both modern and traditional, to introduce the student to ways of approaching prose, and to assist the student in reading critically. Note: Not for degree credit to students enrolled in the BA degree program.

ENGL 108 Introduction to Language and Literature

★3 (*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 writing instruction. This course may be followed only by ENGL 109. Note: Not to be taken by students in Arts and Education. This course will be offered by arrangement with client Faculties.

ENGL 111 Language, Literature and Culture

★6 (*fi 12*) (two term, 3-0-0). Studies in the literary and cultural uses of language. Not to be taken by students with ★6 credit in approved junior English.

ENGL 112 English Literature in Historical Perspective

★6 (*fi 12*) (two term, 3-0-0). Studies in the social and cultural history of literature in English. Not to be taken by students with ★6 credit in approved junior English.

ENGL 113 English Literature in Global Perspective

★6 (*fi 12*) (two term, 3-0-0). Studies in the literatures of the English-speaking world. Not to be taken by students with ★6 credit in approved junior English.

ENGL 114 Aboriginal Literature and Culture

★6 (*fi 12*) (two term, 3-0-0). Studies in Aboriginal knowledge, values, and identity in oral tradition, literary expression, and other cultural texts. Not to be taken by students with ★6 credit in approved junior English. Note: Sections reserved for students in the TYP Program include a 3 hour seminar component in addition to the 3 hour lecture component.

ENGL 121 Literature in Historical Perspective

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

ENGL 122 Texts and Contexts

★3 (*fi 6*) (either term, 3-0-0). This course explores a specific issue using a

variety of genres and media. Not to be taken by students with ★6 in approved junior English.

ENGL 123 Literature in Global Perspective

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

ENGL 124 Literary Analysis

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

ENGL 125 Aboriginal Writing

★3 (*fi 6*) (either term, 3-0-0). Studies in Aboriginal knowledge, values, and identity in written expression, and other cultural texts. Not to be taken by students with ★6 in approved junior English. Note: Sections reserved for students in the TYP Program include a 3 hour seminar component in addition to the 3 hour lecture component.

ENGL 199 Essentials of Writing for Engineering Students

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

ENGL 208 Reading Histories: Making Books

★3 (*fi 6*) (either term, 3-0-0). An introduction to the social and cultural history of material text, and to the critical concepts and methods key to its study, that emphasizes the relationship between the production of books and the production of culture. Prerequisite: ★6 of junior English.

ENGL 209 Reading Histories: Making Readers

★3 (*fi 6*) (either term, 3-0-0). An introduction to the social and cultural history of reading, and to the critical concepts and methods key to its study, that emphasizes the relationship between reading and the production of culture. Prerequisite: ★6 of junior English.

ENGL 210 Reading Histories: Histories in Texts

★3 (*fi 6*) (either term, 3-0-0). An introduction to the critical concepts and methods for reading literary texts historically that emphasizes the relationship between representation and history. Prerequisite: ★6 of junior English.

ENGL 212 Introduction to the English Language

★3 (*fi 6*) (either term, 3-0-0). Introduces the grammar of English sounds, words, and sentences as a basis for further studies in language and literature. Prerequisite: ★6 of junior English.

ENGL 217 Textualities: Signs and Texts

★3 (*fi 6*) (either term, 3-0-0). An introduction to theories of signification and textuality, and to the issues and debates surrounding the relationship between language systems and the production of meanings, as they bear on literary analysis. Prerequisite: ★6 credits of junior English.

ENGL 218 Textualities: Reading and Interpretation

★3 (*fi 6*) (either term, 3-0-0). An introduction to theories of reading and interpretation, and to the issues and debates surrounding the relationship between literary events and the reception of meanings, as they bear on literary analysis. Prerequisite: ★6 of junior English.

ENGL 219 Textualities: Narrative Theory and Poetics

★3 (*fi 6*) (either term, 3-0-0). An introduction to narratology and poetics, as well as to the practices of close reading and the formalist analysis of literary texts, as they bear on literary analysis. Prerequisite: ★6 of junior English.

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.

ENGL 221 Reading Politics: Class and Ideology

★3 (*fi 6*) (either term, 3-0-0). An introduction to dynamics of class and ideology in literary and other cultural texts, and to the critical concepts and methods key to their study. Prerequisite: ★6 of junior English.

ENGL 222 Reading Politics: Race and Ethnicity

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

ENGL 223 Reading Politics: Empire and the Postcolonial

★3 (*fi 6*) (either term, 3-0-0). An introduction to dynamics of colonization and its resistances in literary and other cultural texts, and to the critical concepts and methods key to their study. Prerequisite: ★6 of junior English.

ENGL 224 The Literary Institution

★3 (*fi 6*) (either term, 3-0-0). An introduction to theories of the literary institution and to the issues and debates surrounding literary criticism as a social and

political practice that takes place within the horizon of history and under certain systemic constraints. Prerequisite: ★6 of junior English.

ENGL 299 Essay Writing for Education Students

★3 (fi 6) (either term, 3-0-0). This course, designed to increase the student's ability to write effective essays, emphasizes the study of grammar, punctuation, and sentence and paragraph structure. The study of models of prose style is integrated with frequent practice in writing. ENGL 299 is not a remedial course. Note: Restricted to students in the Faculty of Education; not to be taken by students with credit in WRITE 298, 398 or 498. Prerequisite: ★6 of junior English.

ENGL 300 Social and Cultural History of the English Language

★3 (fi 6) (either term, 3-0-0). Studies in the historical development of the English Language. Prerequisite: ★6 of junior English. Note: not to be taken by students with credit in former ENGL 311.

ENGL 301 Social and Cultural History of Genre

★3 (fi 6) (either term, 3-0-0). Studies in the theory and practice of genre. Content and period focus may vary. Prerequisite: ★6 of junior English.

ENGL 302 Literary and Cultural Theories

★3 (fi 6) (either term, 3-0-0). Studies in critical and theoretical currents within literary studies. Content and period focus may vary. Prerequisite: ★6 of junior English.

ENGL 303 Computing Technology and Culture: Cyberculture

★3 (fi 6) (either term, 3-0-0). Studies in cyberculture as a theoretical concept and a literary practice. Prerequisite: ★6 of junior English.

ENGL 304 Computing Technology and Culture: Literary Computing

★3 (fi 6) (either term, 3-0-0). Studies in new media texts and the literary applications of computing. Prerequisite: ★6 of junior English.

ENGL 305 Literature and Religion

★3 (fi 6) (either term, 3-0-0). Studies in selected texts, movements, and traditions that reflect the interaction of religion with literature and culture. Content and period focus may vary. Prerequisite: ★6 of junior English.

ENGL 308 Aboriginal/Indigenous Literature: Intellectual Traditions

★3 (fi 6) (either term, 3-0-0). Studies of the contributions of the First Nations, Métis and American Indian writers to the formation of Aboriginal/Indigenous intellectual and community traditions. Content and period focus may vary. Prerequisite: ★6 of junior English.

ENGL 309 Aboriginal/Indigenous Literature: Literary Movements

★3 (fi 6) (either term, 3-0-0). Studies in the literary and cultural currents within Aboriginal/Indigenous writing. Content and period focus may vary. Prerequisite: ★6 of junior English.

ENGL 312 Postcolonial Literature and Culture: African Writing in English

★3 (fi 6) (either term, 3-0-0). Selected works from the African context. Content and period focus may vary. Prerequisite: ★6 of junior English.

ENGL 313 Postcolonial Literature and Culture: Caribbean Writing in English

★3 (fi 6) (either term, 3-0-0). Selected works from the Caribbean context. Content and period focus may vary. Prerequisite: ★6 of junior English.

ENGL 314 Postcolonial Literature and Culture: Irish Writing in English

★3 (fi 6) (either term, 3-0-0). Selected works from the Irish context. Content and period focus may vary. Prerequisite: ★6 of junior English.

ENGL 315 Postcolonial Literature and Culture: Indian Writing in English

★3 (fi 6) (either term, 3-0-0). Selected works from the Indian context. Content and period focus may vary. Prerequisite: ★6 of junior English.

ENGL 316 Postcolonial Literature and Culture: Middle-Eastern Writing in English

★3 (fi 6) (either term, 3-0-0). Selected works from the Middle-Eastern context. Content and period focus may vary. Prerequisite: ★6 of junior English.

ENGL 320 Old English Language and Literature

★6 (fi 12) (two term, 3-0-0). Studies in the language and literature of Anglo-Saxon England. Prerequisite: ★6 of junior English.

ENGL 324 Medieval Literature and Culture: Chaucer

★3 (fi 6) (either term, 3-0-0). Prerequisite: ★6 of junior English.

ENGL 325 Medieval Literature and Culture: Medieval Texts

★3 (fi 6) (either term, 3-0-0). Selected works from the English context, 13th to 15th century. Note: not to be taken by students with credit in the former ENGL 321 or 322. Prerequisite: ★6 of junior English.

ENGL 327 Medieval Literature and Culture: Medieval and Tudor Drama

★3 (fi 6) (either term, 3-0-0). Selected dramatic works from the English context, 13th to 16th century. Prerequisite: ★6 of junior English.

ENGL 336 Early Modern Literature and Culture: 16th-Century Texts

★3 (fi 6) (either term, 3-0-0). Selected works from the English context. Prerequisite: ★6 of junior English.

ENGL 337 Early Modern Literature and Culture: Drama

★3 (fi 6) (either term, 3-0-0). Selected dramatic works from the English context, 16th and 17th centuries. Prerequisite: ★6 of junior English.

ENGL 338 Early Modern Literature and Culture: Shakespeare

★6 (fi 12) (two term, 3-0-0). Prerequisite: ★6 of junior English. Note: Not to be taken by students with credit in ENGL 239 or 339.

ENGL 339 Early Modern Literature and Culture: Studies in Shakespeare

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

ENGL 340 Early Modern Literature and Culture: 17th-Century Texts

★3 (fi 6) (either term, 3-0-0). Selected works from the English context. Prerequisite: ★6 of junior English.

ENGL 341 Restoration and 18th-Century Literature and Culture: Restoration and Early 18th-Century Texts

★3 (fi 6) (either term, 3-0-0). Selected works from the British context, 1660 to 1750. Prerequisite: ★6 of junior English.

ENGL 343 Restoration and 18th-Century Literature and Culture: Late 18th-Century Texts

★3 (fi 6) (either term, 3-0-0). Selected works from the British context, 1740 to 1800. Prerequisite: ★6 of junior English.

ENGL 344 Early Modern Literature and Culture: Milton

★3 (fi 6) (either term, 3-0-0). Prerequisite: ★6 of junior English. Note: Not to be taken by students with credit in ENGL 340.

ENGL 347 Restoration and 18th-Century Literature and Culture: Drama

★3 (fi 6) (either term, 3-0-0). Selected dramatic works from the British context, 1660 to 1800. Prerequisite: ★6 of junior English.

ENGL 348 Restoration and 18th-Century Literature and Culture: The Novel

★3 (fi 6) (either term, 3-0-0). Selected prose fiction from the British context, 1660 to 1800. Prerequisite: ★6 of junior English.

ENGL 349 19th-Century British Literature and Culture: The Novel

★3 (fi 6) (either term, 3-0-0). Selected novels from the British context, 1800 to 1900. Prerequisite: ★6 of junior English.

ENGL 350 19th-Century British Literature and Culture: Romantic Texts

★3 (fi 6) (either term, 3-0-0). Selected works from the British context, 1789 to 1830. Prerequisite: ★6 of junior English. Note: Not to be taken by students with credit in ENGL 351.

ENGL 352 19th-Century British Literature and Culture: Early Victorian Texts

★3 (fi 6) (either term, 3-0-0). Selected works from the British context, 1830 to 1870. Prerequisite: ★6 of junior English.

ENGL 353 19th-Century British Literature and Culture: Late Victorian Texts

★3 (fi 6) (either term, 3-0-0). Selected works from the British context, 1870 to 1900. Prerequisite: ★6 of junior English.

ENGL 354 Pre-20th-Century Transnational Literature and Culture

★3 (fi 6) (either term, 3-0-0). Studies in literary and cultural currents before 1900 that resist or exceed national definition. Content and period focus may vary. Prerequisite: ★6 of junior English.

ENGL 355 American Literature and Culture: American Minority Literature

★3 (fi 6) (either term, 3-0-0). Selected works by minority writers in America. Content and period focus may vary. Prerequisite: ★6 of junior English.

ENGL 356 American Literature and Culture: Reading American Technologies

★3 (fi 6) (either term, 3-0-0). Studies in issues and problems of technology in works from the American context. Content and period focus may vary. Prerequisite: ★6 of junior English.

ENGL 357 American Literature and Culture: Reading American Ideologies

★3 (fi 6) (either term, 3-0-0). Studies in issues and problems of ideology in works from the American context. Content and period focus may vary. Prerequisite: ★6 of junior English.

ENGL 358 American Literature and Culture: Early American Writing--Colonial, Revolutionary, Antebellum

★3 (fi 6) (either term, 3-0-0). Selected works from the American context, first contact to 1865. Prerequisite: ★6 of junior English.

ENGL 359 American Literature and Culture: Reading American Origins

★3 (fi 6) (either term, 3-0-0). Studies in issues and problems of origination in works from the American context. Content and period focus may vary. Prerequisite: ★6 of junior English.

ENGL 360 American Literature and Culture: Race and Belonging in American Writing

★3 (fi 6) (either term, 3-0-0). Studies in issues and problems of racialization in works from the American context. Content and period focus may vary. Prerequisite: ★6 of junior English.

ENGL 361 American Literature and Culture: The American Modern - Postbellum and Early 20th Century

★3 (fi 6) (either term, 3-0-0). Selected works from the American context, 1865 to 1945. Prerequisite: ★6 of junior English.

ENGL 362 American Literature and Culture: Toward the Now - Later 20th and Early 21st Century

★3 (fi 6) (either term, 3-0-0). Selected works from the American context, 1945 to the present. Prerequisite: ★6 of junior English.

ENGL 363 Early 20th-Century Literature and Culture: Modernism and Modernity

★3 (fi 6) (either term, 3-0-0). Studies in high, low and late modernism, and the international avant-garde to mid-century. Note: not to be taken by students with credit in former ENGL 370. Prerequisite: ★6 of junior English.

ENGL 364 Late 20th-Century Literature and Culture: Modernism and Modernity

★3 (fi 6) (either term, 3-0-0). Studies in post-modernism and the international avant-garde since mid-century. Prerequisite: ★6 of junior English.

ENGL 365 Early 20th-Century British Literature and Culture

★3 (fi 6) (either term, 3-0-0). Selected works from the British context to mid-century. Prerequisite: ★6 of junior English. Note: not to be taken by students with credit in ENGL 370.

ENGL 366 Late 20th-Century British Literature and Culture

★3 (fi 6) (either term, 3-0-0). Selected works from the British context since mid-century. Prerequisite: ★6 of junior English.

ENGL 367 Contemporary Literature and Culture

★3 (fi 6) (either term, 3-0-0). Selected works from the contemporary context. Prerequisite: ★6 of junior English.

ENGL 368 Early 20th-Century Literature and Culture: Drama

★3 (fi 6) (either term, 3-0-0). Selected dramatic works in English to mid-century. Prerequisite: ★6 of junior English.

ENGL 369 Late 20th-Century Literature and Culture: Drama

★3 (fi 6) (either term, 3-0-0). Selected dramatic works in English since mid-century. Prerequisite: ★6 of junior English.

ENGL 373 Canadian Literature and Culture: Writing and Colonization

★3 (fi 6) (either term, 3-0-0). Selected works from the Canadian context, first contact to 1900. Prerequisite: ★6 of junior English. Note: not to be taken by students with credit in ENGL 371.

ENGL 374 Canadian Literature and Culture: Early 20th-Century Texts

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

ENGL 375 Canadian Literature and Culture: Reading Canadian Cultures

★3 (fi 6) (either term, 3-0-0). Studies in the cultural politics of representation in Canadian texts. Content and period focus may vary. Prerequisite: ★6 of junior English.

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. Note: not to be taken by students with credit in ENGL 372.

ENGL 377 Canadian Literature and Culture: Canadian Drama and Performance

★3 (fi 6) (either term, 3-0-0). Selected works by Canadian dramatists and performance artists. Content and period focus may vary. Prerequisite: ★6 of junior English.

ENGL 378 Canadian Literature and Culture: Contemporary Cultural Texts

★3 (fi 6) (either term, 3-0-0). Selected works from the contemporary Canadian context. Prerequisite: ★6 of junior English.

ENGL 379 Canadian Literature and Culture: Canadian Minority Literature

★3 (fi 6) (either term, 3-0-0). Selected works by minority writers in Canada. Content and period focus may vary. Prerequisite: ★6 of junior English.

ENGL 380 Canadian Literature and Culture: Reading the Local

★3 (fi 6) (either term, 3-0-0). Studies in regional writing in Canada. Content and period focus may vary. Prerequisite: ★6 of junior English.

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.

ENGL 385 Popular Culture: Issues in Popular Culture

★3 (fi 6) (either term, 3-0-0). The theory and practice of popular culture studies. 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.

ENGL 386 Popular Culture: Working-Class Texts and Cultures

★3 (fi 6) (either term, 3-0-0). Studies in spoken and written forms of working-class cultures. 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.

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.

ENGL 389 Children's Literature and Culture: Print Traditions

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

ENGL 390 Women's Writing: Writing by Women pre-1900

★3 (fi 6) (either term, 3-0-0). Selected works by women writers in English before the twentieth century. Content and period focus may vary. Prerequisite: ★6 of junior English. Note: Not to be taken by students with credit in former ENGL 390.

ENGL 391 Women's Writing: Writing by Women Post-1900

★3 (fi 6) (either term, 3-0-0). Selected works by women writers in English since 1900. Content and period focus may vary. Prerequisite: ★6 of junior English. Note: not to be taken by students with credit in ENGL 391 Writing by Women II.

ENGL 392 Queer Writing

★3 (fi 6) (either term, 3-0-0). Studies in the movements, literatures, and cultures of sexual minorities, including gay, lesbian, bisexual and transgendered people. Content and period focus may vary. Prerequisite: ★6 of junior English.

ENGL 401 Studies in Authors

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

ENGL 402 Studies in Genres

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

ENGL 405 Studies in Poetry

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

ENGL 406 Studies in Prose

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

ENGL 407 Studies in Texts and Cultures

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

ENGL 408 Studies in Comparative Literatures in English

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

ENGL 409 Studies in Literary Periods and Cultural Movements

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

ENGL 424 Studies in the History of Books

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

ENGL 425 Studies in the History of Reading

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

ENGL 426 Studies in Literary and Cultural Histories

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

ENGL 430 Studies in Theory

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

ENGL 465 Studies in Gender and Sexualities

★3 (fi 6) (either term, 3-0-0). Prerequisites: ★6 of junior English and ★12 of

senior-level English, ★6 of which must be at the 300 level. Note: variable content course which may be repeated.

ENGL 466 Studies in Class and Ideology

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

ENGL 467 Studies in Race and Ethnicity

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

ENGL 481 Studies in Empire and the Postcolonial

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

ENGL 482 Studies in Drama and Performance

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

ENGL 483 Studies in Popular Culture

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

ENGL 484 Studies in Literature and Film

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

ENGL 486 Studies in Computer Technologies and Culture

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

ENGL 487 Studies in Children's Literature

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

ENGL 489 Studies in Emergent Cultures and Minority Texts

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

ENGL 499 Cooperative Work Experience Seminar

★3 (*fi 6*) (first term, 0-3s-0). Required of all students returning to the university campus following completion of their Cooperative Education work term placement. The course will involve completion and defense of an applied research project based on the work term placement as well as discussion of related issues. Note: this course does not apply to the 400-level requirements for English programs. Prerequisites: WKEXP 801, 802, and 803.

ENGL 532 Tutorial: Fourth-Year Honors English

★3 (*fi 6*) (either term, variable). In the third year of the program, the Honors student, in consultation with the Department, arranges for a literary project to be pursued under the guidance of a member of the Department for one term. The project involves study of some problems having to do with such matters as technique, genre, criticism, or theme.

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

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 553 Directed Reading

★6 (*fi 12*) (two term, 3-0-0).

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 567 Studies in Literary History

★3 (*fi 6*) (either term, 3-0-0).

ENGL 569 Studies in Literary Criticism

★3 (*fi 6*) (either term, 3-0-0).

ENGL 577 Studies in the English Language

★3 (*fi 6*) (either term, 3-0-0).

ENGL 586 Studies in American Literature

★3 (*fi 6*) (either term, 3-0-0).

ENGL 591 Studies in Canadian Literature

★3 (*fi 6*) (either term, 3-0-0).

ENGL 611 Studies in Old English Literature

★3 (*fi 6*) (either term, 3-0-0).

ENGL 615 Studies in Middle-English Literature

★3 (*fi 6*) (either term, 3-0-0).

ENGL 635 Studies in Renaissance Literature

★3 (*fi 6*) (either term, 3-0-0).

ENGL 647 Studies in 17th-Century Literature

★3 (*fi 6*) (either term, 3-0-0).

ENGL 659 Studies in Restoration and 18th-Century Literature

★3 (*fi 6*) (either term, 3-0-0).

ENGL 660 The 18th-Century Novel

★6 (*fi 12*) (two term, 3-0-0).

ENGL 665 Studies in Romantic Literature

★3 (*fi 6*) (either term, 3-0-0).

ENGL 673 Studies in Victorian Literature

★3 (*fi 6*) (either term, 3-0-0).

ENGL 679 Studies in 20th-Century Literature

★3 (*fi 6*) (either term, 3-0-0).

ENGL 680 Studies in Post-Colonial Literature in English

★3 (*fi 6*) (either term, 3-0-0).

ENGL 687 Studies in Children's Literature

★3 (*fi 6*) (either term, 3-0-0).

ENGL 693 Studies in Literary Genres

★3 (*fi 6*) (either term, 3-0-0).

ENGL 694 Studies in Literary Techniques

★3 (*fi 6*) (either term, 3-0-0).

ENGL 695 Studies in Literary Themes

★3 (*fi 6*) (either term, 3-0-0).

ENGL 696 Studies in Individual Authors

★3 (*fi 6*) (either term, 3-0-0).

ENGL 900 Directed Research Project

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

231.124 English as a Second Language, ESL

Faculty of Extension

Undergraduate Courses

ESL 140 English for Academic Purposes Part I

★3 (*fi 17*) (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 are scheduled three times a week for the entire term, except in Spring and Summer terms when classes are scheduled four times a week. 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 and Student Awards. Offered four times a year.

ESL 145 English for Academic Purposes Part II

★3 (*fi 17*) (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 thoroughly prepare students for study at the undergraduate university level. Classes are scheduled three times a week for the entire term, except in Spring and Summer terms when classes are scheduled four times a week. Prerequisite: ESL 140. Offered four times a year.

ESL 550 Preparing for Graduate Studies

★6 (*fi 15*) (either term, 360 hours). This 360-hour 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 four times a year.

231.125 Entomology (Biological Sciences), ENT

Department of Biological Sciences
Faculty of Science

Notes

- See the following sections for listings of other Biological Sciences courses: Bioinformatics (BIOIN); Biology (BIOL); Botany (BOT); Genetic (GENET); Microbiology (MICRB); Zoology (ZOOL).
- See the following sections for listings of other relevant courses: Interdisciplinary Studies (INT D); Immunology and Infection (IMIN); Marine Science (MA SC); Paleontology (PALEO).

Undergraduate Courses

0 ENT 207 Agricultural Entomology

★3 (fi 6) (second term, 3-0-3). Introduction to insects and related arthropods emphasizing those aspects of their structure and life history responsible for some of them becoming pests and indicating those aspects towards which control measures can be directed. Principles of integrated control. Prerequisite: One of BIOL 107 or 108.

0 ENT 220 Insect Diversity

★3 (fi 6) (first term, 3-0-3). An introduction to the evolution, diversity, phylogeny, life styles, distribution, and classification of hexapods and practical experience in their identification. Prerequisite: BIOL 108.

0 ENT 302 Insect Development

★3 (fi 6) (second term, 3-0-3). Reproduction, embryonic, and postembryonic development. Prerequisite: BIOL 201 or CELL 201. ZOOL 250 is recommended.

0 ENT 321 Insect Physiology

★3 (fi 6) (first term, 3-0-0). Biochemical and physiological adaptations that have allowed insects and their relatives to become extremely successful in most habitats, ways in which insect functions differ from those of other animals, and use of insect models for general physiological and biochemical research. Prerequisites: BIOL 107 and ENT 220.

ENT 378 Insect Pathology

★3 (fi 6) (first term, 3-0-0). An introduction to the diseases of insects and related arthropods. The use of insect pathogens to reduce pest damage in forestry and agriculture. Roles of diseases in insect population dynamics, Biotechnology and insect pathogens. Prerequisite: ★3 in Entomology or Microbiology. Not open to first-year students.

ENT 380 Forest Entomology

★3 (fi 6) (second term, 3-0-3). Characteristics of major North American forest insects. Roles of insects in forest ecosystems. Roles of insects in forest ecosystems. Insects destructive to wood and wood products. Principles of control. Prerequisite: BIOL 208. Course jointly offered by the Departments of Biological Sciences and Renewable Resources. Note: Credit may not be obtained for both ENT 280 and 380.

ENT 392 Medical and Veterinary Entomology

★3 (fi 6) (second term, 3-0-0). An account of the influence of the arthropods on the health of man and domestic animals, and the interactions between arthropod vectors and vertebrate pathogens. Prerequisite: ENT 207 or 220.

ENT 401 Current Topics in Arthropod Biology

★3 (fi 6) (either term, 0-3s-0). Survey, discussion and analysis of current literature in selected areas of arthropod biology of interest to advanced undergraduates. Prerequisite: ZOOL 250 or an ENT course or consent of instructor. Credit cannot be obtained for both ENT 401 and ENT 501. Offered in alternate years.

0 ENT 427 Terrestrial Arthropod Diversity

★3 (fi 6) (first term, 3-0-3). Evolution, distribution, and classification of terrestrial arthropods, with emphasis on hexapods. Students practice identification using museum collections, build keys and databases, and make a substantive collection of regional insects. Prerequisite: Any one of ENT 207, 220, 380, or ZOOL 351; BIOL 335 recommended. Credit cannot be obtained for both ENT 427 and 527.

Graduate Courses

Notes

- All 300- and 400-level courses in the Department of Biological Sciences may be taken for credit (except for BIOL 490, 498 and 499) by graduate students with approval of the student's supervisor or supervisory committee.
- The following courses may be taken as an option in graduate programs in the Department of Biological Sciences with approval of the student's supervisor or

supervisory committee: BIOCH 510, 520, 530, 541, 550, 555, 560; CHEM 361, 363, 461; CELL 300, 301; IMIN 371, 372, 452; INT D 421; MA SC 400, 401, 402, 410, 412, 420, 425, 430, 437, 440, 445, 470, 480; MMI 405, 415, 520; NEURO 472; NU FS 363; PALEO 418, 419; PHARM 601.

ENT 501 Advanced Current Topics in Arthropod Biology

★3 (fi 6) (either term, 0-3s-0). Survey, discussion and analysis of current literature in selected areas of arthropod biology of interest to graduate students in Biological Sciences. Discussions are the same as for ENT 401, but with additional assignments and evaluation appropriate to graduate studies. Prerequisite: Consent of instructor. Credit cannot be obtained for both ENT 401 and ENT 501. Offered in alternate years.

ENT 527 Advanced Terrestrial Arthropod Diversity

★3 (fi 6) (first term, 3-0-3). Evolution, distribution, and classification of terrestrial arthropods, with emphasis on hexapods. Students practice identification using museum collections, build keys and databases, and make a substantive collection of regional insects. Lectures and labs are the same as for ENT 427, but with additional assignments and evaluation appropriate to graduate studies. Prerequisite: Consent of instructor. Credit cannot be obtained for both ENT 427 and 527.

ENT 601 Entomology Seminar

★1 (fi 2) (first term, 0-2s-0). A forum for those with an interest in insects. Presentations may be provided by students, faculty, invited speakers and visiting scientists.

ENT 602 Entomology Seminar

★1 (fi 2) (second term, 0-2s-0). Presentations may be provided by students, faculty, invited speakers and visiting scientists. Each student enrolled for credit gives one seminar for evaluation. Questions and discussion follow; participation also requires written evaluations of each seminar by peers and one or more Faculty members.

231.126 Environmental and Conservation Sciences, ENCS

Departments of Agricultural, Food and Nutritional Science;
Renewable Resources; and Rural Economy
Faculty of Agricultural, Life and Environmental Sciences

Note: See also Agricultural and Resource Economics (AREC), Animal Science (ANSC), Forest Economics (FOREC), Forest Engineering (FOREN), Forest Science (FOR), Plant Science (PL SC), Renewable Resources (REN R), and Soil Science (SOILS) listings for related courses.

The following courses were renumbered

Old	New
ENCS 308	ENCS 207
ENCS 207	REN R 299

Undergraduate Courses

ENCS 201 Wildlife Biodiversity and Ecology

★3 (fi 6) (second term, 3-0-3). Introduction to animals in the context of conservation, interactions with people, and roles in natural ecosystems. Labs provide a survey of North American animal life, both vertebrate and invertebrate, with emphasis on recognition of higher taxa and on hierarchical classification. Field trip. 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. [Renewable Resources]

0 ENCS 260 History and Fundamentals of Environmental Protection and Conservation

★3 (fi 6) (second term, 3-0-0). A philosophical and sociological exploration of historical and contemporary perspectives on human-environmental relationships and their implications. Explores these perspectives in a framework of critical thinking and through case studies. [Renewable Resources]

0 ENCS 271 The Politics of Food and Natural Resources

★3 (fi 6) (either term, 3-0-0). Students will gain a sociological understanding of contemporary Canadian politics in the food and natural resources sectors. Examination of the nature of political organizations and policymaking in Canada; the particular roles played by the state, the "public," and certain sectors of civil society, including social movements, industry organizations, labour unions, scientific organizations, and rural and aboriginal peoples. Contemporary case studies may include climate change and energy dependence, genetic engineering in agribusiness, the organic food products movement, mining in the circumpolar north, forestry expansion in the boreal region and cod management in the Atlantic fisheries. No prerequisites. [Renewable Resources]

0 ENCS 307 Environmental Assessment Principles and Methods

★3 (fi 6) (second term, 3-0-0). Principles and elements of environmental assessment with an interdisciplinary focus. Topics include types of environmental assessments, when to use them, data required, sampling strategies, how data

should be collected and analyzed and ultimately communicated to pass legal and scientific scrutiny. Prerequisites: ENCS 201, PL SC 221; ENCS 203 or REN R 250; SOILS 210; STAT 151; ENCS 207; or equivalents. Consent of Instructor required for students outside the Faculty of Agricultural, Life and Environmental Sciences. [Renewable Resources]

ENCS 352 Natural Resource and Environmental Law

★3 (fi 6) (first term, 3-0-0). Overview of Canadian laws and policies designed to control air, land, and water pollution including licensing systems, quasi-criminal sanctions, and environmental impact assessment processes. The course will also review relevant constitutional issues and consider alternative legal approaches to the resolution of environmental problems. Prerequisite: Completion of ★60 of university-level course work. [Rural Economy]

ENCS 356 Principles of Rangeland Conservation and Habitat Management

★3 (fi 6) (first term, 3-0-3). An introduction to rangeland conservation and wildlife habitat management. Examines the effects of grazing and browsing on ecosystems components, including rangeland soils, plants, plant communities, and landscapes. Discusses interactions among herbivores including livestock and wildlife. Reviews practical management activities such as rangeland inventory, improvements, planning, and condition assessment. Prerequisite: ★3 in university-level biology. [Agricultural, Food and Nutritional Science]

ENCS 360 Soil and Water Conservation

★3 (fi 6) (second term, 3-0-0). Global soil and water resources and their current rates of degradation. The main processes of degradation (erosion, loss of organic matter, salinization, pollution) and their causes. Consequences of degradation and conservation of resources through improved land use practices. Prerequisites: SOILS 210; and ENCS 203 or REN R 250. [Renewable Resources]

ENCS 364 Principles of Managing Natural Diversity

★3 (fi 6) (second term, 3-1s-0). Introduction to the theoretical foundation for conservation science. Elements of population, community and landscape ecology will be reviewed, and their application to real-world challenges discussed. Objective is to provide students with the scientific tools to evaluate and develop conservation strategies for maintaining diversity in human-altered systems. Ethical and philosophical aspects of the socio-political arena in which conservation decisions are made and implemented are also explored. Prerequisites: BIOL 208 or (BIOL 108 and REN R 110) and ★60 of university-level coursework. Credit will not be given for both ENCS 364 and either BIOL 367 or 467. This course has limited enrolment, with preference given to students in the ENCS, Conservation Biology and Management Program. [Renewable Resources]

ENCS 376 Wildlife Productivity and Management

★3 (fi 6) (first term, 3-0-3). Principles of animal function as applied to management of wildlife communities. Special emphasis on nutritional ecology of hoofed mammals and trophic dynamics of grazing systems. Field trips. Prerequisite: ★3 in university-level Biology. 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. [Renewable Resources]

ENCS 406 Rangeland Plant Communities of Western Canada

★3 (fi 6) (second term, 3-0-3). Examines major rangeland plant communities and their physical environments in western Canada, including individual plant identification and ecology. Includes a review of various land uses such as livestock and wildlife grazing within these communities, their response to disturbances such as herbivory and fire, and other management considerations. Graduate students may not register for credit (see AFNS 506). Credit will only be given for one of AFNS 506 and ENCS 406. Prerequisite: one of ENCS 356, REN R 120 or BOT 210; ENCS 356 strongly recommended. [Agricultural, Food and Nutritional Science]

ENCS 407 Rangeland Plant Communities of North America

★3 (fi 6) (first term, 1-0-6). An in-depth study of the plants and communities of North American rangelands and wildland ecosystems, and their management. Prerequisites: ENCS 356; ENCS 406 strongly recommended. [Agricultural, Food and Nutritional Science]

ENCS 455 Soil Remediation

★3 (fi 6) (first term, 3-3s-0). Principles and methods of biological, chemical, and physical remediation of soils contaminated by hazardous chemicals and other pollutants. Topics include bioremediation of hydrocarbon contaminated soils; chemical restoration of heavy metal polluted soils, acid soils and mine spoils, and salt-affected soils; physical and biological restoration of compacted soils and hydrophobic soils contaminated with organic compounds or wastes; and risk analysis and soil quality criteria in soil remediation. Prerequisites: At least ★75 university credit with emphasis on biophysical courses, and SOILS 430 recommended. additional miscellaneous 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. [Renewable Resources]

ENCS 461 Climates and Ecosystems

★3 (fi 6) (first term, 3-2s-0). The basic principles by which the cycles of water, carbon, and nutrients through soils, plants, and the atmosphere are controlled in terrestrial ecosystems under different climates. Interrelationships among water,

carbon and nutrient cycles in natural and managed ecosystems that have developed in different climatic zones. Environmental consequences of human intervention in the cycles for food and fibre production in different ecosystems. Prerequisite: SOILS 210. Recommended courses: PL SC 221 or BOT 240. Credit may not be obtained in both ENCS 361 and 461. [Renewable Resources]

ENCS 462 Protected Areas Planning and Management

★3 (fi 6) (first term, 3-0-0). Principles and practices of planning and management of protected areas, including national and provincial parks and forest recreational systems; wilderness management; the integration of biological and sociological criteria in protected areas planning and management. Prerequisites: ENCS 260 and 364. [Renewable Resources]

ENCS 464 Conservation and Management of Endangered Species

★3 (fi 6) (first term, 3-0-0). Theoretical and applied considerations for maintaining endangered, threatened and rare populations and species, including provincial, national and international strategies. Contributory factors to decline and extinction are discussed, as are various recovery programs. Prerequisite: ENCS 364, or consent of Instructor. [Renewable Resources]

ENCS 465 Environmental and Conservation Field Studies

★3 (fi 6) (either term, variable). Field trip studies with a focus on environmental and conservation biology topics. Course content and offerings vary from year to year, and have included study trips on Northern Ecosystems, National Parks, and Protected Areas, Arctic Tundra, the Florida Everglades, and Galapagos Islands. Prerequisite: ★9 in biological or ecological topics. 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. [Renewable Resources]

ENCS 467 Methods of Environmental Interpretation and Communication

★3 (fi 6) (second term, 3-0-0). Methods of communicating environmentally relevant subject matter to a broad audience. Includes discussion of guided walks, in-person presentations, brochures, visitor centers, exhibits, signs, magazine articles, books, video production, media relations skills, websites and ecotourism. [Renewable Resources]

ENCS 471 Practical Case Studies in Rangeland Management and Conservation

★3 (fi 6) (first term, 3-0-3). Cumulative effects of fire, grazing, browsing, and improvement practices on the productivity and species composition of range and pasture ecosystems, including management implications. Extended field trip prior to the start of classes. Offered in alternate years commencing 2001-02. Graduate students may not register for credit (see AFNS 572). Credit will only be given for one of AFNS 572 and ENCS 471. Prerequisite: ENCS 356. ENCS 406 strongly recommended. [Agricultural, Food and Nutritional Science]

ENCS 473 Environmental and Conservation Policy

★3 (fi 6) (either term, 3-0-0). An overview of principles and programs relating to environmental and conservation policy. Selected local, national, and international environmental policy issues. Prerequisite: One of the following: AREC 200, FOREC 345, INT D 365, AREC 365, ECON 365, INT D 369 ECON 369. [Rural Economy]

ENCS 474 Utilization of Wildlife Resources

★3 (fi 6) (first term, 3-0-1). Issues, principles and science surrounding sustainable use of wildlife resources. Hunting, angling and trapping for subsistence, recreational and commercial purposes. Sociopolitical dimensions of harvest regulation, wildlife administration, and human demographic changes. Field trips. 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: minimum of ★6 of Renewable Resources or Biological Sciences courses at the 300-level or higher. [Renewable Resources]

ENCS 475 Waste Management and Utilization

★3 (fi 6) (second term, 3-3s-0). Chemical, biological, and physical properties of anthropogenic wastes, their reactions in the soil environment, theory and practice for their chemical and biological immobilization and use in agriculture, forest, and urban lands. Prerequisites: consent of Instructor, must have completed at least ★60 at the university-level. [Renewable Resources]

ENCS 476 Dynamics of Wildlife and Rangeland Ecosystems

★3 (fi 6) (second term, 3-0-3). Plant-herbivore interactions and grazing systems management. Systems analysis, simulation modelling, expert systems, and other computer applications in wildlife and range management. Prerequisites: ★60 at the university level with at least ★6 in Biology or Ecology. [Renewable Resources]

Graduate Courses

Note: 400-level courses listed under ENCS, FOR, INT D, REN R or SOILS and offered by the Department of Renewable Resources may be taken for graduate credit under certain circumstances. (See 205.67.1).

ENCS 510 Wetland Resource Management

★3 (fi 6) (second term, 0-3s-0). An in-depth, seminar treatment of wetland ecology principles supplemented with student led discussion of wetland issues,

management and current research drawn from local, regional and international sources. The course objective is to apply ecological bases of wetland ecology to understanding, developing and critiquing wetland management prescriptions. Prerequisite: consent of Instructor. [Renewable Resources]

ENCS 564 Advanced Topics in Wildlife Ecology and Conservation

★3 (*fi 6*) (second term, 0-3s-0). A seminar course based on current readings and discussion in advanced, topical areas of wildlife ecology and conservation. Discussions will cover conceptual and methodological aspects in a wide range of areas. Prerequisites: ENCS 364 and 464, and/or consent of Instructor. Offered in alternate years, commencing 2003. [Renewable Resources]

ENCS 673 Environmental and Conservation Policy

★3 (*fi 6*) (either term, 3-0-0). An overview of principles and programs relating to environmental and conservation policy. Selected local, national, and international environmental policy issues. Prerequisite: One of the following: AREC 200, FOREC 345, INT D 365, AREC 365, ECON 365, INT D 369, ECON 369. Not available for students with credit in ENCS 473. Available only to students in MBA/MAG, MBA/MF, MBA in Natural Resource and Energy Programs, or by consent of Department. [Rural Economy]

231.127 Environmental Engineering, ENV E

Department of Civil and Environmental Engineering
Faculty of Engineering

The following courses were renumbered effective 2001-02:

Old	New
ENV E 402	ENV E 302
ENV E 422	ENV E 322

Undergraduate Courses

ENV E 220 Environmental Chemistry for Engineering

★3.8 (*fi 6*) (either term, 3-0-3/2). Survey of basic principles in analytical, inorganic, and organic chemistry with emphasis on environmental engineering applications. Laboratory measurements related to water quality. Prerequisite: CHEM 105.

ENV E 222 Chemical and Physical Processes

★3.8 (*fi 6*) (either term, 3-0-3/2). Theory of chemical and physical processes in environmental engineering. Chemical kinetics and equilibrium, reactor design, sedimentation, filtration, adsorption, precipitation and gas transfer. Prerequisite: ENV E 220.

ENV E 302 Environmental Impact Assessment

★2.5 (*fi 6*) (either term, 2-1s-0). Need and objectives of environmental impact assessment (EIA). Basic tasks and methods for need justification, project description, environmental factor determination, impact prediction, significance testing, mitigation design, evaluation, reporting, and public review. Review of impacts of different types of engineering projects and activities. Either Prerequisite: ENV E 222 or Co-requisite: MIN E 413.

ENV E 320 Environmental Hydrology

★3.8 (*fi 6*) (either term, 3-0-3/2). Introduction to concepts in hydrology and hydrogeology. Hydrology topics include precipitation, evaporation, infiltration, streamflow, and hydrograph analysis. Hydrogeology topics include infiltration, percolation, seepage, drainage, aquifer hydraulics, and urban runoff quality. Prerequisite: CIV E 330; Corequisite: CIV E 331.

ENV E 322 Environmental Protection

★3 (*fi 6*) (either term, 3-0-0). Principles and methods of environmental protection for the engineering profession. Choice of technology, design of engineering projects, emission controls, mitigation and monitoring, environmental management plans. Federal and provincial environment legislation, professional engineering codes. Environmental policies and their effects on engineering design. Environmental management plans and issues. Prerequisite: ENV E 220.

ENV E 323 Principles of Air Quality Management and Control

★3 (*fi 6*) (first term, 3-0-0). A first course on air quality and air pollution, dealing with: types of gaseous and particulate pollutants and their sources, effects of air pollution on man, vegetation, and materials, indoor air pollution, sampling and analysis of air pollutants, air pollution meteorology and dispersion, control techniques for gaseous and particulate pollutants, and air quality management aspects. Prerequisite: ENV E 222.

ENV E 324 Biological Processes

★3.8 (*fi 6*) (second term, 3-0-3/2). The application of biological processes in the treatment of water, wastewater and solid wastes. Includes development of microorganism growth and substrate use models, treatment process theory, pre-design of unit processes and operations. Lectures cover aerobic, facultative and anaerobic processes in suspended and attached growth system. Prerequisite: ENV E 222.

ENV E 351 Properties of Environmental Engineering Materials

★3.8 (*fi 6*) (either term, 3-0-3/2). Study of materials used in environmental

engineering including traditional engineering materials such as soil and rock, concrete, steel, and wood but extending the coverage to man made materials such as plastics, textiles, membranes, composites, resins, and polymers. Prerequisite: EAS 210 and CIV E 270. Corequisite: CIV E 290.

ENV E 400 Advanced Environmental Engineering I

★3 (*fi 6*) (first term, 3-0-0). Industrial waste management, or hazardous waste management, or air pollution, or soil/groundwater pollution, etc. Prerequisite: ENV E 222; corequisite: ENV E 322.

ENV E 401 Advanced Environmental Engineering II

★3 (*fi 6*) (either term, 3-0-0). Application of advanced treatment processes in air, water and solid systems. Will include development of membrane biological reactor designs, advanced oxidation processes, soil/sediment and hazardous waste remediation techniques, odour reduction and leachate treatment processes. Prerequisite: ENV E 324.

ENV E 421 Municipal Systems

★3.8 (*fi 6*) (either term, 3-0-3/2). Detailed and advanced design of water supply systems, sewerage, and storm drains. Rates of flow and hydraulics of networks and sewers, rainfall-runoff analysis, storm water storage, and loads on conduits. Extensive computer simulation of systems. Prerequisites: ENV E 324 or CIV E 321, CIV E 331; Co-requisite ENV E 320 or CIV E 433.

ENV E 432 Solid Waste Management

★3 (*fi 6*) (either term, 3-0-0). Principles of solid waste management to protect public health. Study of solid waste components, refuse collection, storage, and handling. Design and operation of solid waste transfer and disposal facilities including transfer stations, resource recovery and composting facilities, incinerators, and landfills. Prerequisites: ENV E 324 and 351.

ENV E 434 Environmental Geotechnics

★3 (*fi 6*) (either term, 3-0-0). Design of soil waste containment systems; stability of natural slopes, engineered cuts and embankments; earth pressure theories; design of retaining structures and pressures on buried pipes; settlement of earth containment structures and foundations; load-carrying capacity of foundations; design for filtration, separation, containment, and reinforcement using geosynthetics. Prerequisites: CIV E 381 and ENV E 351.

ENV E 440 Facility Design

★4.5 (*fi 6*) (either term, 3-0-3). Design and planning of water supply, water and wastewater treatment, storm water management, and solid waste facilities. Course includes major design projects, field trips, and presentations. Students work in teams on a design project. Prerequisites: ENV E 324, 421 and either 400 or 401.

ENV E 471 Elements of Structural Design

★3.8 (*fi 6*) (either term, 3-0-3/2). Structural design principles in steel and concrete as applied to environmental engineering type structures such as pipes, tanks, beams, columns, slabs, and foundations. Prerequisite: CIV E 270.

231.128 Environmental Physical Sciences, ENVPS

Departments of Chemistry; Earth and Atmospheric Sciences; and Physics
Faculty of Science

Undergraduate Courses

ENVPS 403 Industrial Internship Practicum

★3 (*fi 6*) (first term, 0-3s-0). Required by all students who have just completed an Environmental Physical Sciences Industrial Internship Program. Must be completed during the first academic term following return to full-time studies. Note: A grade of F or A+ will be determined by the student's job performance as evaluated by the employer, by the student's performance in the completion of an internship practicum report, and by the student's ability demonstrated in an oral presentation. Prerequisite: WKEXP 422 or 423.

231.129 Espagnol, ESPA

Faculté Saint-Jean

Cours de 1er cycle

ESPA 100 Espagnol langue seconde

★6 (*fi 12*) (aux deux semestres, 5-0-0). Études des éléments et des structures de base de l'espagnol parlé et écrit. Note: Ce cours se destine aux étudiants qui n'ont aucune connaissance de la langue espagnole. Il n'est pas accessible aux étudiants ayant ou postulants des crédits pour Spanish 35, SPAN 100 ou leurs équivalents. Priorité est donnée aux étudiants de la Faculté Saint-Jean.

ESPA 200 Espagnol language seconde (cours intermédiaire)

★3 (*fi 6*) (l'un ou l'autre semestre, 4-0-0). Il comprend les aspects suivants:

développement intensif de la compréhension, correction phonétique, révision et renforcement des structures grammaticales, des lectures et discussions de textes, et le développement de la capacité de compréhension et de rédaction. Le cours vise également à étudier les différents aspects de la culture et de la civilisation hispanique. Ce cours s'adresse aux étudiants ayant des compétences en français. Préalable(s) : Spanish 30, ESPA 100 ou SPAN 111 et SPAN 112. Ce cours n'est pas accessible à ceux ayant suivi SPAN 211.

231.130 Etudes canadiennes, ETCAN

Faculté Saint-Jean

Les cours M EDU sont réservés aux étudiants inscrits dans un programme de 2e ou de 3e cycle.

Cours de 1er cycle

O ETCAN 101 Introduction à l'étude du Canada

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Présente un survol de la vie au Canada dans sa spécificité, pouvant inclure les aspects artistique, culturel, politique, social, et économique; introduit au champ interdisciplinaire des Etudes canadiennes.

O ETCAN 330 Les francophonies canadiennes et acadiennes I : perspectives historiques et culturelles

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Les fondements et l'évolution des communautés francophones et acadiennes du Canada, du Régime français à aujourd'hui, par l'étude de textes littéraires, historiographiques et ethnologiques. Un aperçu de leurs traditions orales, de leurs pratiques culturelles et de leurs rapports avec les cultures avoisinantes : Autochtones, Loyalistes, Irlandais, etc. Note : Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour ETCAN 322 et CA FR 320.

O 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.

O ETCAN 360 La question nationale au Canada

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Une étude des nationalismes canadien/Canadien, québécois et amérindiens, dans les traditions politiques, intellectuelles et artistiques du Canada. Préalable(s): ★6 à sigle ETCAN ou à contenu canadien dans les disciplines suivantes: économie, histoire, science politique, sociologie; ou l'approbation du Vice-doyen aux affaires académiques.

O ETCAN 414 Littératures Canadiennes

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Étude d'oeuvres en littératures canadiennes (incluant roman, poésie, dramaturgie, etc.) d'expression française et d'expression anglaise. Contexte sociohistorique et signification pour les études sur le Canada.

O ETCAN 421 Langue et gouvernement au Canada

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Une étude de la diversité linguistique au Canada et de son impact sur les politiques et les institutions de gouvernement. Les thèmes comprennent le contact des langues, le maintien d'une langue, la mobilisation ethnique, les politiques linguistiques. Analyse approfondie de la législation en matière de langue et de l'utilisation des langues au sein des assemblées législatives, des fonctions publiques, des tribunaux et des écoles. Préalable(s): SC PO 220 ou l'approbation du Vice-doyen aux affaires académiques.

O ETCAN 450 Enjeux canadiens actuels

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Un examen interdisciplinaire d'enjeux choisis dans les domaines culturel, économique, politique et social, auxquels le Canada fait actuellement face. Préalable(s): ★6 à contenu canadien de niveau 300 ou 400, dont au moins ★3 à sigle ETCAN.

Cours de 2e cycle

O ETCAN 500 Méthodologies interdisciplinaire et multidisciplinaire

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Introduction à l'interdisciplinarité et à la multidisciplinarité comme méthodologies de recherche. Possibilités et limites de telles approches méthodologiques. Critiques des méthodologies de recherche du point de vue de l'interdisciplinarité et de la multidisciplinarité et application à des exemples canadiens.

O ETCAN 501 Méthodologies de recherche

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Préparation à la définition de la problématique de recherche choisie. Les étudiants seront invités à définir dans ce séminaire leur problème de recherche et à illustrer leur choix par des exemples tirés de la société canadienne en fonction d'une approche interdisciplinaire ou multidisciplinaire.

O ETCAN 504 Enjeux canadiens

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Analyse critique des enjeux portant sur le Canada. Culture et institutions en relation avec les contextes historiques et sociaux. Relations et conflits socio-politiques. Relations de sexe/genre, race, langue et classes. Nationalisme, régionalisme et mondialisation. Relations économie, société et Etat.

O ETCAN 508 Séminaire d'Études canadiennes I

★3 (fi 6) (l'un ou l'autre semestre, 0-3s-0). Le contenu varie d'une année à l'autre. Les sujets sont annoncés avant la période d'inscription.

O ETCAN 510 Séminaire d'Études canadiennes II

★3 (fi 6) (l'un ou l'autre semestre, 0-3s-0). Le contenu varie d'une année à l'autre. Les sujets sont annoncés avant la période d'inscription.

O ETCAN 512 Les grandes oeuvres en Études canadiennes

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Etude de textes fondateurs dans les différentes disciplines des Etudes canadiennes. Contexte historique et impact sur les études sur le Canada.

O ETCAN 513 Thèmes choisis en études canadiennes I

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

O ETCAN 515 Thèmes choisis en études canadiennes II

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

231.131 Etudes de la religion, ET RE

Faculté Saint-Jean

Cours de 1er cycle

O ET RE 102 Introduction aux religions de l'Occident

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Parcours historique des religions juudaïque, chrétienne et islamique.

O ET RE 103 Introduction aux religions de l'Asie

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Parcours historique des religions hindouiste, bouddhiste, confucianiste et shintoïste

O ET RE 248 La tradition chrétienne

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Les thèmes classiques de la chrétienté depuis le Nouveau Testament jusqu'à nos jours: le message de Jésus-Christ, le kerygme, la hiérarchie de l'église, l'évolution de la doctrine, le canon des Saintes Ecritures, l'Eglise et l'Etat, les Saintes Ecritures et leur interprétation.

231.132 Etudes interdisciplinaires, ETIN

Faculté Saint-Jean

Cours de 1er cycle

O ETIN 400 Stage I de recherche appliquée

★3 (fi 6) (l'un ou l'autre semestre, 100 heures). Stage de recherche appliquée dans le milieu de travail gouvernemental ou professionnel. Formation en recherche, administration, relations publiques et autres. Préalable(s) : une moyenne de 3,0. Les stagiaires sont sélectionnés en fonction de la qualité de leur dossier et du nombre de places disponibles. Les demandes doivent être soumises auprès du Vice-doyen académique.

O ETIN 450 Stage II de recherche appliquée

★3 (fi 6) (l'un ou l'autre semestre, 100 heures). Stage de recherche appliquée dans le milieu de travail gouvernemental ou professionnel. Formation continue en recherche, administration, relations publiques et autres. Préalable(s) : une moyenne de 3,0 et ETIN 400. Les stagiaires sont sélectionnés en fonction de la qualité de leur dossier et du nombre de places disponibles. Les demandes doivent être soumises auprès du Vice-doyen académique.

231.133 Exchange Program, EXCH

Education Abroad Program

Undergraduate Courses

O EXCH 800 Exchange Program

★0 (fi 60) (two term, unassigned).

O EXCH 801 Exchange Program

★0 (fi 30) (either term, unassigned).

O EXCH 810 Exchange Program

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

O EXCH 811 Exchange Program

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

EXCH 812 Exchange Program

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

EXCH 813 Exchange Program

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

Graduate Courses**EXCH 802 Exchange Program**

★0 (fi 6) (either term, unassigned).

EXCH 803 Exchange Program

★0 (fi 12) (either term, unassigned).

EXCH 804 Exchange Program

★0 (fi 18) (either term, unassigned).

EXCH 805 Exchange Program

★0 (fi 24) (either term, unassigned).

231.134 Extension, EXT

Faculty of Extension

Graduate Courses

For more information, email mact@ualberta.ca or visit our website at www.extension.ualberta.ca/mact or phone (780) 492-1501.

EXT 501 Applied Research in Communications and Technology

★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.

EXT 502 Human Communication

★3 (fi 6) (Spring/Summer, 3-0-0). Survey of classic theories and emerging perspectives in communication studies. Emphasizes the development of skills for analyzing and understanding communication in context. Restricted to MACT students, normally in the first year. Offered during the Spring Institute.

EXT 503 Group Transactions

★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.

EXT 504 Organizational Communications

★3 (fi 6) (either term, unassigned). This course deals with both internal communications (formal and informal) within an organization, and external communications (public relations, media relations, print and multimedia communications). Brief survey of the field of organizational analysis, with focus on marketing, clear language writing, rhetoric, public speaking, and writing for new media (e.g. hypertext). Restricted to MACT students. Course delivered by asynchronous Internet communication.

EXT 505 Using and Managing Communications Technologies

★3 (fi 6) (first term, 3-0-0). Covers historical issues associated with the rise of selected communications technologies and considers the management issues of competitive strategy, organizational structure, and software/hardware selection as these may be applied to communications technologies in the organization. Restricted to MACT students, normally in the first year. Offered by asynchronous Internet communication.

EXT 506 Using and Managing Communications Networks

★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 options that are created by the establishment of organizational networks. Restricted to MACT students, normally in the second year. Offered during the Spring Institute.

EXT 507 Knowledge Management and Communications Technologies

★3 (fi 6) (first term, 3-0-0). Explores managing knowledge from an organizational perspective. Covers knowledge-management technologies and tools, as well as emerging issues and trends. Restricted to MACT students, normally in the second year. Offered by asynchronous Internet communication.

EXT 508 Culminating Project

★6 (fi 12) (two term, unassigned). Under supervision, students undertake a project that addresses some practical problem, issue, or objective related to communications and technology. Restricted to MACT students. Course delivered by asynchronous Internet communication.

EXT 550 Introduction to Electronic Commerce

★3 (fi 6) (either term, unassigned). An introduction to the concepts, technologies,

and functions of electronic commerce. Considers the organizational implications of electronic commerce as a broad shift in how transactions are completed in the marketplace. Offered by asynchronous Internet communication.

EXT 551 Understanding Computing Projects: Application, Design and Project Management Issues for Communications Professionals

★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.

EXT 552 Intellectual Property: The Copyright Component

★3 (fi 6) (either term, unassigned). An introduction to intellectual property with emphasis on Canadian copyright law as it applies to the development of multimedia projects. Examines the protection provided by trademarks, patents, and copyright for such media as digital photographs, logos, and inventions. Offered by asynchronous Internet communication. Students may not receive credit for both EXT 552 and EXT 597 titled Intellectual Property: The Copyright Component.

EXT 553 Facilitating Communication and Understanding Through Utilization-Based Evaluation

★3 (fi 6) (either term, unassigned). Senior seminar course examining the use of evaluation within various organizational contexts, with an emphasis on survey and focus-group methods. Student activities include development of an evaluation plan. Offered by asynchronous Internet communication. Students may not receive credit for both EXT 553 and EXT 597 titled Facilitating Communications and Understanding through Utilization-Focused Evaluation.

EXT 597 Topics in Communications and Technology

★3 (fi 6) (either term, unassigned). An elective course on selected topics in communications and technology. Offered by asynchronous Internet communication.

EXT 598 Directed Study in Communications and Technology

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

231.135 Famille, FA MI

Faculté Saint-Jean

Cours de 1er cycle**FA MI 333 Ecole, famille, communauté**

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Analyse des problèmes que les besoins changeants de la famille et de la communauté posent à l'école (contexte francophone minoritaire/immersion française).

231.136 Family Medicine, F MEDDepartment of Family Medicine
Faculty of Medicine and Dentistry**Notes**

- (1) Family Medicine is included in MED 516, 526, 527, 532, 546, and 547 and DMED 511.
- (2) The Department of Family Medicine is responsible for the Human Sexuality component of MED 526 offered within the Faculty of Medicine and Dentistry.

Undergraduate Courses**F MED 546 Rural Family Medicine Student Internship**

★4 (fi 8) (either term, 4 weeks). Student internship in Rural Family Medicine for students registered in the MD program.

F MED 556 Urban Family Medicine Student Internship

★3 (fi 6) (either term, 3 weeks). Student Internship in Urban Family Medicine for students registered in the MD Program.

231.137 Film Studies, FSDepartment of English and Film Studies
Faculty of Arts**Undergraduate Courses****FS 200 Introduction to Global Film History**

★6 (fi 12) (two term, 3-0-3). A survey of major developments in the history of global film aesthetics and production. Prerequisites: ★6 in English at the 100-level,

or ART H 101 and 102, or C LIT 100, or 201 and 202, or PHIL 101 and 102. Note: only FS 200 and 205 are available for Fine Arts credit. Formerly FMS 200.

FS 205 Introduction to Film Analysis

★3 (fi 6) (either term, 3-0-3). Introduction to basic formal concepts in and theoretical approaches to film analysis. Prerequisites: ★6 in English at the 100-level, or ART H 101 and 102, or C LIT 100, or 201 and 202, or PHIL 101 and 102. Note: only FS 200 and FS 205 are available for Fine Arts credit. Formerly FMS 205.

FS 297 Special Topics in Film Studies

★3 (fi 6) (either term, 0-3s-0). Formerly FMS 297.

FS 301 The Art of the Filmmaker

★6 (fi 12) (two term, 3-0-3). The course explores in detail the work of four or five filmmakers whose contributions have been central to the medium. Study will focus on the notion of style in film and on the articulation of themes and ideas through cinematic technique. Pre- or corequisite: FS 200 or 205 or consent of Department. Formerly FMS 301.

FS 309 Québécois Cinema

★3 (fi 6) (either term, 3-0-3). History and aesthetic developments from the 1960s to present. Pre- or corequisite FS 200 or 205 or consent of Department. Formerly FMS 309.

FS 310 Canadian Film

★3 (fi 6) (either term, 3-0-3). Major trends in both English and French Canadian film, such as documentary, feature film, animation, and experimental film. Pre- or corequisite: FS 200 or 205 or consent of Department. Formerly FMS 310.

FS 311 The Hollywood Film I: Cultural Models, Narrative Strategies and the History of the Industry

★3 (fi 6) (either term, 3-0-3). A history of the American commercial film industry together with a consideration of selected Hollywood films as social cultural and aesthetic artifacts. Pre- or corequisite: FS 200 or 205 or consent of Department. Formerly FMS 311.

FS 312 The Hollywood Film II: Genre

★3 (fi 6) (either term, 3-0-3). The narrative patterns and cultural mythology of well defined genres (e.g. the Western, the Crime Film, the 'Women's Picture,' the Horror Film). Pre- or corequisite: FS 200 or 205 or consent of Department. Formerly FMS 312.

FS 314 Film and the Representation of Women

★3 (fi 6) (either term, 3-0-3). An examination of the ways in which the representation of women has contributed to both the construction and the dismantling of gender stereotypes of women in the twentieth century. Pre- or corequisite: FS 200 or 205 or consent of Department. Formerly FMS 314.

FS 330 Documentary Film

★3 (fi 6) (either term, 3-0-3). Theory and history of the documentary film, with emphasis on Flaherty, the Documentary Movement in Britain, the National Film Board of Canada, and recent developments in the field. Pre- or corequisite: FS 200 or 205 or consent of Department. Formerly FMS 330.

FS 333 Experimental Film

★3 (fi 6) (either term, 3-0-3). Avant-garde, abstract and structural film. The history and changing conceptions of experimental film, with examples from the silent era to the present. Pre- or corequisite: FS 200 or 205 or consent of Department. Formerly INT D 401. Formerly FMS 333.

FS 361 Third World Cinema

★3 (fi 6) (either term, 3-0-3). The course will examine a selection of films from Africa, Latin America, South and East Asia and the Middle East. Emphasis will be on cultural and socio-political context of film production and the often militant aesthetics of the filmmakers. Pre- or corequisite: FS 200 or 205 or consent of Department. Formerly FMS 361.

FS 362 The French New Wave

★3 (fi 6) (either term, 3-0-3). An historical and critical study of the body of films which began to take shape in the late 1950s around the influential journal *Cahiers du cinéma*, and which revolutionized filmmaking around the world. Attention will be given to situate the work of Godard, Truffaut, Chabrol, Rivette, and Rohmer (as well as *Nouvelle vague* forerunners Resnais and Melville) within the tradition surrounding Realism, Modernism, and Avant-Garde. Pre- or corequisite: FS 200 or 205 or consent of Department. Formerly FMS 362.

FS 364 Asian Popular Cinemas

★3 (fi 6) (either term, 3-0-3). Explores the circulation of national-popular traditions within international contexts of East, South, and Southeast Asian cinemas such as India, Japan, China, Hong Kong, Indonesia. Pre- or corequisite: FS 200 or 205 or consent of Department. Formerly FMS 364.

FS 371 Contemporary American Cinema

★3 (fi 6) (either term, 3-0-3). Concentrating on American filmmaking since the 1960s, the course will focus on a selection of films which trace the rise of Postmodernism in contemporary American culture. Special attention will be given to defining Postmodernism and to situate it historically within the development

of American cinema. Pre- or corequisite: FS 200 or 205 or consent of Program. Formerly FMS 371.

FS 397 Special Topics in Film Studies

★3 (fi 6) (either term, 0-3s-0).

FS 399 Special Topics in Film Studies

★3 (fi 6) (either term, 3-0-3). Pre- or corequisite: FS 200 or 205 or consent of Department. Formerly FMS 399.

FS 401 Classical Film Theory

★3 (fi 6) (either term, 3-0-3). From the silent film paradigm through French, Soviet, and German theories in the 1920s and 1930s, up to and including ontological theories of Bazin, Kracauer, Mitry, and Cavell. Prerequisites: FS 200 or 205 and one FS 300-level course, or consent of Department. Formerly INT D 401. Formerly FMS 401.

FS 402 Modern Film Theory

★3 (fi 6) (either term, 3-0-3). Theories of ideology, narration, gender, sexuality, and race since 1968, with particular attention to the discourses of structuralism, semiotics, psychoanalysis, feminism, and postmodernism. Prerequisites: FS 200 or 205 and one FS 300-level course, or consent of Department. Formerly FMS 402.

FS 403 Genre Theory

★3 (fi 6) (either term, 0-3s-1). Advanced study in genre theory. Examines the notion of genre and its relevance as a theoretical and critical tool for the study of film. Prerequisites: FS 200 or 205 and ★3 in FS or consent of Department. Formerly FMS 403.

FS 406 Mass Culture and Everyday Life

★3 (fi 6) (either term, 3-0-3). Social theories of daily life in the 20th century, with particular attention to how experiences of time, space, and identity have been transformed by commodities, urban space, technology, and mass communication. Prerequisites: FS 200 or 205 or FS 210 or SOC 344 and one FS 300-level course or consent of Department. Formerly FMS 406.

FS 409 Special Topics in Film Theory

★3 (fi 6) (either term, 3-0-3). Prerequisites: FS 200 or 205, or FS 210 or SOC 344 and one FS 300-level course or consent of Department. Formerly FMS 409.

FS 410 Filmmakers

★3 (fi 6) (either term, 0-3s-3). Concentrated study of the works of individual filmmakers. The course will deal with one to three important filmmakers through representative films. Prerequisites: FS 200 or 205 and one FS 300-level course or consent of Department. Formerly FMS 410.

FS 412 Topics in Film Studies

★3 (fi 6) (either term, variable). A seminar-based examination of specialized topics in film. Prerequisites: FS 200 or 205 and one FS 300-level course or consent of Department. Formerly FMS 412.

FS 414 Topics in Film and Gender

★3 (fi 6) (either term, 3-0-3). Seminar-based examination of specialized topics in film and gender. Note: Variable content course which may be repeated. Formerly FMS 414.

FS 480 Directed Reading in Film

★3-6 (variable) (variable, 3-0-0). Prerequisite: consent of Department. Formerly FMS 480.

FS 497 Special Topics in Film Studies

★3 (fi 6) (either term, 0-3s-0). Formerly FMS 497.

Graduate Courses

FS 510 Selected Topics in Film

★3 (fi 6) (either term, 3-0-0).

FS 521 Directed Reading Course I

★3 (fi 6) (either term, 3-0-0).

FS 522 Directed Reading Course II

★3 (fi 6) (either term, 3-0-0).

231.138 Finance, FIN

Department of Finance and Management Science
Faculty of Business

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

Undergraduate Courses

FIN 301 Introduction to Finance

★3 (fi 6) (either term, 3-1s-0). Types of securities and basic methods of valuation.

Valuation and selection of physical and intellectual assets. Operation of asset markets and market efficiency. Risk measures and risk reduction methods. Financing policy, including choices between debt and equity financing. Note: Students are expected to have basic familiarity with microcomputer applications. Prerequisite: STAT 151 or equivalent. Pre- or corequisite: MGTSC 312, ACCTG 300 or 311.

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. Pre- or corequisite: MGTSC 352.

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 416 Advanced Portfolio Management

★3 (fi 6) (either term, 3-0-0). Recent theoretical and empirical developments in portfolio management are covered with an emphasis on investment strategy and the evaluation of investment performance. A student project makes extensive use of microcomputing, spreadsheets and financial market data. Prerequisite: FIN 301, 412.

FIN 418 Fixed Income

★3 (fi 6) (either term, 3-0-0). The valuation and management of interest-rate contracts. The main focus is on the behaviour of bond portfolios and related risk-management techniques. The institutional features of North American fixed-income markets complete the course. Prerequisites: FIN 301, 412.

FIN 422 Capital Investment

★3 (fi 6) (either term, 3-0-0). Capital budgeting and the determination of the cost of capital to the firm. Prerequisite: FIN 301. Pre- or corequisite: MGTSC 352.

FIN 434 Advanced Corporate Finance

★3 (fi 6) (either term, 3-0-0). This course covers advanced topics in corporate finance such as capital structure, dividend policy, asset selection, agency problems, mergers and acquisitions. Prerequisite: FIN 301. Pre- or corequisite: MGTSC 352.

FIN 436 Investment Management

★3 (fi 6) (either term, 3-0-0). This course provides students with experience managing an institutional asset portfolio, the PRIME FUND. Students interact with investment professionals in making asset acquisition and divestiture decisions within the institutional framework of the fund. This course draws on and unifies skills related to investment analysis and portfolio theory. It combines traditional academic objectives with the practical demands of hands-on investment analysis and portfolio management. The students learn by actually using the tools of the trade. These include printed materials, real-time computerized sources of information and, most importantly, access to practising analysts and managers. Students also learn about the differences between institutional and personal investment decisions, the mechanics of trading, the different providers of trading services, and cash management. Prerequisites: FIN 412, 416. Open only to students with the consent of the Department.

FIN 442 International Financial Markets

★3 (fi 6) (either term, 3-0-0). An overview of the international financial environment and the financial function in the multinational corporation. Its purpose is to provide decision-making skills in international money and capital markets. Prerequisite: FIN 301.

FIN 480 Honours Essay in Finance

★3 (fi 6) (second term, 3-0-0). Preparation of the honours essay required for students in the Finance Honours program. Prerequisite: consent of the Department.

FIN 488 Selected Topics in Finance

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

FIN 491 Finance Competition Part II

★1.5 (fi 3) (either term, 0-1.5s-0). Completion of Student Competition in Finance. Prerequisite: FIN 490 and consent of Instructor.

FIN 495 Individual Research Project I

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

FIN 496 Individual Research Project II

★3 (fi 6) (either term, 3-0-0). Special Study for advanced undergraduates.

Prerequisites: FIN 495, consent of Instructor and Assistant Dean, Undergraduate Program.

FIN 497 Individual Research Project III

★3 (fi 6) (either term, 3-0-0). Special Study for advanced undergraduates. Prerequisites: FIN 496, consent of the Instructor and Assistant Dean, Undergraduate Program.

Graduate Courses

FIN 501 Financial Valuation and Management

★3 (fi 6) (either term, 3-0-0). Fundamental concepts in asset valuation are discussed within the context of simple asset pricing models and efficient financial markets. This course introduces the valuation of financial assets such as bonds and stocks. Further topics include the issuing of financial securities, leverage, dividend policy, cash management, and derivative securities. Prerequisites: ACCTG 501, BUEC 501, MGTSC 511, and MGTSC 521.

FIN 614 Investments

★3 (fi 6) (either term, 3-0-0). This course is concerned with investment in stocks, bonds and other financial assets. Topics include, but are not limited to, interest rates, risk-return relationships, investment valuation, and market information and efficiency. Prerequisite: FIN 501.

FIN 616 Securities Markets and Investment Banking

★3 (fi 6) (either term, 3-0-0). This course is concerned with the structure and operations of securities markets. Specifically, the course will cover the market for government securities, the organization and changing structure of investment dealers, underwriting compensation, merits of issuing securities through negotiation versus competitive bidding, right versus underwriting, direct placement, and the role of investment dealers in pricing new issues. In addition, the organization of secondary markets, pricing of brokerage and dealer services, relative merits of organizing trading in the form of a continuous auction vis-a-vis a negotiated market, and the economics of money management will be studied. Prerequisite: FIN 501.

FIN 634 Corporate Financial Planning

★3 (fi 6) (either term, 3-0-0). Advanced discussion of asset choice and financial structure. Supplemental case study. Prerequisite: FIN 501.

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.

FIN 644 International Finance

★3 (fi 6) (either term, 3-0-0). The objective of this course is to acquaint students with macro and micro aspects of international finance. At the macro level coverage will include theories of direct investment, the international monetary mechanism, foreign exchange markets, and repercussions from balance of payments difficulties. Micro level materials will include problems of doing business internationally and a survey of public and private foreign and international finance institutions. The final part of the course will review Canada's role in international business. Prerequisite: FIN 501.

FIN 654 Risk Management

★3 (fi 6) (either term, 3-0-0). Futures, options, and other derivative securities. Markets, valuation models, application to risk management through hedging, and the application of pricing models to the valuation of financial contracts. Prerequisite: FIN 501.

FIN 673 Mergers, Restructuring, and Corporate Control

★3 (fi 6) (either term, 3-0-0). Financial and economic aspects of corporate mergers, restructuring, downsizing, and bankruptcy are examined. Relations between corporate structure and performance are investigated. Specific attention is paid to the roles of top management and boards of directors. Special issues relating to privatization and restructuring in former socialist economies are studied. Prerequisite: FIN 501.

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.

FIN 701 Advanced Seminar in Finance I

★3 (fi 6) (either term, 3-0-0). Provides an introduction to theoretical and empirical work in asset pricing and market microstructure. Topics covered include market efficiency, time varying expected returns and volatility, tests of asset pricing models, and models and analysis of price formation. Prerequisite: Open to

doctoral students in the School of Business, the Department of Economics and the Program of Mathematical Finance. For all other students, written permission of instructor required. Approval of the Business PhD Program Director is also required for non-PhD students.

FIN 702 Advanced Seminar in Finance II

★3 (*fi 6*) (either term, 3-0-0). Introduces students to theoretical and empirical research in corporate finance. Potential topics include contracting theory, the theory of the firm, corporate governance, capital structure, and dividend policy. Prerequisite: Open to doctoral students in the School of Business, the Department of Economics and the Program of Mathematical Finance. For all other students, written permission of instructor required. Approval of the Business PhD Program Director is also required for non-PhD students.

FIN 703 Advanced Seminar in Finance III

★3 (*fi 6*) (either term, 3-0-0). Provides advanced mathematical coverage of important topics in finance. Potential topics include continuous-time models of asset pricing and portfolio choice, pricing and hedging of derivative securities, and the applications of contingent claim pricing models to the valuation of real assets and corporate liabilities. Prerequisite: Open to doctoral students in the School of Business, the Department of Economics and the Program of Mathematical Finance. For all other students, written permission of instructor required. Approval of the Business PhD Program Director is also required for non-PhD students.

FIN 704 Individual Research

★3 (*fi 6*) (either term, 3-0-0).

FIN 705 Research Seminar in Finance

★3 (*fi 6*) (two term, 3-0-0). This seminar is a single-term course offered over two terms. Members of the faculty and visiting speakers will often present their research. Advanced students are expected to present original work related to their doctoral theses. Other students will discuss and critique papers on the frontiers of current research. Pre- or corequisites: FIN 701, 702, and 703. Open to doctoral students in the School of Business, the Department of Economics and the Program of Mathematical Finance. For all other students, written permission of instructor required. Approval of the Business PhD Program Director is also required for non-PhD students.

FIN 815 Financial Analysis and Decision Making

★1.5 (*fi 16*) (second term, 18 hours). A week-long intensive course. Understanding cash flow analysis, short-term financing, pro formas, the assessment of financial performance, ratio analysis and the role of financial intermediaries. Restricted to Executive MBA students only.

FIN 830 Finance

★3 (*fi 32*) (second term, 3-0-0). Understanding valuation, capital markets, venture capital, international markets, and corporate risk management. Restricted to Executive MBA students only.

231.139 Forest Economics, FOREC

Department of Rural Economy
Faculty of Agricultural, Life and Environmental Sciences

Note: See also Agricultural and Resource Economics (AREC), Environmental and Conservation Sciences (ENCS), Interdisciplinary Undergraduate Courses (INT D), and Rural Sociology (R SOC) listings for related courses.

Undergraduate Courses

Note: See also INT D 565 for courses which are offered by more than one Department or Faculty and which may be taken as options or as a course in this discipline.

O FOREC 345 Economics of Forestry

★3 (*fi 6*) (first term, 3-0-0). Economic aspects of forest production, marketing, finance, and policy. Prerequisite: ECON 101.

FOREC 400 Special Topics

★3 (*fi 6*) (either term, 0-3s-0). Individual study. Study of a selected topic or problem requiring both written and oral reports. Prerequisite: consent of Department Chair.

O FOREC 473 Forest Policy

★3 (*fi 6*) (first term, 3-0-0). Analysis of forest resource policy formation and evaluation. Review of selected policies and programs provincially, nationally, and internationally. Analysis of current policy issues. Prerequisite: One of the following: AREC 200, FOREC 345, INT D 365, AREC 365, ECON 365, INT D 369, ECON 369. (Offered jointly by the Departments of Renewable Resources and Rural Economy.) [Rural Economy]

Graduate Courses

Note: Undergraduate course may be taken for credit by Graduate Students in Rural Economy: FOREC 473.

FOREC 500 Research Projects in Forest Economics

★3 (*fi 6*) (either term, 0-3s-0). Individual study. Investigations of a special problem involving field or library study and preparation of written reports. Prerequisite: consent of Department Chair.

O FOREC 545 Forest Resource Economics

★3 (*fi 6*) (either term, 3-0-0). Economic analysis of public policy issues and regulatory activities in the forestry sector. Analysis of the roles of institutions and property rights in regulating: timber supply (the harvesting and management of forest stocks and flows); the production and trade of forest products; the provision of multiple forest resources; and other forest policy issues. Prerequisite: consent of Instructor, ECON 481 recommended.

FOREC 600 Directed Studies

★3 (*fi 6*) (either term, 0-3s-0). Analysis of selected research problems and design or research projects in forest economics. Prerequisite: consent of Department Chair.

FOREC 673 Forest Policy

★3 (*fi 6*) (either term, 3-0-0). Analysis of forest resource policy formation and evaluation. Review of selected policies and programs provincially, nationally, and internationally. Analysis of current policy issues. Prerequisite: One of the following: AREC 200, FOREC 345, INT D 365 or AREC 365, INT D 369, ECON 369. Not available for students with credit in FOREC 473. Available only to students in MBA/MAG, MBA/MF, MBA in Natural Resource and Energy Programs, or by consent of Department. (Offered jointly by the Departments of Renewable Resources and Rural Economy.) [Rural Economy]

231.140 Forest Engineering, FOREN

Department of Renewable Resources
Faculty of Agricultural, Life and Environmental Sciences

Undergraduate Courses

L FOREN 335 General Forest Harvesting and Transportation

★3 (*fi 6*) (first term, 3-0-0). Harvesting and transportation methods and technologies as applied to wood-harvesting operations. This is a general course for Forestry students who desire a basic knowledge of current technologies used to conduct forest operations.

L FOREN 355 Wood Science and Utilization

★3 (*fi 6*) (second term, 3-0-3). The anatomy and identification of woods; biological, chemical, and physical properties of wood and its components. Lumber, pulp and paper, and reconstituted wood products technologies. Concept of integrated utilization.

Graduate Courses

FOREN 550 Problems in Forest Engineering

★3 (*fi 6*) (either term, 3-0-0). Directed study in forest engineering, including forest harvesting, road location and construction. Prerequisite: consent of Instructor.

231.141 Forest Science, FOR

Department of Renewable Resources
Faculty of Agricultural, Life and Environmental Sciences

Notes

- (1) See also Agricultural and Resource Economics (AREC), Animal Science (AN SC), Environmental and Conservation Sciences (ENCS), Forest Economics (FOREC), Forest Engineering (FOREN), Interdisciplinary Undergraduate Courses (INT D), Plant Science (PL SC), Renewable Resources (REN R), and Soil Science (SOILS) listings for related courses.
- (2) See also INT D 365 and 466 for courses which are offered by more than one Department or Faculty and which may be taken as options or as a course in this discipline.

The following courses were renumbered:

Old	New
FOR 302, 303 304	REN R 299

Undergraduate Courses

L FOR 100 Introduction to Forestry

★3 (*fi 6*) (first term, 3-0-0). A general introduction to trees and other forest plants, forest ecology, and forest land-use planning. Includes discussions of the relationships between recreation, water, wildlife, agriculture, range and timber to forest management policies and practices in Alberta and elsewhere. Not available for credit to BSc Forestry students.

L FOR 101 Introductory Forestry Field School

★0 (*fi 3*) (first term, 6 days). A general overview of the practice of Forestry.

This orientation includes an introduction to basic forest measurements, forest management practices, and will include tours of a number of major forest operations in Alberta. Course runs for six days just prior to Fall registration. 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.

L FOR 210 Forest Measurements

★3 (fi 6) (second term, 3-0-3). Principles and practices of measuring and estimating present and future fibre production of forest communities, including applications of statistics, sampling techniques, regression analysis, and computer programming. Prerequisites: MATH 113 or 114, and ★3 of statistics. Corequisite: REN R 110. 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.

L FOR 314 Forest Soils

★3 (fi 6) (second term, 3-0-3). Chemical, physical, and biological properties and processes of soil in relation to site and the growth of forest vegetation; nutrient cycling; influences of surface soil erosion, fertilization, and fire upon forest soil productivity; forest land classification. Prerequisite: SOILS 210. [Renewable Resources]

L FOR 322 Forest Ecosystems

★3 (fi 6) (first term, 3-0-3). Analysis of the structure and function of forest ecosystems from a stand to a landscape perspective. Topics include physical structure and heterogeneity, community composition, energy flow productivity, nutrient cycling, succession, ecosystem classification, impacts of natural and anthropogenic disturbance. Lab exercises during the first three weeks are held outside. 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: BIOL 208 or both (BIOL 108 and REN R 120) or consent of Instructor.

L FOR 323 Silviculture

★3 (fi 6) (first term, 3-0-3). Forest regeneration principles and techniques; stand tending including fertilization, thinning, pruning and drainage; harvesting systems for reforestation; nursery practices; reforestation, the law and current practices. 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: REN R 321.

L FOR 340 Forest Fire Management

★3 (fi 6) (second term, 3-0-0). Fire thermophysics, combustion energetics, fire behavior, fuels measurement and manipulation, and fire effects; prevention, detection, suppression, settlement protection, preattack planning, and prescribed burning as part of sophisticated forest management.

FOR 372 Forestry and the Environment

★3 (fi 6) (second term, 3-0-3). Introduction to forest ecology, forest resources and forest management for non-foresters. Examination of environmental issues and land use impacts associated with forestry practices and their resolution. A one day weekend field trip will be required. 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: third year University standing. Not open to forestry majors.

L FOR 405 Intermediate Forest Problems

★3 (fi 6) (either term, 0-3s-0). Individual study. Problems in specialized areas of forest science. Prerequisite: consent of Instructor.

L FOR 423 Advanced Silviculture

★3 (fi 6) (second term, 3-0-0). Readings, discussions and exercises on current topics in Silviculture. Possible topics include: forest microsites, forest competition, plantation forestry, partial-cut systems, or intensive management. Prerequisite: FOR 323.

L FOR 431 Integrated Forest Management

★3 (fi 6) (second term, 3-0-3). Problem solving, decision making and planning in relation to the management of forest resources. Application of models and related tools. Public involvement and issues management will be addressed. 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: REN R 299 (or FOR 302, 303, 304) and FOR 323 and REN R 430. Credit cannot be obtained for both CAPS 431 and FOR 431. (Offered jointly by the Departments of Renewable Resources and Rural Economy). [Renewable Resources]

FOR 433 Forest Growth and Yield Prediction

★3 (fi 6) (first term, 3-0-0). Selected topics in forest mensuration, regression analysis, growth and yield prediction. Sampling methods, growth models and data management. Prerequisite: FOR 210.

FOR 456 International Forestry

★3 (fi 6) (Spring/Summer, 12-15 days). A 12 to 15 day trip to a selected region is required as part of the course. Biophysical, social, historical and economic factors that influence forest management are examined; 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. 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.

Graduate Courses

Note: 400-level courses listed under ENCS, FOR, INT D, REN R or SOILS and offered by the Department of Renewable Resources may be taken for graduate credit under certain circumstances. (See §205.67.1)

L FOR 501 Special Topics in Forestry

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

L FOR 502 Problems in Forest Ecology

★3 (fi 6) (either term, 0-3s-0). Individual study. Directed study in forest ecology. Prerequisite: consent of Instructor.

L FOR 503 Problems in Silviculture

★3 (fi 6) (either term, 0-3s-0). Individual study. Directed study in silviculture. Prerequisite: consent of Instructor.

L FOR 522 Advanced Forest Ecology

★3 (fi 6) (second term, 0-3s-0). Current topics in forest ecology are dealt with through lectures, student seminars, readings, and discussion. Possible topics include: ecosystem management, forest fragmentation, biodiversity, succession, community dynamics, environmental impacts of harvesting, 'New Forestry.' Prerequisite: consent of Instructor. Offered in alternate years.

FOR 523 Silvicultural Systems

★3 (fi 6) (Spring/Summer, 2 weeks). Silvicultural systems encompass a planned program of silvicultural treatment extending throughout the life of a stand. In this course we visit and examine a variety of silvicultural systems including: clearcutting with natural regeneration and/or planting, seed trees, shelterwood, selection, and variable retention systems. We discuss impacts and implications of these systems in terms of resulting stand structures, cost, risk, growth and yield, habitat, and other issues. The course will involve a 10 to 14 day field trip (in May, June or August) to visit a range of silvicultural systems used in forests in western Canada or other regions, as well as written assignments. 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. Standard University tuition and fees apply. Prerequisite: FOR 323 or permission of the instructor. Offered in alternate years during summer term. This course has limited enrolment and is closed to web registration.

L FOR 535 Problems in Forest Resources Management

★3 (fi 6) (either term, 0-3s-0). Individual study. Directed study in forest resources management. Prerequisite: consent of Instructor.

L FOR 545 Problems in Forest Fire

★3 (fi 6) (either term, 0-3s-0). Individual study. Directed study in forest fire. Prerequisite: consent of Instructor.

L FOR 546 Advanced Fire Ecology

★3 (fi 6) (second term, 3-0-0). The role of fire as a forcing function in ecosystem dynamics in the physical components (energy flows and nutrient cycling) and in the biotic components (individual, populations, and community levels). The role of fire in high profile scientific questions such as climate change, rainforest clearing and smoke pollution should be useful for students in zoology, botany, and geography as well as forest science, wildlife science, plant science, and conservation science. Note that this course follows the introductory FOR 340. Prerequisites: A basic ecology course and consent of Instructor.

L FOR 555 Problems in Forest Hydrology

★3 (fi 6) (either term, 0-3s-0). Individual study. Directed study in forest hydrology. Prerequisite: consent of Instructor.

FOR 565 Problems in Forest Recreation

★3 (fi 6) (either term, 0-3s-0). Individual study. Directed study in forest recreation. Prerequisite: consent of Instructor.

L FOR 590 Seminar in Tree Improvement

★3 (fi 6) (second term, 0-3s-0). Reports and discussion of current literature and advanced topics in forest genetics and tree improvement. Prerequisites: Graduate standing and consent of Instructor; FOR 490 or REN R 490 recommended.

231.142 Français, FRANC

Faculté Saint-Jean

Cours de 1er cycle

O FRANC 101 Communication orale et écrite

★6 (fi 12) (Printemps/Été, 3-0-3). Etude des éléments et des structures de base du

français parlé et écrit; identification et mise en pratique de notions élémentaires et de certains schémas de communication. Note: Ce cours se destine aux étudiants qui ne disposent pas de la base nécessaire pour satisfaire aux exigences de FRANC 110 et 111 (French 30 ou l'équivalent) et n'est pas accessible aux étudiants ayant ou postulant des crédits pour FREN 100.

FRANC 110 Expression orale I

★3 (fi 6) (l'un ou l'autre semestre, 0-4L-0). Vise à faire acquérir les compétences communicatives orales nécessaires à l'expression courante de niveau intermédiaire dans le cadre de la francophonie interculturelle.

FRANC 111 Expression écrite I

★3 (fi 6) (l'un ou l'autre semestre, 0-5L-0). Vise à faire acquérir les compétences communicatives écrites nécessaires à l'expression courante de niveau intermédiaire dans le cadre de la francophonie interculturelle.

0 FRANC 140 Communication orale et écrite

★6 (fi 12) (Printemps/Été, 3-0-3). Etude du français parlé et écrit, par la mise en relation de la langue et de son usage dans un contexte socio-culturel francophone précis. Travaux pratiques d'écoute, de lecture, d'écriture et, surtout, d'expression orale. Préalable(s): French 30 ou l'équivalent, ou FRANC 101 ou FREN 100 ou 111/112. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FREN 150 ou 211/212.

FRANC 210 Expression orale II

★3 (fi 6) (l'un ou l'autre semestre, 0-4L-0). Vise à faire acquérir les compétences communicatives orales nécessaires à l'expression de niveau avancé dans le cadre de la francophonie interculturelle.

FRANC 211 Expression écrite II

★3 (fi 6) (l'un ou l'autre semestre, 0-5L-0). Vise à faire acquérir les compétences communicatives écrites nécessaires à l'expression de niveau avancé dans le cadre de la francophonie interculturelle.

FRANC 220 Expression orale III

★3 (fi 6) (l'un ou l'autre semestre, 0-4L-0). Vise à faire acquérir les compétences communicatives orales nécessaires à l'expression courante de niveau supérieur dans le cadre de la francophonie interculturelle.

FRANC 221 Expression écrite III

★3 (fi 6) (l'un ou l'autre semestre, 0-5L-0). Vise à faire acquérir les compétences communicatives écrites nécessaires à l'expression courante de niveau supérieur dans le cadre de la francophonie interculturelle.

0 FRANC 225 Lire le texte littéraire

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Ce cours vise à faire connaître différents concepts et stratégies de lecture et d'analyse du texte littéraire. Les ouvrages à l'étude seront choisis en fonction des approches et des méthodologies présentées. Préalable(s): FRANC 221 ou l'approbation du Vice-doyen aux affaires académiques.

FRANC 230 Correction phonétique et diction française

★3 (fi 6) (l'un ou l'autre semestre, 1-2L-0). Étude du système phonétique du français dans le but d'améliorer la prononciation. Cours axé sur la pratique s'adressant surtout aux anglophones. Pratique en groupe et au laboratoire de langue.

FRANC 231 Morphologie et syntaxe

★3 (fi 6) (l'un ou l'autre semestre, 0-3L-0). Étude des usages du français écrit (sans négliger l'oral). Développement de stratégies d'autocorrection. Cours axé sur la pratique en sous-groupes.

L FRANC 232 Techniques de rédaction

★3 (fi 6) (l'un ou l'autre semestre, 0-3L-0). Pratique de la rédaction technique, journalistique et de la vulgarisation scientifique. Préalable(s): FRANC 221 ou l'approbation du Vice-doyen aux affaires académiques.

0 FRANC 235 Survol de la littérature francophone

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Ce cours d'introduction à la littérature en français vise à faire connaître, dans une perspective sociocritique, les noms des grands écrivains et penseurs du monde francophone, leurs idées et la mise en texte de ces idées. Le corpus à l'étude consistera en des oeuvres représentatives à travers les siècles. Ce cours présuppose une bonne connaissance et une maîtrise de la langue française aux plans grammatical, syntaxique et lexical.

0 FRANC 241 Communication orale et écrite

★6 (fi 12) (Printemps/Été, 3-0-3). Perfectionnement du français écrit et, surtout, oral. Ce cours se destine à l'étudiant ayant réussi FRANC 110 et 111 ou FREN 150 ou 211/212.

0 FRANC 314 Pratique avancée du français oral et écrit

★6 (fi 12) (Printemps/Été, 3-0-3). Sensibilisation aux différents moyens d'exprimer une idée. Ce cours a pour but d'aider l'étudiant à mieux structurer sa pensée en français et, ce, à l'oral et à l'écrit. Il se destine à l'étudiant qui voudrait approfondir les connaissances et compétences acquises en FRANC 210 et 211 ou en FREN 252 ou 298.

FRANC 322 Pratique de la dissertation

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). La compréhension, l'analyse et la synthèse d'informations. L'étude et la manipulation du raisonnement logique. La

recherche et l'exploitation des arguments. L'élaboration et la mise en forme de la dissertation comme texte clair, cohérent et convaincant. Travaux pratiques. Cours obligatoire pour l'obtention du diplôme de la Faculté. Ce cours présuppose une bonne connaissance et une maîtrise de la langue française aux plans grammatical, syntaxique et lexical. Préalable(s): FRANC 221 ou l'approbation du Vice-doyen aux affaires académiques.

0 FRANC 325 Littérature française du XVIIe siècle

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Etude d'oeuvres représentatives du XVIIe siècle. Préalable(s): FRANC 235.

0 FRANC 326 Littérature française du XVIIIe siècle

★3 (fi 6) (deuxième semestre, 3-0-0). Evolution des genres littéraires illustrée par des textes du XVIIIe siècle. Préalable(s): FRANC 235. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FREN 360.

0 FRANC 327 Littérature française du XIXe siècle

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). L'analyse des mouvements littéraires. L'évolution de la conception littéraire à travers les textes du XIXe siècle. Préalable(s): FRANC 235. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FREN 380.

0 FRANC 328 Littérature française du XXe siècle

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Etude d'oeuvres représentatives de la littérature moderne. Introduction à la littérature contemporaine. Préalable(s): FRANC 235 et un demi-cours de littérature française. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FREN 380.

0 FRANC 331 Etude avancée du français et de l'anglais I

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Etude comparative des systèmes français et anglais sur les plans syntaxique, morphologique, lexical et sémantique. Introduction à la traduction. Préalable(s): FRANC 221 ou l'équivalent. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FREN 351 ou 352.

0 FRANC 332 Etude avancée du français et de l'anglais II

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Etude comparative des systèmes français et anglais sur les plans syntaxique, morphologique, lexical et sémantique. Introduction à la traduction, suite. Préalable(s): FRANC 331 ou l'équivalent. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FREN 351 ou 352.

FRANC 400 Initiation à la traduction anglais-français

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Étude des fondements de la traduction appliquée à des textes généraux. Travaux pratiques, méthode et théorie. Préalable(s): ★6 parmi FRANC 322, 331, 332, 475, LINGQ 300. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FREN 454. Note : Ce cours exige une bonne connaissance du français et de l'anglais.

FRANC 410 Traduction du théâtre et de la littérature au Canada

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Initiation à la traduction littéraire et théâtrale. Étude des répertoires traduits d'une langue officielle à l'autre au Canada. Préalable(s) : ★6 de niveau 300 ou 400 parmi CA FR, FRANC, LINGQ. Note : Ce cours exige une bonne connaissance du français et de l'anglais.

FRANC 450 Choix de sujet

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Etude d'un sujet au choix en langue française. Préalable(s): FRANC 322 et ★3 de niveau 300 en langue française ou l'approbation du Vice-doyen aux affaires académiques.

0 FRANC 470 Analyse syntaxique

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Etude approfondie de la structure de la phrase française. Théorie et pratique. Préalable(s): FRANC 221 ou l'équivalent.

FRANC 475 Stylistique du français

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Initiation aux procédés stylistiques. Préalable(s): FRANC 322 ou l'équivalent.

FRANC 480 Choix de sujet

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Préalable(s): FRANC 322 et ★3 en littérature ou en langue de niveau 300.

0 FRANC 484 Création

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Théorie et pratique du processus créatif dans l'écriture; introduction aux procédés discursifs de la poésie, du roman et de la pièce de théâtre. Préalable(s): FRANC 225, 235 et ★3 en littérature de niveau 300. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour ADRAM 484.

FRANC 499 Etudes dirigées

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Cours destiné à permettre aux étudiants d'approfondir un sujet de leur choix en littérature d'expression française non-canadienne. Préalable(s): FRANC 235 et ★6 en littérature française.

FRANC 520 Mémoire de Français - langue et littérature

★6 (fi 12) (aux deux semestres, 0-3s-0). Préparation du mémoire requis en quatrième année du programme de spécialisation en Français-langue et littérature.

231.143 French for Educators / Français pour éducateurs, FR ED

Faculté Saint-Jean

Notes

- (1) FR ED courses are restricted to teachers holding a teaching certificate and are not to be taken by students pursuing an undergraduate degree.
Les cours FR ED sont réservés aux personnes possédant déjà un certificat d'enseignement et ne sont pas accessibles aux personnes voulant obtenir un diplôme de premier cycle.
- (2) FR ED courses are not prerequisites for FRANC or FREN courses.
Les cours FR ED ne sont pas des prérequis pour les cours FRANC ou FREN.
- (3) FR ED courses are not substitutes for FRANC or FREN courses which are structured to assure language proficiency development in a sequential manner. Les cours FR ED ne remplacent pas les cours FRANC ou FREN qui sont structurés de manière à assurer un développement linguistique séquentiel.
- (4) Laboratory components require access to a computer and the Internet. Les laboratoires nécessitent l'accès à un ordinateur et à l'Internet.
- (5) These courses may include a section offered at distance; see 22.2.4 Alternative Delivery Courses. Ces cours peuvent comprendre une section distance; voir 22.2.4 Alternative Delivery Courses.

Cours de 1er cycle

FR ED 101 French for French as a Second Language (FSL) Teachers I

★3 (fi 6) (either term, 0-4L-0). Specifically designed for elementary, junior and senior high French as a second language teachers who have a basic knowledge of French. Teachers will have numerous opportunities to use the vocabulary and idiomatic expressions related to the themes outlined in the general and specific learner expectations of Alberta Learning's Program of Study for the beginner levels of French as a second language. Vocabulary development and conversational practice will be centered on these themes and those found in the learning resources approved by Alberta Learning. Language laboratory sessions will concentrate on improving one's diction and pronunciation. Little English will be spoken in this course and will be limited to brief explanations. May contain alternate delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the calendar.

FR ED 102 French for French as a Second Language (FSL) Teachers II

★3 (fi 6) (either term, 0-4L-0). Specifically designed for junior and senior high French as a second language teachers who have reached the intermediate proficiency level. Teachers will have numerous opportunities to use the vocabulary and idiomatic expressions related to the themes outlined in the general and specific learner expectations of Alberta Learning's Program of Study for French as a second language intermediate levels. Vocabulary development and conversational practice will be centered on these themes and those found in the learning resources approved by Alberta Learning. Language laboratory sessions will concentrate on improving one's diction and pronunciation. Little English will be spoken in this course and will be limited to brief explanations. May contain alternate delivery sections; Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the calendar.

FR ED 103 French for French as a Second Language (FSL) Teachers III

★3 (fi 6) (either term, 0-4L-0). Specifically designed for senior high French as a second language teachers who have reached a high intermediate or advanced proficiency level. Teachers will have numerous opportunities to use the vocabulary and idiomatic expressions related to the themes outlined in the general and specific learner expectations of Alberta Learning's French as a Second Language Program of Study at the senior high level. Vocabulary development and conversational practice will be centered on these themes and those found in the learning resources approved by Alberta Learning. Language laboratory sessions will concentrate on improving one's diction and pronunciation. Little English will be spoken in this course and will be limited to brief explanations. May contain alternate delivery sections; Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the calendar.

FR ED 201 Le français de la salle de classe

★3 (fi 6) (l'un ou l'autre semestre, 0-4L-0). Ce cours est destiné aux enseignants et enseignantes de français langue seconde qui maîtrisent suffisamment bien le français mais qui veulent acquérir une plus grande spontanéité. L'accent sera mis sur l'acquisition des termes et tournures propres à l'enseignement au quotidien. Par des mises en situation et des jeux de rôles, on pratiquera le vocabulaire spécialisé de la gestion de classe et de l'animation pédagogique. Les sessions de laboratoire de langue permettront aux étudiants et aux étudiantes d'améliorer leur diction et leur prononciation. Peut comprendre des sections Alternative Delivery; veuillez consulter le Fees Payment Guide dans la section University Regulations and Information for Students de l'annuaire l'annuaire.

FR ED 210 Apprentissage du français par l'exploration du monde virtuel

★3 (fi 6) (l'un ou l'autre semestre, 0-4L-0). Fondé sur la prémisse que les besoins

de formation en français varient grandement d'un apprenant à l'autre, ce cours vise à permettre à l'apprenant de se familiariser avec les ressources pédagogiques disponibles à l'Internet par le biais de visites guidées. Le cours couvrira la grammaire, le vocabulaire, la rédaction et la révision de textes, la compréhension auditive et la culture. De plus, le format du cours permettra aux apprenants de se développer une banque de liens qui leur sera utile au-delà du cours, ce que soit pour leur propre apprentissage ou pour l'enseignement. Le cours est approprié aux apprenants de niveau intermédiaire ou avancé. Peut comprendre des sections Alternative Delivery; veuillez consulter le Fees Payment Guide dans la section University Regulations and Information for Students de l'annuaire.

FR ED 301 Rédaction professionnelle avancée

★3 (fi 6) (l'un ou l'autre semestre, 0-4L-0). Ce cours est destiné aux personnes qui maîtrisent déjà la grammaire française. L'accent sera mis sur la rédaction de textes professionnels répondant à des buts spécifiques de communication (rapport annuel, lettre aux parents, chapitre de manuel, etc.). La pratique intense de l'écriture permettra à l'apprenant et l'apprenante d'approfondir ses connaissances du français écrit. Le clavardage ponctuel et continu entre l'apprenant / l'apprenante et l'animateur / l'animatrice permettra d'individualiser l'enseignement / apprentissage de la langue. Peut comprendre des sections Alternative Delivery; veuillez consulter le Fees Payment Guide dans la section University Regulations and Information for Students de l'annuaire.

231.144 French Language and Literature, FREN

Department of Modern Languages and Cultural Studies
Faculty of Arts

Notes

- (1) The Department reserves the right to place students in the language course appropriate to their level of language skill.
- (2) Placement tests may be administered in order to assess prior background. Students with a French language background should consult a Department advisor. Such students may be granted advanced placement and directed to register in an advanced course more suitable to their level of ability. Students seeking to fulfill their Language Other than English requirement may begin at any one appropriate level, but must take the full ★6 in one language.
- (3) The Department will withhold credit from students completing courses for which prior background is deemed to make them ineligible. For example, 100-level courses are normally restricted to students with little or no prior knowledge in that language. Should a student with matriculation standing, or those possessing prior background (such as native speakers or those for whom it is their first language) register in the 100-level course, credit may be withheld.
- (4) FREN 311, 312, 313, 314, 315, 316 pursue mastery of the language and introduce students to the study of texts (e.g. literary, journalistic, cinematographic). The double focus allows for applied language development while providing an in-depth introduction to the study of major cultural texts.
- (5) See also listings under Modern Languages and Cultural Studies (MLCS).

Undergraduate Courses

L 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.

L FREN 112 Beginners' French II

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

L FREN 155 French Reading Comprehension I

★3 (fi 6) (either term, 3-0-0). A basic course in French grammar and literature designed to develop skills in reading French. Language of instruction is English. Prerequisite: French 30 or equivalent. Not to be taken by students with credit in FREN 150, 211 or 212. Note: Will not meet the requirements in a principal area of concentration.

L FREN 156 French Reading Comprehension II

★3 (fi 6) (either term, 3-0-0). An intermediate course in French grammar and literature. Language of instruction is English. Prerequisite: FREN 155 or consent of Department. Not to be taken by students with credit in FREN 150, 211 or 212. Note: Will not meet the requirements in a principal area of concentration.

O 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.

O 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.

L FREN 254 Introduction to Translation Theory and Practice: French-English-French

★3 (fi 6) (either term, 3-0-0). Prerequisite: FREN 212. Note: not to be taken by students with credit in FREN 253. This course can also be applied to the MLCS Certificate in Translation Studies.

O 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 FRAN 165, 210.

O 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 either FREN 252 or FRAN 166, 211.

O FREN 301 Introduction to French Literary Studies

★3 (fi 6) (either term, 3-0-0). Tools necessary to conduct literary analyses and essay writing. Prerequisite: FREN 298.

O FREN 310 Composition, Style and Expression

★3 (fi 6) (either term, 3-0-0). Prerequisite: FREN 298 or consent of Department. Not to be taken by students with credit in FREN 352.

O FREN 311 Mystery, Myth, Miracle

★3 (fi 6) (either term, 3-0-0). Mythology, the supernatural, superstition as cultural and literary phenomena in the French-speaking world. Prerequisite: FREN 298.

O FREN 312 Colonialism and Postcolonialism

★3 (fi 6) (either term, 3-0-0). Francophone cultural texts from a post/colonial perspective, the socio-historical contexts of their production and their importance for definitions of cultural identity. Prerequisite: FREN 298.

O FREN 313 Passions/Obsessions

★3 (fi 6) (either term, 3-0-0). Two loosely connected themes that go back to the very origins of French as a language and continue to shape cultural expression in it. Prerequisite: FREN 298.

O FREN 314 Beauty/Aesthetics

★3 (fi 6) (either term, 3-0-0). Addresses either a given period or a particular facet of aesthetics. Prerequisite: FREN 298.

O FREN 315 Cultural Representations of Food

★3 (fi 6) (either term, 3-0-0). Functions and manifestations of the food paradigm in Francophone cinematographic and narrative texts. Prerequisite: FREN 298.

O FREN 316 Belonging (Migration and Identity)

★3 (fi 6) (either term, 3-0-0). Place and community; identity, belonging, exile. Prerequisite: FREN 298.

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.

O FREN 354 Translation: French into English

★3 (fi 6) (either term, 3-0-0). Prerequisite: FREN 254 or consent of Department. Note: not to be taken by students with credit in FREN 353. This course can also be applied to the MLCS Certificate in Translation Studies.

FREN 355 Composition, Style and Expression in Context

★3 (fi 6) (either term, 3-0-0). Prerequisite: FREN 298 or 299. Note: not to be taken by students with credit in FREN 352.

O FREN 371 Language and Francophone Societies

★3 (fi 6) (either term, 3-0-0). Overview of the French language as it has evolved chronologically and geographically. Prerequisite: FREN 298.

O FREN 372 French Phonetics

★3 (fi 6) (either term, 3-0-0). Overview of the pronunciation of Standard French. Prerequisite: FREN 297 or consent of Department.

FREN 399 Special Topics

★3 (fi 6) (either term, 3-0-0). Prerequisite: FREN 298.

FREN 445 Contemporary Cinema in French

★3 (fi 6) (either term, 3-0-0). Emphasis on the representation and evolution of society in French cinema of the last 20 years. Prerequisites: FREN 301 and one of FREN 311, 312, 313, 314, 315, 316.

FREN 454 Translation: English into French

★3 (fi 6) (either term, 3-0-0). Prerequisite: FREN 354 or consent of Department. Note: This course can also be applied to the MLCS Certificate in Translation Studies.

FREN 462 Topics in Medieval and Early Modern Literature

★3 (fi 6) (either term, 3-0-0). Prerequisites: FREN 301 and one of FREN 311, 312, 313, 314, 315, 316.

FREN 463 Topics in Nineteenth-Century Literature

★3 (fi 6) (either term, 3-0-0). Prerequisites: FREN 301 and one of FREN 311, 312, 313, 314, 315, 316.

FREN 464 Topics in Twentieth-Century Literature

★3 (fi 6) (either term, 3-0-0). Prerequisites: FREN 301 and one of FREN 311, 312, 313, 314, 315, 316.

FREN 465 Caribbean Culture

★3 (fi 6) (either term, 3-0-0). Colonialism, identity, diaspora and cultural diversity in French Caribbean literature, films, and music. Prerequisites: FREN 301 and one of FREN 311, 312, 313, 314, 315, 316.

FREN 466 The Maghreb

★3 (fi 6) (either term, 3-0-0). Colonialism, identity, diaspora and cultural diversity in contemporary French Maghrebi literature. Prerequisites: FREN 301 and one of FREN 311, 312, 313, 314, 315, 316.

FREN 467 Women Writing in French

★3 (fi 6) (either term, 3-0-0). Texts written in various Francophone parts of the world from different periods. Prerequisites: FREN 301 and one of FREN 311, 312, 313, 314, 315, 316.

FREN 468 Topics in Quebec/French Canadian Literature

★3 (fi 6) (either term, 3-0-0). Prerequisites: FREN 301 and one of FREN 311, 312, 313, 314, 315, 316.

FREN 473 Canadian French

★3 (fi 6) (either term, 3-0-0). An overview of Canadian French, looking at its historical development as well its present-day structure. The course is intended to familiarize students with the spoken features of the varieties of French spoken within Canada in order that they may have a greater knowledge of Canadian French and a greater facility understanding it. Prerequisite: FREN 372 or consent of Department.

FREN 476 Linguistics Applied to French

★3 (fi 6) (either term, 3-0-0). Selected topics in French linguistics that enhance the acquisition of French as a Second Language. Prerequisite: FREN 301 or 371 or consent of Department.

FREN 495 Honors Thesis

★3 (fi 6) (either term, 0-3s-0).

FREN 499 Special Topics

★3 (fi 6) (either term, 3-0-0).

Graduate Courses

FREN 518 French Translation Seminar

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

FREN 545 Contemporary Cinema in French

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

FREN 554 Translation: English into French

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

FREN 560 Studies in 18th-Century French Literature

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

FREN 563 Topics in Nineteenth-Century Literature

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

FREN 564 Topics in Twentieth-Century Literature

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

FREN 565 Caribbean Culture

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

FREN 566 The Maghreb

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

FREN 567 Women Writing in French

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

FREN 568 Topics in Québec/French Canadian Literature

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

FREN 573 Canadian French

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

FREN 576 Linguistics Applied to French

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

FREN 580 Children's Literature In French

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

FREN 599 Directed Reading

★3 (fi 6) (either term, 3-0-0).

FREN 698 Topics in French Linguistics

★3 (fi 6) (either term, 3-0-0).

FREN 699 Topics in French Literature and Culture

★3 (fi 6) (either term, 3-0-0).

FREN 900 Directed Research Project

★6 (fi 12) (variable, variable).

231.145 Genetics (Biological Sciences), GENET

Department of Biological Sciences
Faculty of Science**Notes**

- See the following sections for listings of other Biological Sciences courses: Bioinformatics (BIOIN); Biology (BIOL); Botany (BOT); Entomology (ENT); Microbiology (MICRB); Zoology (ZOO).
- See the following sections for listings of other relevant courses: Interdisciplinary Studies (INT D); Immunology and Infection (IMIN); Marine Science (MA SC); Paleontology (PALEO).

Undergraduate Courses

GENET 270 Foundations of Molecular Genetics

★3 (fi 6) (either term, 3-1.5s-0). Basic concepts on the organization of genetic material and its expression will be developed from experiments on bacteria and viruses. Prerequisite: BIOL 207.

GENET 275 The Genetics of Higher Organisms

★3 (fi 6) (second term, 3-0-0). A comprehensive survey of the principles of genetics of eukaryotes. Gene structure and function; Mendelian genetics; cytoplasmic inheritance; cytogenetics; biochemical genetics; somatic cell genetics. Emphasis will be placed on examples from human genetics. Prerequisite: BIOL 207.

GENET 301 Organization of Simple Genomes

★3 (fi 6) (first term, 3-0-0). The organization, behavior dynamics and expression of the genetic material in simple model systems from the point of view of its function in the transmission of hereditary information. Prerequisite: GENET 270.

GENET 302 Organization of Complex Genomes

★3 (fi 6) (second term, 3-0-0). Current genomics: DNA sequencing projects in eukaryotes; implications of genome projects; DNA sequence organization; the influence of various chromatin configurations on gene expression, techniques for manipulating animal genomes; epigenetic phenomena; regulation of the cell cycle. Prerequisites: GENET 275. GENET 270 recommended.

GENET 304 Gene Expression and its Regulation

★3 (fi 6) (first term, 3-0-0). The molecular biology of the processes by which the base sequence of genes is expressed as cellular phenotype will be examined. Emphasis will be placed upon the similarities and differences between prokaryotes and eukaryotes and upon the mechanisms which regulate the operation of particular genes. Prerequisite: GENET 270.

GENET 364 Plant Genetics

★3 (fi 6) (second term, 3-0-0). A survey of genetic phenomena unique to or characteristic of higher plants, with emphasis on explanation at the molecular level. The relationship between molecular or somatic cell genetics and plant breeding will be discussed. Prerequisite: GENET 270.

GENET 375 Introduction to Molecular Genetics Techniques

★3 (fi 6) (second term, 0-1s-6). A laboratory course in which students will be introduced to modern techniques in molecular biology. These will include cytogenetics, recombinant DNA techniques, and methods of genome analysis. Prerequisites: GENET 270, 275, MICRB 265, and a 300-level GENET course. Enrolment is limited, and registration is by permission of the Department.

GENET 390 Gene Manipulation

★3 (fi 6) (first term, 3-0-0). In vitro manipulation of genes with an emphasis on applications to biotechnology. Bacterial, yeast, plant, and animal vector systems. Enzymology of DNA manipulation. Electrophoresis of nucleic acids and proteins. Hybridization techniques for the identification of nucleic acid sequences. cDNA and genomic DNA cloning and screening. In vitro mutagenesis. Prerequisite: BIOL 207; BIOCH 200 or 205 or BIOCH 220; GENET 270 recommended.

GENET 408 Replication, Repair, and Recombination

★3 (fi 6) (first term, 3-1s-0). The goal of the course is to build a foundation of information in the topics of DNA replication, recombination, and repair and to apply this information to understanding the molecular basis of certain human diseases

including cancer. Prerequisites: GENET 301 and 304 are strongly recommended. Note: This course is normally recommended for fourth-year students. GENET 408 and 508 cannot both be taken for credit.

GENET 412 Genetic Control of Development

★3 (fi 6) (first term, 3-1s-0). Gene action during development; identification and analysis of the network of genetic elements regulating developmental decisions. Prerequisites: GENET 302 or 304. Note: GENET 412 and 512 cannot both be taken for credit.

GENET 418 Human Genetics

★3 (fi 6) (second term, 3-1s-0). A survey of human genetic variation and mutation in a molecular genetics context. Chromosomal abnormalities, cancer cytogenetics, population genetics, DNA polymorphisms linked to diseases, gene mapping, applications to genetic counselling, ethical issues. Prerequisites: GENET 302. BIOL 380 strongly recommended. Note: GENET 418 and 518 cannot both be taken for credit.

GENET 420 Research Techniques in Molecular Genetics

★6 (fi 12) (either term, 0-1s-12). A laboratory course teaching modern techniques in molecular biology with emphasis on the analysis of gene expression in eukaryotic systems. Prerequisites: GENET 301 and 390. GENET 375 and/or BIOL 391 recommended. Enrolment is limited and registration is by permission of the Department. Designed for undergraduate and graduate students in programs with molecular biological orientation. May not be taken concurrently with BIOL 391.

GENET 422 Current Topics in Development Genetics

★3 (fi 6) (second term, 1-2s-0). Discussion of selected topics in developmental biology with an emphasis on the genetic mechanisms utilized to uncover developmental pathways. Critical reading of the primary literature, research proposal-based writing, and classroom presentation skills will be used as methods of evaluation. Prerequisites: BOT 303 or ENT 302 or GENET 412, or ZOO 303 and consent of the Department. Offered in alternate years.

Graduate Courses

Notes

- All 300- and 400-level courses in the Department of Biological Sciences may be taken for credit (except for BIOL 490, 498 and 499) by graduate students with approval of the student's supervisor or supervisory committee.
- The following courses may be taken as an option in the Department of Biological Sciences with approval of the student's supervisor or supervisory committee: BIOCH 510, 520, 530, 541, 550, 555, 560; CHEM 361, 363, 461; CELL 300, 301; IMIN 371, 372, 452; INT D 421; MA SC 400, 401, 402, 410, 412, 420, 425, 430, 437, 440, 445, 470, 480; MMI 405, 415, 520; NEURO 472; NU FS 363; PALEO 418, 419; PHARM 601.

GENET 500 Advanced Genetic Analysis I: The Genetic System

★3 (fi 6) (first term, 3-3s-0). Directed study of literature on the discovery of the phenomena of inheritance and their physical correlates within the cell. Notes: (1) Graded on participation in group discussions and on written work and/or examinations based on assigned readings. (2) Scheduling of this course will be subject to modification depending on the requirements of instructors and students. Note: Usually taken as one of a pair of courses (GENET 500, 510) by first year graduate students in the area of Genetics. Students in other graduate programs may register with the consent of the instructors.

GENET 508 Graduate Course in Replication, Repair and Recombination

★3 (fi 6) (first term, 3-1s-0). The goal of the course is to build a foundation of information in the topics of DNA replication, recombination, and repair and to apply this information to understanding the molecular basis of certain human diseases including cancer. Prerequisites: consent of the Instructor. Note: GENET 408 and 508 cannot both be taken for credit.

GENET 510 Advanced Topics in Gene Regulation, Development and Medical Genetics

★3 (fi 6) (second term, 3-3s-0). Directed study of literature on regulation of the phenotypic expression of genes and the manner in which genes direct the process of development. Note: See GENET 500.

GENET 512 Graduate Course in Genetic Control of Development

★3 (fi 6) (first term, 3-1s-0). Gene action during development; identification and analysis of the network of genetic elements regulating developmental decisions. Prerequisites: GENET 302 and 304 and consent of Department. Note: GENET 412 and 512 cannot both be taken for credit.

GENET 518 Graduate Course in Human Genetics

★3 (fi 6) (second term, 3-1s-0). A survey of human genetic variation and mutation in a molecular genetics context. Chromosomal abnormalities, cancer cytogenetics, population genetics, DNA polymorphisms linked to disease, gene mapping, applications to genetic counselling, ethical issues. Prerequisites: GENET 302. BIOL 380 strongly recommended. Consent of Department. Note: GENET 418 and 518 cannot both be taken for credit.

GENET 601 Genetics Seminars

★1 (fi 2) (either term, 0-1s-0).

GENET 605 Invited Speaker Seminar Series★1 (*fi 2*) (either term, 0-2s-0).**231.146 Geophysics, GEOPH**Department of Physics
Faculty of Science

Note: Not all Geophysics courses are offered every year. Students are advised to consult the Department of Physics regarding the courses that will be available in a given year. The geophysics field school is normally held in the week prior to the start of Fall term, and is a required component of GEOPH 437 and 438. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

Undergraduate Courses**0 GEOPH 110 Introduction to Geophysics**

★3 (*fi 6*) (either term, 3-0-0). The Earth in the solar system; earthquakes, seismology and structure of the Earth's interior; gravity and the shape of the Earth; plate tectonics, continental drift, geomagnetism and sea-floor spreading; atmospheric and space physics, and Sun-Earth interactions; discussion of geophysics as a career. Prerequisites: Physics 20 and Mathematics 30.

0 GEOPH 210 Physics of the Earth

★3 (*fi 6*) (either term, 3-0-0). Evolution of the Earth; evolution of life and mass extinctions; paleoclimatic reconstruction and climatic variations, variations in the Earth's orbital parameters and sea-level changes; magnetic fields and rock magnetism; global geodynamics, mantle convection and the geodynamo; geohazards, volcanos, earthquakes and magnetic storms. Prerequisites: one of MATH 101, 115, 118; one of PHYS 126, 146, EN PH 131.

0 GEOPH 223 Environmental Monitoring and Mining Exploration Techniques

★3 (*fi 6*) (either term, 3-0-3). Near surface geophysical techniques; shallow seismic, gravity, radiometric, electrical and electromagnetic methods; environmental monitoring; rock properties; the effect of contaminants on rock properties. Prerequisites: MATH 101, 115 or 118, and PHYS 126, 146 or EN PH 131. Note: Not available to students in Honors or Specialization Physics or Geophysics.

0 GEOPH 224 Geophysical Exploration Techniques

★3 (*fi 6*) (either term, 3-0-3). Seismic wave propagation; the geological interpretation of seismic reflection and refraction; seismic data processing; the principles of well logging; gravitational and magnetic techniques. Prerequisites: MATH 101, 115 or 118, and PHYS 126, 146 or EN PH 131. Note: Not available to students in Honors or Specialization Physics or Geophysics.

0 GEOPH 325 Gravity, Magnetic, and Electrical Techniques

★3 (*fi 6*) (either term, 3-0-0). Basic theory of gravity, magnetic, and electrical exploration methods; factors controlling density, resistivity, and magnetic properties of rocks; applications in environmental geophysics, continental dynamics and mineral exploration; instrumentation. Prerequisite: PHYS 281, MATH 215.

0 GEOPH 326 Seismic Imaging

★3 (*fi 6*) (either term, 3-0-0). Use of reflection and refraction seismology to image the Earth's interior, with application to gas/oil and mineral exploration and environmental assessment; study of current technologies utilized to acquire, image and interpret 2D and 3D data sets. Prerequisite: PHYS 281, MATH 215.

0 GEOPH 332 Physical Properties of Geomaterials

★3 (*fi 6*) (either term, 3-0-0). Overview of the fundamental physical properties of geophysically important materials; physics involved in the measurement of physical properties in the Earth especially in the context of geophysical well logging and laboratory measurement; integration of measurements with geological and geophysical field observations. Prerequisites: PHYS 271, 281, MATH 214, 215.

0 GEOPH 421 Seismology and the Physical Structure of the Earth

★3 (*fi 6*) (either term, 3-0-0). Seismology; solutions to the elastic wave equation in layered media; major components of the seismic field: body waves (including head waves, surface waves, and normal modes); ray approaches as high frequency approximations to the seismic field; source mechanisms; structure of the Earth; seismometers; inversion of seismic data. Pre- or corequisite: MATH 337. Prerequisites: PHYS 281, GEOPH 326.

0 GEOPH 424 Electromagnetic and Gravity Fields

★3 (*fi 6*) (either term, 3-0-0). Potential theory as applied to gravitational and electromagnetic exploration; magnetotellurics, frequency and time domain methods, and ground penetrating radar; theory and application of Maxwell's equations; forward and inverse techniques to image crustal and mantle structures. Pre- or corequisite: MATH 337. Prerequisites: PHYS 281, 381, GEOPH 325.

0 GEOPH 426 Signal Processing in Geophysics

★3 (*fi 6*) (either term, 3-0-0). Application of time series analyses and image processing techniques to large geophysical data sets; sampling of data and problems of aliasing; one and two dimensional Fourier transforms; the Z transformation;

spectral analysis, filtering, and deconvolution; application of computers in assignments. Prerequisites: MATH 311, GEOPH 326, PHYS 234 or equivalent.

0 GEOPH 431 Geophysical Inverse Theory

★3 (*fi 6*) (either term, 3-0-0). Quantitative methods to determine the physical properties of the Earth from indirect geophysical observations; formal treatment of geophysical inverse theory; topics include linear and nonlinear inverse problems, regularization techniques, model norms and misfit, tomography, and case histories of interpretation and analysis. Prerequisites: PHYS 234, 381, MATH 311, 337, GEOPH 325, 326 or permission of Instructor.

GEOPH 436 Geophysics Field School

★3 (*fi 6*) (first term, 10 days). Students conduct a wide variety of geophysical measurements in a field situation. The data acquired is processed, analyzed and interpreted in GEOPH 437 and GEOPH 438. The field school is run immediately prior to the fall term. 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. Prerequisites: GEOPH 325 and 326, or consent of instructor. Intended for students in a Specialization or Honours Geophysics program. Students in other programs should contact the Department of Physics for permission. Note: this course is graded on a credit/no credit basis.

0 GEOPH 437 Environmental and Exploration Geophysics

★3 (*fi 6*) (either term, 0-0-6). Electrical, electromagnetic, gravitational, magnetic, and survey data sets are obtained by the student during field school; these data are processed, modelled, and interpreted by the student in a computer workstation laboratory; final results are presented in the form of professional technical reports. Prerequisite: MATH 209, 214, or equivalent, GEOPH 325, GEOPH 436, PHYS 234 or equivalent. Strongly recommended corequisite: GEOPH 426.

0 GEOPH 438 Seismic Data Processing

★3 (*fi 6*) (either term, 0-0-6). A variety of seismic and ground penetrating radar data sets are obtained by the student during field school; these data are corrected, enhanced, and imaged in a computer workstation laboratory, leading to a final geologic interpretation. Results obtained by the student will be presented in the format of a series of professional technical reports. Prerequisites: MATH 209, 214, or equivalent, GEOPH 326, 426, 436, PHYS 234 or equivalent.

0 GEOPH 440 Global Geodynamics

★3 (*fi 6*) (either term, 2-1s-0). Plate tectonics, continental breakup and assembly; mantle and lithosphere rheology; faulting and earthquakes; convection in the Earth and planets; hotspots and mantle plumes, plate accretion and subduction; dynamics of the core, planetary magnetism and the geodynamo. Pre- or corequisite: MATH 337. Prerequisites: PHYS 281, GEOPH 110.

Graduate Courses

The following undergraduate courses may be taken for credit by graduate students: GEOPH 421, 424, 426, 431, 437, 438.

0 GEOPH 521 Global Geodynamics

★3 (*fi 6*) (either term, 2-1s-0). Plate tectonics, continental breakup and assembly; mantle and lithosphere rheology; faulting and earthquakes; convection in the Earth and planets; hotspots and mantle plumes, plate accretion and subduction; dynamics of the core, planetary magnetism and the geodynamo. Prerequisite: Consent of Instructor.

GEOPH 524 Electromagnetic and Gravity Fields

★3 (*fi 6*) (either term, 3-0-0). Potential theory as applied to gravitational and electromagnetic exploration; magnetotellurics, frequency and time domain methods, and ground penetrating radar; theory and application of Maxwell's equations; forward and inverse techniques to image crustal and mantle structures. Note: This course cannot be taken for credit if credit has already been given for GEOPH 424.

GEOPH 526 Signal Processing in Geophysics

★3 (*fi 6*) (either term, 3-0-0). Application of time series analyses and image processing techniques to large geophysical data sets; sampling of data and problems of aliasing; one and two dimensional Fourier transforms; the Z transformation; spectral analysis, filtering, and deconvolution; application of computers in assignments. Note: This course cannot be taken for credit if credit has already been given for GEOPH 426.

GEOPH 531 Geophysical Inverse Theory

★3 (*fi 6*) (either term, 3-0-0). Quantitative methods to determine the physical properties of the Earth from indirect geophysical observations; formal treatment of geophysical inverse theory; topics include linear and nonlinear inverse problems, regularization techniques, model norms and misfit, tomography, and case histories of interpretation and analysis. Note: This course cannot be taken for credit if credit has already been given for GEOPH 431.

GEOPH 538 Seismic Data Processing

★3 (*fi 6*) (either term, 0-0-6). A variety of seismic and ground penetrating radar data sets are obtained during field school; these data are corrected, enhanced, and imaged in a computer workstation laboratory, leading to a final geologic interpretation. Results obtained by the student will be presented in the format

of a series of professional technical reports. Note: This course cannot be taken for credit if credit has already been given for GEOPH 438.

GEOPH 612 Paleomagnetism

★3 (fi 6) (either term, 3-0-0).

GEOPH 620 Rock Physics

★3 (fi 6) (either term, 3-0-0).

GEOPH 623 Inverse Problems in Geophysics

★3 (fi 6) (either term, 3-0-0).

GEOPH 624 Theoretical Seismology

★3 (fi 6) (either term, 3-0-0).

GEOPH 625 Physics of Macroscopic Mixtures

★3 (fi 6) (either term, 3-0-0).

231.147 German, GERM

Department of Modern Languages and Cultural Studies
Faculty of Arts

Notes

- (1) The Department reserves the right to place students in the language course appropriate to their level of language skill.
- (2) Placement tests may be administered in order to assess prior background. Students with a German language background should consult a Department advisor. Such students may be granted advanced placement and directed to register in an advanced course more suitable to their level of ability. Students seeking to fulfill their Language Other than English requirement may begin at any one appropriate level, but must take the full ★6 in one language.
- (3) The Department will withhold credit from students completing courses for which prior background is deemed to make them ineligible. For example, 100-level courses are normally restricted to students with little or no prior knowledge in that language. Should a student with matriculation standing, or those possessing prior background (such as native speakers or those for whom it is their first language) register in the 100-level course, credit may be withheld.
- (4) See also listings under Modern Languages and Cultural Studies (MLCS) and Scandinavian (SCAND)

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 GERM 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: GERM 111 or consent of Department. Note: not to be taken by students with credit in GERM 100, or with native or near native proficiency, or with German 30 or its equivalents in Canada and other countries.

GERM 165 Reading German for Beginners

★6 (fi 12) (two term, 3-0-0). An intensive course to give beginning students a reading knowledge of German in the sciences, the arts and the humanities. Note: Not to be taken by students with credit in German 30, or GERM 100, 101, 111 or 112. Will not meet the requirements in a principal area of concentration.

GERM 211 Intermediate German I

★3 (fi 6) (either term, 5-0-0). Designed to develop ability in speaking, reading and writing German, using modern short stories, cultural readers and audiovisual aids. Prerequisite: German 30 (or equivalent) or GERM 112 or consent of Department. Note: not to be taken by students with credit in GERM 150.

GERM 212 Intermediate German II

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

GERM 265 Advanced Reading German

★6 (fi 12) (two term, 3-0-0). Reading of advanced texts in the sciences, the arts and the humanities. Systematic discussion of complex constructions which are characteristic of technical and scholarly literature. Prerequisite: German 30, GERM 100, 101, 112, 165 or their equivalents. Will not meet the requirements in a principal area of concentration.

GERM 274 The Culture and Civilization of Austria: An Introduction

★3 (fi 6) (either term, 3-0-0). The cultural legacy of Austria from the Habsburgs to the present. This course is taught in English and does not fulfil the language-other-than-English requirement of the BA degree.

GERM 303 Advanced German I

★3 (fi 6) (either term, 4-0-0). Conversation and writing through films, news items, short stories and plays. Prerequisite: GERM 212 or consent of Department. Note: not to be taken by students with credit in GERM 301.

GERM 304 Advanced German II

★3 (fi 6) (either term, 4-0-0). Prerequisite: GERM 303 or consent of Department. Note: not to be taken by students with credit in GERM 301.

GERM 306 Introduction to German Linguistics: Phonetics and Phonology

★3 (fi 6) (either term, 3-0-0). Phonetic and phonemic analysis of English and German. Contrastive study includes application to teaching and learning. Prerequisite: GERM 212 or consent of Department. Note: This course will not fulfil the Language other than English requirement.

GERM 309 Introduction to German Linguistics: Morphology, Syntax, and Semantics

★3 (fi 6) (either term, 3-0-0). Prerequisite: GERM 212 or consent of Department. Not to be taken by students with credit in GERM 307 or 308. Note: this course will not fulfill the Language other than English requirement of the BA.

GERM 316 Introduction to German Applied Linguistics

★3 (fi 6) (either term, 3-0-0). Discussion of concepts in multilingualism, contrastive analysis, sociolinguistics, and pragmalinguistics as related to the study of German. Prerequisite: GERM 212 or consent of Department.

GERM 317 Practical Aspects of German Applied Linguistics

★3 (fi 6) (either term, 3-0-0). Grammar models and their application to language learning and teaching, error analysis, contrastive stylistics, translation, languages for special purposes, and cultural studies. Prerequisite: GERM 212 or consent of Department.

GERM 343 Cultural Studies II

★3 (fi 6) (either term, 3-0-0). Developments in society, politics, and popular as well as high culture from 1945 to the present in Germany, Austria, and Switzerland. Prerequisite: GERM 212 or consent of Department. Not to be taken by students with credit in GERM 340, 341, or 342.

GERM 351 Introduction to German Literary and Cultural Studies I

★3 (fi 6) (either term, 3-0-0). Deals with highlights of the German literary and cultural development on the basis of textual examples from Germanic times to the 18th century. Pre- or corequisite: GERM 303 or consent of Department.

GERM 352 Introduction to German Literary and Cultural Studies II

★3 (fi 6) (either term, 3-0-0). Deals with highlights of German literary and cultural development on the basis of textual examples from German Classical Weimar to the present. Pre- or corequisite: GERM 303 or consent of Department.

GERM 399 Special Topics

★3 (fi 6) (either term, 3-0-0). Prerequisite: GERM 212 or consent of Department.

GERM 402 Advanced German Composition, Conversation, and Translation

★3 (fi 6) (either term, 3-0-0). Prerequisite: GERM 304 or consent of Department. Not to be taken by students with credit in GERM 442. Note: This course can also be applied to the MLCS Certificate in Translation Studies.

GERM 404 Business German I

★3 (fi 6) (either term, 3-0-0). Advanced German, both spoken and written skills, for the German business world. Pre- or corequisite: GERM 303 or consent of Department. Note: not to be taken by students with credit in GERM 311 or 312.

GERM 405 Business German II

★3 (fi 6) (either term, 3-0-0). Continuation of GERM 404. Pre- or corequisite: GERM 304 or consent of Department. Note: not to be taken by students with credit in GERM 311 or 312.

GERM 409 German Dialects

★3 (fi 6) (either term, 3-0-0). A close look at some widely differing German dialects. Basic principles of German dialectology. Prerequisite: One of GERM 306, 316, 317, or consent of Department.

GERM 416 Second Language Acquisition: German

★3 (fi 6) (either term, 3-0-0). The course deals with the principles and processes in structured and unstructured language learning and with the different hypotheses and theories concerning language learning, in particular German. Prerequisite: One of GERM 306, 309, 316, 317, or consent of Department.

GERM 417 German Sociolinguistics

★3 (fi 6) (either term, 3-0-0). This course introduces students to sociolinguistic research with a special focus on learning German. The social status of a language and its effects on a learner, the use of dialects and gender-specific language in English and German will be discussed. Prerequisite: One of GERM 306, 309, 316, 317, 416, or consent of Department.

GERM 441 Introduction to Translation: German into English

★3 (fi 6) (either term, 3-0-0). Theory and practice of translation of texts in

contemporary and classical German literature. Prerequisite: GERM 304 or consent of Department. Note: This course can also be applied to the MLCS Certificate in Translation Studies.

GERM 443 Advanced Translation: German into English

★3 (fi 6) (either term, 3-0-0). Theories, methods, and strategies of advanced translation. Prerequisite: GERM 441 or consent of Department. Note: This course can also be applied to the MLCS Certificate in Translation Studies.

GERM 444 Exercises in Translation: English into German

★3 (fi 6) (either term, 3-0-0). Theory and practice of translation of texts in a variety of genres. Prerequisite: GERM 304. Note: not to be taken by students with credit in GERM 442. This course can also be applied to the MLCS Certificate in Translation Studies.

GERM 470 Women in German Literature

★3 (fi 6) (either term, 3-0-0). Selected writings by women and about women from various historical periods and genres. Selected historical periods and texts may vary in any given year. Prerequisites: GERM 351 or 352 or consent of Department.

GERM 475 Studies in German Drama I

★3 (fi 6) (either term, 3-0-0). Major developments in German drama to the early 19th century, with special attention to drama of the Enlightenment, the Storm and Stress, and the Classical Period. Prerequisites: GERM 351 or 352 or consent of Department.

GERM 476 Studies in German Drama II

★3 (fi 6) (either term, 3-0-0). Major developments in German drama in the 19th and 20th centuries, with special attention to dramas of Realism, Naturalism, Expressionism, and epic and contemporary theatre. Prerequisites: GERM 351 or 352 or consent of Department.

GERM 480 Studies in German Prose

★3 (fi 6) (either term, 3-0-0). Major developments in German prose through to the late 19th century, with special attention to works representing German Classicism, Romanticism, Realism, and Naturalism. Prerequisites: GERM 351 or 352 or consent of Department.

GERM 485 Studies in German Literature I

★3 (fi 6) (either term, 3-0-0). German literary texts from the perspective of a specific topic, theme, or problem (e.g. social unrest and reform, or nationalism). Prerequisites: GERM 351 or 352 or consent of Department.

GERM 486 Studies in German Literature II

★3 (fi 6) (either term, 3-0-0). German literary texts from the perspective of a specific topic, theme, or problem proposed (e.g. heroes, history and rebellion, or modern science and the scientist). Prerequisites: GERM 351 or 352 or consent of Department.

GERM 491 Teaching German in the Post-Secondary Classroom

★3 (fi 6) (either term, 3-0-0). A German applied linguistics course for senior undergraduate and graduate-level students in German who are considering a career in post-secondary German studies. It focuses on the theories, strategies, and different aspects of teaching German as a foreign language at the post-secondary level. The course differs from other language-teaching courses by focusing specifically on German and by addressing the needs and practices of post-secondary specialists. Prerequisite: GERM 304 or consent of Department.

GERM 492 German Discourse Analysis

★3 (fi 6) (either term, 3-0-0). Theories and methodologies of analyzing German texts from a linguistic perspective. Prerequisite: GERM 304 or consent of Department.

GERM 495 Honors Thesis

★3 (fi 6) (either term, 0-3s-0).

GERM 499 Special Topics

★3 (fi 6) (either term, 3-0-0).

Graduate Courses

GERM 514 German Dialects

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

GERM 518 Second Language Acquisition: German

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

GERM 591 Teaching German in the Post-Secondary Classroom

★3 (fi 6) (either term, 3-0-0). A German applied linguistics course for senior undergraduate and graduate-level students in German who are considering a career in post-secondary German studies. It focuses on the theories, strategies, and different aspects of teaching German as a foreign language at the post-secondary level. The course differs from other language-teaching courses by focusing specifically on German and by addressing the needs and practices of post-secondary specialists. Prerequisite: consent of Department.

GERM 592 German Discourse Analysis

★3 (fi 6) (either term, 3-0-0). Theories and methodologies of analyzing German texts from a linguistic perspective. Prerequisite: consent of Department.

GERM 599 Directed Reading

★3 (fi 6) (either term, 3-0-0).

GERM 660 Studies in a Genre

★3 (fi 6) (either term, 3-0-0).

GERM 670 Women in German Literature

★3 (fi 6) (either term, 3-0-0).

GERM 675 Studies in German Drama I

★3 (fi 6) (either term, 3-0-0).

GERM 676 Studies in German Drama II

★3 (fi 6) (either term, 3-0-0).

GERM 680 Studies in German Prose

★3 (fi 6) (either term, 3-0-0).

GERM 685 Studies in German Literature I

★3 (fi 6) (either term, 3-0-0).

GERM 686 Studies in German Literature II

★3 (fi 6) (either term, 3-0-0).

GERM 698 Topics in Germanic Linguistics

★3 (fi 6) (either term, 3-0-0).

GERM 699 Topics in German Literature and Culture

★3 (fi 6) (either term, 3-0-0).

GERM 900 Directed Research Project

★6 (fi 12) (variable, unassigned).

231.148 Greek, GREEK

Department of History and Classics
Faculty of Arts

Notes

- (1) Prerequisite for all 400-level GREEK courses: GREEK 300 or 302, or consent of Department.
- (2) For additional related courses see Classics and Latin listings.

Undergraduate Courses

0 GREEK 101 Beginners' Greek I

★3 (fi 6) (either term, 3-0-1). Elements of Classical Greek grammar and the reading of simple texts. Not open to students with credit in matriculation-level Greek.

0 GREEK 102 Beginners' Greek II

★3 (fi 6) (either term, 3-0-1). A continuation of GREEK 101. Prerequisite: GREEK 101 or consent of Department.

0 GREEK 301 Intermediate Greek I

★3 (fi 6) (either term, 3-0-1). Review of grammar, reading of Greek texts; translation of simple sentences from English into Greek. Prerequisite: GREEK 102 or consent of Department.

0 GREEK 302 Intermediate Greek II

★3 (fi 6) (either term, 3-0-0). Selections from Greek poetry and prose. Prerequisite: GREEK 301 or consent of Department.

L GREEK 470 Greek Historians

★3 (fi 6) (either term, 3-0-0).

L GREEK 475 Greek Drama

★3 (fi 6) (either term, 3-0-0).

L GREEK 477 Greek Prose Authors

★3 (fi 6) (either term, 3-0-0).

L GREEK 479 Koine Greek

★3 (fi 6) (either term, 3-0-0). Readings and studies in the New Testament and the Church Fathers and other Koine writings.

L GREEK 481 Greek Epic

★3 (fi 6) (either term, 3-0-0).

GREEK 482 Topics in Greek Poetry

★3 (fi 6) (either term, 3-0-0).

GREEK 483 Topics in Greek Literature

★3 (fi 6) (either term, 3-0-0).

L GREEK 499 Individual Study in Greek Authors

★3 (fi 6) (either term, 3-0-0).

GREEK 500 Fourth-Year Honors Tutorial

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

Graduate Courses

GREEK 501 Greek Epic and Didactic Poetry

★3 (fi 6) (either term, 3-0-0).

GREEK 505 Greek Poetry

★3 (fi 6) (either term, 3-0-0).

GREEK 507 Greek Historiography

★3 (fi 6) (either term, 3-0-0).

GREEK 509 Greek Prose Writers

★3 (fi 6) (either term, 3-0-0).

GREEK 551 Topics in Greek Literature

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

GREEK 575 Topics in Greek Drama

★3 (fi 6) (either term, 3-0-0).

GREEK 579 Topics in Koine Greek

★3 (fi 6) (either term, 3-0-0). Readings and studies in the New Testament and the Church Fathers and other Koine writings.

GREEK 599 Supervised Reading

★3 (fi 6) (either term, 3-0-0).

GREEK 699 Conference Course

★3 (fi 6) (either term, 3-0-0).

231.149 Health Education, HE ED

Faculty of Physical Education and Recreation

Note: See also INT D 410 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.

Undergraduate Courses

0 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 220 Introduction to Personal Fitness

★3 (fi 6) (either term, 3-0-0). A biological analysis of the contributions of physical activity to health. Emphasis is on the knowledge and understanding of basic concepts and methods of physical fitness and active living. Prerequisite: HE ED 110.

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 320 Social Dimensions of Health Promotion

★3 (fi 6) (either term, 3-0-0). An examination of social policies and systems as they affect health and well-being. A macro level approach to understanding health and health promotion in communities and the population at large. Specific attention will be paid to worksite, municipal, provincial and federal programs and policies. Prerequisite: HE ED 110.

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.

HE ED 497 Selected Topics in Health Education

★3 (fi 6) (either term, variable). Topics of current interest in the area of Health Education. Note: Topics will vary from Term to Term. Prerequisite: Consent of Faculty.

HE ED 499 Directed Studies

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

231.150 Health Promotion Studies, HPS

Centre for Health Promotion Studies

School of Public Health

Graduate Courses

HPS 501 Social and Behavioural Foundations in Promoting Health

★3 (fi 11) (either term, 1-2s-0). A survey of the scientific literature on determinants of health status and subjective well-being, designed to review ecological approaches to health and the methodologies required for testing them. A variety of theoretical formulations of health and well-being are reviewed in relation to individuals, interpersonal relations, small groups, organizations, demographics, economics, public policies and ethical issues. The relative impact of constructs at different levels of analysis is considered. HPS 501 is a pre- or co-requisite for all other HPS courses.

HPS 502 Conduction Research in Health Promotion

★6 (fi 12) (either term, 0-6s-0). An introduction to different measurement methodologies used in Global Health settings including rapid epidemiological assessment, verbal autopsies, focus groups, semi-structured surveys, structured survey designs, and sampling methods.

HPS 503 Introduction to Health Promotion Research

★3 (fi 11) (either term, 3-0-0). Foundations of basic and applied research in health promotion. Consideration is given to a road range of research strategies including qualitative and quantitative methods. Emphasis is on a critical understanding of why, when, and how to apply different research strategies to answer specific health promotion questions. Pre- or corequisite: HPS 501. Students with insufficient background in undergraduate statistics will be required to complete a qualifying course in this area. Not to be taken by students with credit in INT D 503.

HPS 504 Health Promotion Planning and Evaluation

★3 (fi 6) (either term, 0-3s-0). This course is designed to provide students with knowledge of the basic concepts, principles, facts and theories which relate to health program planning and program evaluation. Emphasis is on understanding the interface between and among planning principles, evaluation processes and organizational structures. The course also stresses the importance of analytical and communication skills as they apply to these processes. Prerequisites: HPS 501 and 503. Not to be taken by students with credit in INT D 504. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

HPS 505 Strategies in Health Promotion Practice

★3 (fi 11) (either term, 0-3s-0). An analysis of the principles of intervention at individual, community, organization and policy development levels. An overview of the strategies used in the practice of health promotion/evaluation and their application in a variety of health promotion settings (e.g. schools, the workplace, community and health centres). Prerequisite: HPS 501.

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 507 Public Policy and Health Promotion

★3 (fi 6) (either term, 0-3s-0). Examines the formation, implementation, and impact of health policy, with a specific emphasis on health promotion. Designed to ground the student in the structures and processes associated with public policy, and to facilitate the critical multi-disciplinary evaluation of selected health-related incidents and issues. While emphasis is placed on the Canadian context, case examples and general readings come from a variety of international jurisdictions. Prerequisite: HPS 501 or consent of instructor. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

HPS 508 Psychosocial Perspectives on Health

★3 (fi 9) (either term, 0-3s-0). A critical, interdisciplinary review of psychosocial health concepts (disease, wellness, risk, empowerment, identity); health frameworks (risk and protection, health determinants) and health promotion interventions (education, advocacy, collaboration, social control and agency). Theoretical and methodological implications from a variety of disciplinary perspectives are considered. Prerequisite: HPS 501 or consent of instructor. May contain alternate delivery sections; refer to 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 510 Health Promotion with Communities

★3 (*fi 6*) (either term, 0-3s-0). In this course, learners focus on people taking collective action to influence change. Comprehensive strategies for promoting health are examined and analyzed by example, framed by “empowerment” education, creating supportive environments, strengthening community action and advocating for healthy policies. Learners explore questions and challenges in applying health promotion principles, concepts and theories to practice at the community level. The value of democratic approaches to decision-making is an underlying premise for this course. Note: Pre-or corequisite: HPS 501. Credit will be granted for only one of HPS 510 or NURS 531. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

HPS 512 Health Promotion Practicum

★3-6 (*variable*) (variable, unassigned). This course provides an opportunity for the student to work as part of an interdisciplinary team on a particular component of a health promotion project in the community. Normally, students will possess an academic background enabling them to assume responsibilities for planning and implementing interdisciplinary health promotion activities. Postgraduate Diploma prerequisites: HPS 501, 510 and an approved program planning/evaluation course. MSc Candidates prerequisites: HPS 501, 503, 510, and an approved program planning/evaluation course. Note: ★3 required for Postgraduate Diploma; ★6 required for MSc (thesis) and MPH Health Promotion. Not to be taken by students with credit in HPS 513. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

HPS 513 Practicum and Capping Exercise

★9 (*fi 27*) (variable, variable). Designed to provide students with a full-time, four-month experience in the community as part of an interdisciplinary team. The capping exercise portion will require students to complete a project where they demonstrate their ability to integrate health promotion concepts, principles and theories, and apply their critical thinking skills. A conference style presentation and discussion of that project is required. Normally students will be expected to complete all their course requirements prior to enrolling in HPS 513. Open to students in the MPH in health promotion only. 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 9*) (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 603 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 606 Current Topics in Health Promotion

★3 (*fi 6*) (either term, variable). Discussion and presentations based on current topics to provide senior master's candidates and doctoral students with advanced preparation in the social, cultural, and behavioural influences on the health of populations and individuals. Prerequisite: consent of Department. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

HPS 618 Diversity and Health in Families and Communities

★3 (*fi 9*) (either term, 0-3s-0). Theoretical approaches and practical issues regarding the provision of health care in Canada with a focus on aboriginal, refugee and immigrant families. Human ecological models, health promotion, and ethical issues will be examined within a framework of cultural diversity. Pre and corequisite: 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.

HPS 798 Biostatistics III

★3 (*fi 6*) (either term, 3-0-0). Advanced biostatistical methods for the design and analysis for health sciences research. Topics include longitudinal and correlated data analysis methods, (including generalized estimating equations and random-effects models), advanced survival analysis and ROC-analysis. Pre-requisites: PHS 698 or permission of instructor.

HPS 900 Capping Exercise

★3 (*fi 6*) (variable, unassigned). Designed to evaluate students' ability to seek out, appraise, and integrate information in the study of health promotion. Development of a written proposal for program funding or a health promotion strategy. Conference style presentation and discussion. Normally students will be expected to complete all their course requirements prior to enrolling in HPS 900. Open to students in the MSc (course-based) only. May contain alternative delivery sections; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

231.151 Histoire, HISTE

Faculté Saint-Jean

Cours de 1er cycle**HISTE 120 Histoire du monde depuis le XVIIIe siècle**★6 (*fi 12*) (aux deux semestres, 3-0-0). Cours de base du BA de 4 ans.**HISTE 260 Introduction à l'étude de l'histoire du Canada de 1713 à 1867**

★3 (*fi 6*) (premier semestre, 3-0-0). Ce cours est conçu pour servir de base aux cours de niveau supérieur en histoire canadienne, l'accent étant mis sur le Canada d'expression anglaise, ses relations aux autres groupes (Français, Autochtones et les groupes de la diaspora multiculturelle), la situation des femmes au Canada, l'émigration et l'immigration.

HISTE 261 Introduction à l'étude de l'histoire du Canada de 1867 à nos jours

★3 (*fi 6*) (deuxième semestre, 3-0-0). Ce cours est conçu pour servir de base aux cours de niveau supérieur en histoire canadienne et constitue la suite de HISTE 260. Préalable: HISTE 260.

HISTE 303 Construction et identité européennes

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Ce cours étudie l'émergence et l'évolution de l'idée d'Europe, analyse le processus d'unification européenne (de 1945 à nos jours) dans une perspective avant tout historique et, enfin, propose une réflexion critique sur l'identité européenne. Préalable(s) : HISTE 120.

HISTE 311 Histoire de l'Afrique francophone

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Étude de l'Afrique francophone de la décolonisation à nos jours : le poids de son passé colonial, ses défis politiques, économiques et sociaux, sa place au sein de la francophonie internationale. Préalable(s) : HISTE 120.

231.152 History, HISTDepartment 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.

Notes

- See also INT D 475, and 498, STS 200, for courses which are offered by more than one Department or Faculty and which may be taken as options or as a course in this discipline.
- 400-level courses are normally conducted as seminars; all are variable content courses and 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 enroll in 400-level courses are expected to have at least ★12 in History, including ★6 at the 200 or 300 level (HIST 190 may be substituted for ★3), with an average of a least 2.3. If they do not, they must obtain written permission from the instructor prior to their registration.
- HIST 110, 111, 112, and 120 are designed to provide a foundation for senior and advanced history courses, and also background for studies in related humanities and social sciences.

Undergraduate Courses**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 111 The Early Modern World

★3 (*fi 6*) (either term, 3-0-0). World history from the 15th century through the 18th 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 113 War and Peace in World History

★3 (*fi 6*) (either term, 3-0-0). How and why people have fought each other in the past and the consequences of those wars; efforts to prevent or contain wars from Lysistrata to the UN Security Council; international prosecution of war criminals.

HIST 114 The History of the World in the Last 10 Years

★3 (*fi 6*) (either term, 3-0-0). Global historical developments over the last 10 years with emphasis on the interaction of states and peoples.

HIST 115 Technology and History

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

HIST 116 The Emergence of the Atlantic World

★3 (fi 6) (either term, 3-0-0). The history and legacies of the transatlantic slave trade that linked Europe, Africa, and the Americas, emphasizing economic, political, social and cultural ramifications.

HIST 117 Islam and Globalization, c.800-1800

★3 (fi 6) (either term, 3-0-0). Islam as a force shaping cultural, economic and political systems during early phases of globalization.

HIST 118 Sexualities and Gender in History

★3 (fi 6) (either term, 3-0-0). The shifting configurations and understandings of sexuality and gender. Emphasizes the links between these personal realms and wider political and social dynamics.

L HIST 190 Research Skills and Tools

★3 (fi 6) (either term, 3-0-0). Designed for prospective history students. 30% of the class will be devoted to developing reading and writing skills. Includes an introduction to the basic concepts of historical inquiry.

L HIST 206 Introduction to the History of Women in Europe

★3 (fi 6) (either term, 3-0-0). Introduction to the study of women's history. Examines the position of women in Western societies from the Middle Ages to the 20th century.

O HIST 207 Pre-Modern Europe I

★3 (fi 6) (either term, 3-0-0). A survey of Europe from the fourth to the thirteenth century.

L HIST 210 Europe in the 19th and 20th Centuries

★3 (fi 6) (either term, 3-0-0).

HIST 212 Pre-Modern Europe II

★3 (fi 6) (either term, 3-0-0). A survey of western and central European history from approximately 1200 to 1800.

L 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.

O HIST 229 Britain and Its Peoples in the Modern Era

★3 (fi 6) (either term, 3-0-0). Survey of the major themes and issues in the formation of modern Britain from 1688 to the present.

O HIST 231 Scotland from Early Times to the Present Day

★3 (fi 6) (either term, 3-0-0). Survey of the history of Scotland from the Reformation to the present.

O HIST 232 Ireland from Early Times to the Present Day

★3 (fi 6) (either term, 3-0-0). Survey of the history of Ireland from St Patrick to the present.

O HIST 241 Colonial Latin America

★3 (fi 6) (either term, 3-0-0). Survey of Latin American history to 1810.

O HIST 242 Modern Latin America

★3 (fi 6) (either term, 3-0-0). Survey of Latin American history since 1810.

HIST 243 History of the Early Muslim World: from Mecca to Spain and Java

★3 (fi 6) (either term, 3-0-0). Provides broad historical overview of emergence of Islam in seventh century and its expansion to non-Arab societies in Asia, Africa, and Europe by fifteenth century. Among issues discussed will be political history and worldwide social, cultural and economic impact of this expansion.

O HIST 246 Africa from Medieval to Modern Times

★3 (fi 6) (either term, 3-0-0). African history to the 19th century.

O HIST 247 Africa: From Colonialism to Self-Rule

★3 (fi 6) (either term, 3-0-0). African history since the 19th century.

O HIST 250 American History to 1865

★3 (fi 6) (either term, 3-0-0). Survey of United States history from colonial times to the Civil War.

O 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.

O HIST 260 Pre-Confederation Canada

★3 (fi 6) (either term, 3-0-0).

O HIST 261 Post-Confederation Canada

★3 (fi 6) (either term, 3-0-0).

HIST 270 The History of Science, Technology and Medicine: Sources in the History of Science

★3 (fi 6) (either term, 0-3s-0). The history of science through an analysis of various primary sources. Registration priority will be given to students in Honors, Majors or Minors in History.

HIST 271 Social and Economic History

★3 (fi 6) (either term, 0-3s-0). Investigates the perspectives and methodologies developed for studying societies and economies of the past. Registration priority will be given to students in Honors, Majors or Minors in History.

HIST 272 Religion in History

★3 (fi 6) (either term, 0-3s-0). A study of a religious tradition(s), its teachings and rituals, along with its function in a specific historical setting, including its role in conditioning and reflecting a particular society and culture. Registration priority will be given to students in Honors, Majors or Minors in History.

L HIST 273 Cultural Studies in History

★3 (fi 6) (either term, 0-3s-0). Introduction to the study of culture as a concept and as a historical factor, and to cultural studies as a discipline with particular historical and theoretical roots. Registration priority will be given to students in Honors, Majors or Minors in History.

HIST 274 Gender in History

★3 (fi 6) (either term, 0-3s-0). Examination of gender as a useful tool for historical analysis. Registration priority will be given to students in Honors, Majors or Minors in History.

HIST 275 Political History

★3 (fi 6) (either term, 0-3s-0). An introduction to the traditions, techniques, sources, methods and reasons for studying political history. Registration priority will be given to students in Honors, Majors or Minors in History.

HIST 276 International Affairs and History

★3 (fi 6) (either term, 0-3s-0). An introduction to the traditions, techniques, sources, methods and reasons for studying International Affairs. Registration priority will be given to students in Honors, Majors or Minors in History.

O HIST 280 East Asia to 1500

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

O HIST 281 East Asia from 1500

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

O HIST 285 China and the West

★3 (fi 6) (either term, 3-0-0). A survey of Chinese-Western cultural interactions from the time of Marco Polo to the present.

L 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 290 Introduction to History as a Discipline

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

L HIST 294 An Introduction to the History of Sciences, Technology, and Medicine

★3 (fi 6) (either term, 3-0-0). Broad survey of topics in the history of science, technology, and medicine.

L 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.

L HIST 296 World War Two

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

L HIST 297 The History of Christianity

★3 (fi 6) (either term, 3-0-0). Lecture and discussion course about the development of one of the leading religious traditions in the world. Not open to students who have successfully completed CHRTC 297.

O HIST 300 Topics in European History

★3 (fi 6) (either term, 3-0-0).

O HIST 301 Early Medieval Europe

★3 (fi 6) (either term, 3-0-0). A study of the conditions that led to the making of medieval Europe, from the period of Christian persecution to the Gregorian Reform of the eleventh century.

O HIST 305 France in Revolution, 1760-1870

★3 (fi 6) (either term, 3-0-0). An introduction to the history of France from the origins of the French Revolution to the downfall of Napoleon III.

O HIST 310 A History of the Habsburg Monarchy, 1526-1918

★3 (fi 6) (either term, 3-0-0). The multinational empire of the Habsburgs from the unification of Austria, Bohemia and Hungary to the destruction of the empire in World War I. Note: Not open to students with credit in HIST 307.

O HIST 312 Foundations of East European History

★3 (fi 6) (either term, 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.

O HIST 313 Medieval and Early Imperial Russia

★3 (fi 6) (either term, 3-0-0). Russia from Kievan Rus' through Catherine the Great's reign, 900s to 1800. Note: Note open to students with credit in HIST 318.

O HIST 314 Russia From Reform to Revolution, 1800 - 1917

★3 (fi 6) (either term, 3-0-0). Reaction, reform, and revolution from Paul I to Nicholas II. Note: Not open to students with credit in HIST 318.

O HIST 316 The Ukrainian National Idea

★3 (fi 6) (either term, 3-0-0). The Ukrainian national revival in the Russian empire and Habsburg monarchy; collapse of the empires and struggles to establish Ukrainian statehood.

O HIST 317 Ukraine Since 1920

★3 (fi 6) (either term, 3-0-0). The Soviet Ukrainian Republic, Ukrainian lands in Central Europe during the interwar period, independent Ukraine.

O HIST 322 Russia in the 20th Century

★3 (fi 6) (either term, 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.

O HIST 323 The Middle East in the Making: 1300-1920

★3 (fi 6) (either term, 3-0-0). The rise and demise of the Ottoman Empire. An overview of the religious, cultural and political making of current-day North Africa, Near and Middle East, and Eastern Mediterranean. No Prerequisites: although HIST 120/111/112 would be helpful.

O HIST 324 Historical Writing: The Israelite Tradition

★3 (fi 6) (either term, 3-0-0). A study of the Deuteronomistic History (the books from Joshua to 2 Kings in the Hebrew Bible) and of the Chronicistic History (the books of 1-2 Chronicles in the Hebrew Bible) in their ancient near eastern context.

O HIST 325 History of Domestic Technology

★3 (fi 6) (either term, 3-0-0).

O HIST 326 Topics in History at the Movies

★3 (fi 6) (either term, 3-0-0). This course will provide students with the historical tools to analyze history as it is presented in movies. The topics will vary according to the instructor(s).

O HIST 327 History of Modern Ireland

★3 (fi 6) (either term, 3-0-0). Encompasses events in Ireland from the Act of Union in 1800 to the present day. As a history with an abundant mixture of tragedy and triumph, the course will investigate the unfolding of Ireland's story over the modern period in its political, social, economic and cultural dimensions.

O HIST 328 Everyday Life and Popular Culture in Early Britain

★3 (fi 6) (either term, 3-0-0). How British peoples have lived, worked and understood their daily lives from ancient times until the Industrial Revolution.

L HIST 329 The Forming of England

★3 (fi 6) (either term, 3-0-0). Survey of the emergence of the English state and culture from the collapse of Roman Britain to 1189.

O HIST 331 England in the Age of Robin Hood

★3 (fi 6) (either term, 3-0-0). Survey of the history of England during the later Middle Ages (1189-1485).

O HIST 332 The Rise and Fall of the Tudor Regime

★3 (fi 6) (either term, 3-0-0). From medieval kingdoms to the dawn of a single Britain, the turbulent era of Protestantism, revolutions and centralizing monarchs (1485-1660).

O HIST 335 Everyday Life and Popular Culture in Modern Britain

★3 (fi 6) (either term, 3-0-0). How British peoples have lived, worked and understood their daily lives from the Industrial Revolution to the present.

O HIST 336 The Transformation of British Society, 1660-1851

★3 (fi 6) (either term, 3-0-0). Political, economic and social changes that contributed to the making of modern Britain.

O HIST 339 The Second British Empire and the Commonwealth Experience in the 19th and 20th Century

★3 (fi 6) (either term, 3-0-0).

O HIST 340 Topics in British History

★3 (fi 6) (either term, 3-0-0).

O HIST 342 Political and Social Revolution in Latin America

★3 (fi 6) (either term, 3-0-0). Prerequisite: HIST 241/242 or consent of Department.

O HIST 343 Mexico

★3 (fi 6) (either term, 3-0-0). Mexican history with emphasis on the modern period. Prerequisites: HIST 241 and 242 or consent of Department.

O HIST 347 Topics in African History

★3 (fi 6) (either term, 3-0-0).

O HIST 351 History of Women in the United States

★3 (fi 6) (either term, 3-0-0). A multicultural and multiracial history of women from the colonial period to the present.

O HIST 352 History of American Minorities

★3 (fi 6) (either term, 3-0-0). The experiences of racial and ethnic minorities and the meanings of race and ethnicity in American history including such groups as African Americans and Asian Americans.

O HIST 353 History of American Medicine

★3 (fi 6) (either term, 3-0-0). The social history of American health care and health practitioners. How sickness, health, and healing have changed over the course of American history.

L HIST 358 History of the Canadian and Circumpolar Arctic

★3 (fi 6) (either term, 3-0-0). The Canadian Arctic in Circumpolar (including Scandinavian and Russian/Soviet) perspective over the course of the period of contact by Europeans with Native peoples (sixteenth century to present).

O HIST 360 Topics in Canadian History

★3 (fi 6) (either term, 3-0-0).

L HIST 361 Military History of Canada

★3 (fi 6) (either term, 3-0-0). Canadian armed conflicts from the Iroquois Wars to the Gulf War; emphasis will be on the evolution of weapons, tactics and military organization.

O HIST 362 History of Alberta

★3 (fi 6) (either term, 3-0-0). Economic, social, and political realities that underlie the many images of Alberta.

O HIST 363 History of Canadian External Relations

★3 (fi 6) (either term, 3-0-0).

O HIST 365 The Canadian West to 1885

★3 (fi 6) (first term, 3-0-0). Native diplomacy and warfare, the development of fur trade societies, and European colonization to the suppression of the North-West Rebellion.

O HIST 366 The Canadian West Since 1885

★3 (fi 6) (either term, 3-0-0). Economic, social, and political aspects of regional alienation, identity, and protest.

O HIST 367 History of Ukrainians in Canada

★3 (fi 6) (either term, 3-0-0). Ukrainian-Canadian life within the context of Canadian immigration policies and nation building and the experiences of other ethnic groups.

O HIST 368 History of the Native Peoples of Canada to 1867

★3 (fi 6) (either term, 3-0-0). Native cultures and societies, Native-newcomer relations, colonial Indian policy, and Native resistance to colonialism.

O HIST 369 History of the Native Peoples of Canada Since 1867

★3 (fi 6) (either term, 3-0-0). Federal Indian policy, treaties, reserve life, Native political resurgence, and legal and constitutional developments.

O HIST 371 History of Women in Canadian Society

★3 (fi 6) (either term, 3-0-0). The biological, social, economic, and political forces shaping women's lives from the colonization of New France to the present.

HIST 373 Peasants, Slaves and Workers

★3 (fi 6) (either term, 3-0-0). The history of work regimes and regulation from feudalism to the present.

O HIST 374 French Canada to Confederation

★3 (fi 6) (either term, 3-0-0). The emergence of a distinctive Canadian society under the French Crown and its subsequent development within British North America.

O HIST 375 French Canada Since Confederation

★3 (fi 6) (either term, 3-0-0). The survival of the French Community in Canada within the context of Quebec nationalism, ethnic conflict, and constitutional reform.

O HIST 376 Canada 1900 to 1945

★3 (fi 6) (either term, 3-0-0). Booms and depressions, world wars, social strife, and political experiments mark one of the most turbulent and critical eras in the nation's history.

O HIST 377 Canada Since 1945

★3 (fi 6) (either term, 3-0-0). Economic, political, social and cultural developments in the postwar era.

O HIST 381 The Land of the Rising Sun: Japan to 1868

★3 (fi 6) (either term, 3-0-0).

O HIST 382 Search for a Destiny: Japan's Modern Era, 1868-Present

★3 (fi 6) (either term, 3-0-0). Social, political, economic and technological development; motivations, policies, obstacles and achievements are emphasized.

O HIST 383 The Civilization and Culture of Early China

★3 (fi 6) (either term, 3-0-0). This course focuses on the formative periods of Chinese civilization from prehistory to circa 600.

O HIST 384 History of Chinese Philosophy

★3 (fi 6) (either term, 3-0-0). Historical development of the major philosophical traditions in pre-modern China.

O HIST 385 Modern China

★3 (fi 6) (either term, 3-0-0). The history of China from the Opium Wars to the present.

HIST 389 Topics in Historical Methodology and Theory

★3 (fi 6) (either term, 0-3s-0). Selected key issues regarding historical method and theory. Fulfills ★3 of the History prerequisite for admission to 400-level seminars. Prerequisite: HIST 190 or 290. Cannot be taken concurrently with HIST 500 or by students with credit in HIST 500. Registration priority will be given to students in Honors, Majors or Minors in History.

O HIST 390 Imperial China from circa 600 to 1911

★3 (fi 6) (either term, 3-0-0). The institutional and social history of imperial China from the Tang to the Manchu Ch'ing dynasties.

O HIST 391 History of Technology

★3 (fi 6) (either term, 3-0-0). History of technology from the building of the pyramids to the International Space Station.

L HIST 394 History of Astronomy and Cosmology from Stonehenge to the Space Age

★3 (fi 6) (either term, 3-0-0). An examination of the major themes in the history of astronomy and cosmology from the ancient world to the present day.

O HIST 396 History of Medicine I

★3 (fi 6) (either term, 3-0-0). Introduction to European medicine from Hippocrates to William Harvey and his immediate successors.

L HIST 397 History of Science I

★3 (fi 6) (either term, 3-0-0). Introduction to the intellectual, institutional, and ideological development of science, from Aristotle to the 'Scientific Revolution'.

O HIST 398 History of Science II

★3 (fi 6) (either term, 3-0-0). Introduction to the intellectual, institutional, and ideological development of science, from Newtonianism to the present day.

O HIST 399 History of Medicine II

★3 (fi 6) (either term, 3-0-0). Introduction to the changing content, practice, and organization of European medicine since 1700.

HIST 402 Women in Modern European History

★3 (fi 6) (either term, 0-3s-0).

HIST 403 Topics in Medieval European History

★3 (fi 6) (either term, 0-3s-0).

HIST 410 The French Revolution

★3 (fi 6) (either term, 0-3s-0).

HIST 411 Topics in the History of Modern France

★3 (fi 6) (either term, 0-3s-0).

HIST 414 Topics in the History of Modern Germany

★3 (fi 6) (either term, 0-3s-0).

HIST 415 Topics in Ukrainian History

★3 (fi 6) (either term, 0-3s-0).

HIST 416 Topics in Eastern European History

★3 (fi 6) (either term, 0-3s-0).

HIST 419 Topics in Soviet History

★3 (fi 6) (either term, 0-3s-0).

HIST 420 Topics in the History of Early Modern Europe

★3 (fi 6) (either term, 0-3s-0). Thematic studies in European cultural, religious, and social history emphasizing popular culture and religion.

HIST 421 Topics in the History of Europe

★3 (fi 6) (either term, 0-3s-0).

HIST 424 Constructions of the Past and the Development of Social Memory in Ancient Israel

★3 (fi 6) (either term, 0-3s-0). The role of social memory in Ancient Israel, as reflected in the texts that eventually formed the Bible.

HIST 425 Topics in History of Ancient Israel

★3 (fi 6) (either term, 0-3s-0).

HIST 429 Topics in British History

★3 (fi 6) (either term, 0-3s-0).

HIST 430 Topics in the History of Anglo-Saxon England

★3 (fi 6) (either term, 0-3s-0).

HIST 431 Topics in the History of England from the Conquest (1066) to 1500

★3 (fi 6) (either term, 0-3s-0).

HIST 432 Topics in 16th-Century British History

★3 (fi 6) (either term, 0-3s-0).

HIST 437 Topics in British Social History Since 1714

★3 (fi 6) (either term, 0-3s-0).

HIST 441 Topics in Latin American History to 1850

★3 (fi 6) (either term, 0-3s-0). Prerequisite: HIST 241/242 or consent of Department.

HIST 442 Topics in Latin American History Since 1850

★3 (fi 6) (either term, 0-3s-0). Prerequisite: HIST 241/242 or consent of Department.

HIST 446 Themes and Issues in African History

★3 (fi 6) (either term, 0-3s-0).

HIST 448 New Approaches in Africa

★3 (fi 6) (either term, 0-3s-0).

HIST 450 Topics in American History

★3 (fi 6) (either term, 0-3s-0).

HIST 452 Topics in 19th-Century America

★3 (fi 6) (either term, 0-3s-0).

HIST 453 Topics in 20th-Century America

★3 (fi 6) (either term, 0-3s-0).

HIST 459 Topics in American History Since 1945

★3 (fi 6) (either term, 0-3s-0).

HIST 460 Topics in Canadian History

★3 (fi 6) (either term, 0-3s-0).

HIST 461 Topics in History of Immigrant and Ethnic Women in Canada

★3 (fi 6) (either term, 0-3s-0).

HIST 464 Topics in the History of the Canadian West

★6 (fi 12) (two term, 0-3s-0).

HIST 467 Topics in Alberta History

★3 (fi 6) (either term, 0-3s-0).

HIST 468 Topics in the History of Ethnic Settlement

★3 (fi 6) (either term, 0-3s-0).

HIST 470 Topics in Canadian Social History

★3 (fi 6) (either term, 0-3s-0).

HIST 474 Topics in the History of French Canada

★3 (fi 6) (either term, 0-3s-0).

HIST 478 Topics in the History of the Canadian North

★3 (fi 6) (either term, 0-3s-0).

HIST 480 Topics in Japanese History

★3 (fi 6) (either term, 0-3s-0). Prerequisite: A course in Asian history or consent of Department.

HIST 481 Topics in Chinese History

★3 (fi 6) (either term, 0-3s-0). Prerequisite: A course in Asian history or consent of Department.

HIST 483 Topics in the History of Chinese Thought

★3 (fi 6) (either term, 0-3s-0). An examination of the major traditions and developments of Chinese thought. How Confucian, Taoist, Legalist and Buddhist concepts shaped the politics, history and culture of traditional China is of particular interest to the course. Prerequisite: A previous course in Asian history or consent of Department.

HIST 486 Topics in the History of Technology

★3 (fi 6) (either term, 0-3s-0).

HIST 488 Topics in the History of Medicine

★3 (fi 6) (either term, 0-3s-0).

HIST 489 Conference Seminar

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

HIST 490 Topics in British Empire and Commonwealth History

★3 (fi 6) (either term, 0-3s-0).

HIST 492 Topics in History and Theory

★3 (fi 6) (either term, 0-3s-0).

HIST 493 War and Society in the Modern World

★3 (fi 6) (either term, 0-3s-0).

HIST 494 Topics in Comparative History

★3 (fi 6) (either term, 0-3s-0).

HIST 496 Topics in the History of Science

★3 (fi 6) (either term, 0-3s-0). Prerequisite: At least one of HIST 294, 396, 397, 398 or 399 or consent of Department.

HIST 497 History of Women and Health

★3 (fi 6) (either term, 0-3s-0). This seminar examines the multi-cultural history of women as health practitioners, patients, and health activists in North America. Not open to students who have successfully completed WST 497.

HIST 498 Directed Study

★3 (fi 6) (either term, 0-3s-0).

HIST 500 Methodology and Historiography for Honors Students

★6 (fi 12) (two term, 0-3s-0).

HIST 501 Special Subject, Fourth Year Honors History

★6 (fi 12) (two term, 0-3s-0). Preparation of the Honors essay, required in the fourth year of the Honors program.

HIST 502 Directed Study

★6 (fi 12) (two term, 0-3s-0). Note: For students in the fourth year of the Honors program.

Graduate Courses**Note:** Previous study in the area is prerequisite for each course.**HIST 601 Philosophy of History and Methodology**

★3 (fi 6) (either term, 0-3s-0).

HIST 602 Research Methods and Resources in History

★1 (fi 2) (either term, 0-1s-0).

HIST 603 History of Historical Writing

★3 (fi 6) (either term, 0-3s-0).

HIST 604 The Application of the Social Sciences to History

★3 (fi 6) (either term, 0-3s-0).

HIST 605 Topics in the Nature of Historical Controversy

★3 (fi 6) (either term, 0-3s-0).

HIST 609 Directed Study

★3 (fi 6) (either term, 0-3s-0). This is a credit/fail course. Not open to students in the non-thesis program.

HIST 610 Interpretations of World History

★3 (fi 6) (either term, 0-3s-0). A critical study, with emphasis on current examples, of works attempting to present a synthesis of world history.

HIST 614 Topics in the History of Later Medieval and Early Modern Europe

★3 (fi 6) (either term, 0-3s-0). A reading knowledge of at least one of the following languages is required: Latin, German, French, Dutch or Italian.

HIST 630 Problems in Imperial Russian History

★3 (fi 6) (either term, 0-3s-0).

HIST 631 Problems in 20th-Century Russian History

★3 (fi 6) (either term, 0-3s-0).

HIST 633 Problems in Modern East European History

★3 (fi 6) (either term, 0-3s-0).

HIST 640 Rural Society in Medieval England

★3 (fi 6) (either term, 0-3s-0).

HIST 641 The Rise of Consumer Society: Comparative Explorations of Culture, Society and Economy, c. 1500-1900

★3 (fi 6) (either term, 0-3s-0).

HIST 642 Gender and the Creation of Modern Industrial Society: Britain c. 1600-1900

★3 (fi 6) (either term, 0-3s-0).

HIST 643 The Institutional and Legal History of Early-Modern England

★3 (fi 6) (either term, 0-3s-0).

HIST 646 The British Empire and Commonwealth

★3 (fi 6) (either term, 0-3s-0).

HIST 650 Topics in United States Women's History

★3 (fi 6) (either term, 0-3s-0).

HIST 653 Topics in U.S. History

★3 (fi 6) (either term, 0-3s-0).

HIST 655 Slavery and Anti-Slavery in the United States

★3 (fi 6) (either term, 0-3s-0).

HIST 658 Topics in American History Since 1945

★3 (fi 6) (either term, 0-3s-0).

HIST 660 Topics in Canadian History

★3 (fi 6) (either term, 0-3s-0).

HIST 664 Topics in Western Canadian History

★3 (fi 6) (either term, 0-3s-0).

HIST 666 Topics in the History of British North America

★3 (fi 6) (either term, 0-3s-0).

HIST 676 Topics in Canadian Social History

★3 (fi 6) (either term, 0-3s-0).

HIST 685 Tradition and Modernity in China

★3 (fi 6) (either term, 0-3s-0).

HIST 686 Topics in Modern Chinese History

★3 (fi 6) (either term, 3-0-0).

HIST 687 Topics in Japanese History

★3 (fi 6) (either term, 0-3s-0).

HIST 691 Topics in Latin American History to 1850

★3 (fi 6) (either term, 0-3s-0).

HIST 692 Topics in Latin American History Since 1850

★3 (fi 6) (either term, 0-3s-0).

HIST 693 Topics in Military History

★3 (fi 6) (either term, 0-3s-0).

HIST 696 Topics in the History of the Sciences

★3 (fi 6) (either term, 0-3s-0).

HIST 697 Topics in the History of Technology

★3 (fi 6) (either term, 0-3s-0).

HIST 698 Topics in the History of Medicine

★3 (fi 6) (either term, 0-3s-0).

HIST 699 Research Seminar

★3 (fi 6) (either term, 0-3s-0).

HIST 800 Conference Course

★6 (fi 12) (two term, 0-3s-0). Not open to graduate students in the Department of History.

HIST 850 Advanced Topics in Historical Study

★3 (fi 6) (either term, 0-3s-0). Not open to graduate or honors students in the Department of History.

HIST 900 Directed Research Project

★3 (fi 6) (variable, unassigned).

231.153 Human Ecology, HECOLDepartment of Human Ecology
Faculty of Agricultural, Life and Environmental Sciences**Undergraduate Courses****0 HECOL 100 Introduction to Principles and Practice in Human Ecology**

★3 (fi 6) (either term, 3-0-0). An introductory course that provides a foundation in the body of knowledge that constitutes the field of human ecology. The history, philosophy, theoretical approaches and scope of the field are explored and skills that foster effective professional practice are discussed.

HECOL 150 The World of Design

★3 (fi 6) (either term, 3-0-3/2). An introductory course focused on the historical, cultural and ecological significance of design as it relates to human and community well being. The development of visual literacy and creative thinking skills are emphasized and explored in both lecture and studio. Labs are offered biweekly in a 3 hour block.

0 HECOL 170 Textiles and Clothing as Near Environment

★3 (fi 6) (either term, 3-0-0). Textiles and clothing as environment; study of the structure and properties of textile materials focusing on user needs.

0 HECOL 200 Introduction to Community Studies

★3 (fi 6) (either term, 3-0-0). Interdisciplinary introduction to community diversity from a human ecological perspective. Addresses various definitions, theories and models of community, as well as factors contributing to healthy, inclusive communities. Community development and community organizing are key themes, including communities as settings for situating programs, capacity-building initiatives, coalition building, strategies and policies for just and sustainable communities. Examples from both northern and southern regions.

0 HECOL 201 Material Culture

★3 (fi 6) (either term, 3-0-0). The study of a range of objects within selected time periods and environments, and the study of particular perspectives through which objects can be interpreted. Students are encouraged to understand the connection between personal, social, temporal, and cultural contexts and the objects that contribute to these contexts.

0 HECOL 210 Intimate Relationships

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

0 HECOL 211 Human Sexuality

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

0 HECOL 212 Later Life Families

★3 (fi 6) (either term, 3-0-0). An exploration of the interpersonal, personal and physical needs of the aging family throughout the later stages of the family life cycle. Offered in alternate years.

HECOL 254 Apparel Design and Construction Fundamentals

★3 (fi 6) (either term or Spring/Summer, 3-0-3). Research and product development in the global textile and apparel industry require an awareness of social and market trends, the ability to design quality garments, and knowledge of construction terminology and techniques. In this hands-on course students develop fundamental awareness and skills for the field including machine operation, design and construction terminology, pattern manipulation and fit, and quality construction techniques. Students construct samples and garments with a focus on professional standards in problem-solving and production. Prerequisites: HECOL 150 or DES 135, and HECOL 170. Normally offered in Spring/Summer.

HECOL 268 Survey of Historic Dress

★3 (fi 6) (either term, 3-0-0). Introduction to the historical development of dress with contemporary applications in design, merchandising, arts performance, education and museums. Resources include the Clothing and Textiles Collection.

HECOL 270 Textile Fibres and Finishes

★3 (fi 6) (either term, 3-0-3). Major classes of fibres, their production, structure and properties; functional textile finishes. Prerequisite: HECOL 170.

HECOL 300 Human Ecological Perspectives on Policy Development and Evaluation

★3 (fi 6) (either term, 3-0-0). Processes of policy development, implementation and analysis; Canadian policy environments, institutional frameworks and instruments; application to professional practice and to current social and economic issues.

HECOL 301 Program Planning and Evaluation

★3 (fi 6) (either term, 3-0-1.5). Theories and processes of program planning, implementation, evaluation and group dynamics from a human ecological perspective. Laboratory classes focus on practicing skills and processes appropriate to professional practice and the student's career interests. Prerequisite: successful completion of ★60.

HECOL 310 Parent-Child Relationships

★3 (fi 6) (either term, 3-0-0). An exploration of parent-child relationships from infancy through adolescence. An introduction to educational, preventive, and treatment approaches to enhancing capacity and fostering healthy parent-child relationships. Prerequisite: (PSYCO 104 and 105) or EDPY 200; PSYCO 104 and 105 are preferred.

HECOL 313 Family Dynamics

★3 (fi 6) (either term, 3-0-0). An introduction to family dynamics with a focus on positive family functioning. Changes in family dynamics across the life cycle will be examined. Family adaptation to normative and non-normative challenges will be explored. Prerequisite: successful completion of ★60.

0 HECOL 321 Introduction to Family Finance

★3 (fi 6) (either term, 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.

0 HECOL 322 Family Economic Issues

★3 (fi 6) (either term, 3-0-0). An examination of current issues affecting the economic well-being of Canadian families and of government policies which address those issues. Issues explored include work and family; the economics of childbearing, education, delayed life transitions, and aging; intrafamily allocation of resources; and money and family relationships. Prerequisites: ECON 101; it is recommended that students have completed both ECON 101 and 102.

0 HECOL 341 Fashion Industries

★3 (fi 6) (either term, 3-0-0). An introduction to the soft goods industry including an overview of the apparel sector, apparel production, channels of distribution,

fashion oriented products, global competitive influences, and entrepreneurial opportunities. Normally offered in Spring/Summer.

HECOL 350 Applications of Computer-Assisted Design

★3 (fi 6) (either term, 2-0-4). Problem solving in a studio setting based on student interests and career goals. Prerequisite: HECOL 150 or equivalent. Credit will be given for only one of HECOL 250 and 350.

HECOL 353 Textile Design

★3 (fi 6) (either term, 2-0-4). An introductory studio course in various methods of printing and dyeing textiles. Prerequisite: One of ART H 102, 209, HECOL 150, 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.

HECOL 354 Apparel Design and Product Development I

★3 (fi 6) (either term, 3-0-3). Principles of design and merchandising applied to apparel design and portfolio development. A creative problem-solving approach to the production of a line of clothing. Prerequisite: HECOL 254 or CTS Fashion Studies modules at the intermediate level or equivalent.

HECOL 360 Dress and Culture

★3 (fi 6) (either term, 3-0-0). The complex phenomenon of bodily adornment is explored in relationship to values, attitudes, activities, beliefs, and forms of knowledge. Clothing is considered in terms of how it is expressive of various aspects of culture. Students develop analytical skills to help them understand the role played by clothing in different times, places, and contexts. Prerequisite: HECOL 201.

HECOL 370 Quality Assurance for Textiles and Apparel

★3 (fi 6) (either term, 3-0-3). Exploration of quality assurance of textiles and apparel through materials testing. Performance of textiles relative to product standards and specifications. Prerequisite: HECOL 170.

HECOL 408 Issues in Professional Practice

★3 (fi 6) (either term, 3-0-0). Designed to prepare human ecology students for their practicum work. Effective workplace relationships and issues involved in professional practice are explored within the context of being both a practicum student and a human ecology professional. Self awareness and self-understanding as a professional are key concepts of the course. Open to Human Ecology students who have completed ★90. Taken in the term preceding HECOL 409. Application to Practicum Coordinator required four months prior to start of the course. Prerequisite: HECOL 100.

HECOL 409 Practicum in Human Ecology

★6 (fi 12) (either term, 0-0-16). Supervised field experience. Students are placed in professional settings appropriate to their career goals. Participation in a weekly online seminar is required. Open to Human Ecology students who have completed ★90. 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 412 Family Challenges

★3 (fi 6) (either term, 3-0-0). An in-depth exploration of several family challenges (e.g. divorce, addiction and childhood and adult abuse). An introduction to specific prevention and intervention approaches related to family challenges. Prerequisite: HECOL 313.

HECOL 413 Working With Families

★3 (fi 6) (either term, 3-0-3). An introduction to interviewing, assessment and counselling strategies for working with individuals and families using a strengths-based, family-centred approach. Prerequisite: HECOL 313.

HECOL 414 Seniors and Their Environments

★3 (fi 6) (either term, 3-0-0). An introduction to the environments in which older people live. The course uses an ecological framework to study the symbolic, physical, interpersonal, community and political environments of Canadian seniors. Prerequisite: successful completion of ★60. Offered in alternate years.

HECOL 440 Family Policy Issues

★3 (fi 6) (either term, 3-0-0). Analysis of current policy issues faced by Canadian families and the examination of policies and programs affecting family well-being and relationships. Prerequisite: HECOL 300.

HECOL 441 Textiles and Apparel in the Global Economy

★3 (fi 6) (either term, 3-0-0). Production and distribution of textiles and apparel in a global context; issues and policy related to international trade agreements; impact of national and international consumer, labor and environmental standards. Prerequisite: HECOL 300.

0 HECOL 443 Family Law

★3 (fi 6) (either term, 3-0-0). Family law regulates intimate and domestic relationships. Examines from a user's perspective, how statutory and common law affects family relationship issues such as marriage and divorce, child custody and child welfare, adoption, and new reproductive technologies. Prerequisite: HECOL 300.

HECOL 453 Textile Design II

★3 (fi 6) (either term, 2-0-4). An advanced studio course in various methods of printing and dyeing textiles with a major component of independent study. Textiles from various cultures will be studied from a Human Ecology perspective. Prerequisite: HECOL 353 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.

HECOL 454 Apparel Design and Product Development II

★3 (fi 6) (either term, 3-0-3). Advanced problems in apparel design and product development. Prerequisite: HECOL 354.

HECOL 460 Nineteenth and Twentieth Century Dress

★3 (fi 6) (either term, 3-0-3). Uses primary sources in museums, historic sites, art galleries, archives, and especially the University Clothing and Textiles Collection, to investigate dress within a material culture context. Prerequisite: HECOL 268 or consent of Instructor. Normally offered in alternate years.

HECOL 462 Material Culture in Home and Community

★3 (fi 6) (either term, 2-0-3). Using a Human Ecological framework, students will investigate material culture ranging from individual objects to entire communities, both locally and globally. Through an understanding of the role material culture plays in our individual, familial and community lives, consideration will be given to how the material environment can affect well-being. Resources will include community organizations, community planners, housing industry, retail industry, designers, cultural groups, historic sites, museums and the department collection. Prerequisite: HECOL 201.

HECOL 470 Topics in Advanced Textile and Apparel Science

★3 (fi 6) (either term, variable). Topics offered will vary each year. Prerequisite: variable.

HECOL 477 Preventive Conservation of Museum Artifacts

★3 (fi 6) (either term or Spring/Summer, 3-0-3). Examination, documentation, and preventive care of museum artifacts with a focus on textiles. Handling, storage, and display including agents of deterioration and risks to collections. Field trips augment the course. Prerequisites: One of ANTHR 206, HECOL 170, 268, or consent of Instructor. Credit granted for only one of HECOL 477 or 577. Normally offered in alternate years or Spring/Summer.

HECOL 478 Textile Conservation Theory and Practice

★3 (fi 6) (either term or Spring/Summer, 3-0-3). Theory and practice related to conservation of textiles and costumes. Ethics in conservation; deterioration; preservation including cleaning techniques and stabilization. Prerequisites: HECOL 270 and 477, or consent of instructor. Credit will be granted for only one of HECOL 478 or 578. Normally offered in alternate years or Spring/Summer.

HECOL 490 Independent Investigation in Human Ecology

★3 (fi 6) (either term, variable). Independent project or study of a topic in human ecology planned by the student with an instructor. Prerequisite: successful completion of ★75 and consent of Instructor.

HECOL 492 Selected Topics in Family Ecology

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

HECOL 493 Selected Topics in Textiles and Clothing

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

Graduate Courses**HECOL 501 Independent Project in Human Ecology**

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

HECOL 532 Family Health and Wellness; Theoretical and Measurement Issues for Research and Practice

★3 (fi 6) (either term, 0-3s-0). Models of family health and research related to these models. Examination of the health of families and the family's influence on health. Discussion of measurement and assessment issues. Applications to nursing, family studies and other health-related disciplines. (Course is cross-listed as NURS 532). Credit will only be granted for one of FAM 532, HECOL 532, or NURS 532.

HECOL 550 Selected Topics in Human Ecology

★3 (fi 6) (either term, variable). Topics of current interest. May be taken for credit more than once. Prerequisite: consent of Instructor.

HECOL 601 Ways of Knowing in Human Ecology

★3 (fi 6) (first term, 0-3s-0). Enquiry into the nature, scope and object of human ecology knowledge; the distinct contributions of various modes of inquiry; and

the relationship between ways of knowing and selected issues related to the acquisition of knowledge, such as ethics and research methods.

HECOL 604 Fundamentals of Aging

★3 (fi 6) (either term, 0-3s-0). A critical analysis of the issues and environments that influence the lives of older Canadians. Focus is on theories and knowledge about age-related normative and non-normative changes and their interaction with the physical, social, community and policy environments of older adults.

HECOL 610 Review of Issues and Trends in Family Ecology and Practice

★3 (fi 6) (either term, 0-3s-0). Content and philosophy of the study of the family from a human ecological perspective. Corequisite: HECOL 601 or consent of Instructor. Credit will only be granted for one of FAM 601 or HECOL 610.

HECOL 611 Theory in Family Ecology

★3 (fi 6) (either term, 0-3s-0). Consideration of family theory as it relates to research and practice. Pre- or corequisite: HECOL 610, FAM 601, or consent of Instructor. Credit will only be granted for one of FAM 602 or HECOL 611.

HECOL 613 Graduate Practicum in Human Ecology

★3 (fi 6) (either term, 0-0-6). Selected practicum placements to integrate theory and practice in a variety of agencies. Prerequisites: consent of Supervisor and Department. Credit will only be granted for one of FAM 613 or HECOL 613.

HECOL 614 Family Challenges

★3 (fi 6) (either term, 0-3s-0). An examination of family dynamics and the processes involved in families' responses to challenges and crises. Application of theory and research to selected current family challenges. Prerequisite: One of FAM 110, HECOL 200, SOC 271, or consent of Instructor. Credit will only be granted for one of FAM 614 or HECOL 614.

HECOL 615 Families and Aging

★3 (fi 6) (either term, 0-3s-0). Current issues in mid- and later-life families including relationships between aging parents and adult children, grandparent relationships, family caregiving. Credit will only be granted for one of FAM 615 or HECOL 615.

HECOL 616 Families and Work

★3 (fi 6) (either term, 0-3s-0). Analysis of current work and family issues and policies.

HECOL 651 Advanced Independent Inquiry in Human Ecology I

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

HECOL 652 Advanced Independent Inquiry in Human Ecology II

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

HECOL 655 Design and Aesthetics

★1-9 (variable) (either term, variable). Modules on creativity theory and practice, computer designing, product development and design communication.

HECOL 666 Material Culture

★1-9 (variable) (either term, variable). Modules on material culture theory and research, cross-cultural textiles and dress, fashion theory and research, museum collections theory and research, and the global market.

HECOL 673 Textile and Apparel Science

★1-9 (variable) (either term, variable). Modules on laboratory and field research, fibre theory, soiling and detergency, colour theory and measurement, comfort and protection theory and measurement.

HECOL 677 Conservation and Curatorship

★1-8 (variable) (either term, variable). Modules on preventive conservation, cleaning and consolidation, and curatorial research.

HECOL 680 Review of Issues and Trends in Textiles and Clothing

★3 (fi 6) (either term, 0-3s-0). Content and philosophy of the study of textiles and clothing from a human ecological perspective. Corequisite: HECOL 601 or consent of Department. Credit will only be granted for one of TCC 601 or HECOL 680.

HECOL 681 Theory in Textiles and Clothing

★3 (fi 6) (either term, 0-3s-0). Consideration of textiles and clothing theory as it relates to research and practice. Pre-/corequisite: HECOL 601 or consent of Instructor.

HECOL 682 Program Planning and Evaluation

★3 (fi 6) (either term, 0-3s-0). Theories, approaches, and processes fundamental to the development, implementation, and evaluation of programs that effect change and build capacity in families, communities and organizations. Credit will be granted for one of FAM 682 or HECOL 682.

HECOL 690 Advanced Seminar in Research Issues in Human Ecology

★1 (fi 2) (either term, 0-1s-0). An in-depth exploration of student and faculty research and the issues which comprise such research. Theoretical, methodological, and intervention issues from a variety of research paradigms are explored. May be taken more than once for credit.

HECOL 900 Directed Research Project

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

231.154 Human Resource Management, HRM

Department of Strategic Management and Organization
Faculty of Business

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

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

Graduate Courses**HRM 703 Seminar in Human Resource Management Foundations**

★3 (*fi 6*) (either term, 3-0-0). A readings seminar that covers related core theories, research and best-practices applications. Topics cover the primary content areas of planning, job design/redesign, recruitment and selection, training and development, performance management, compensation, and various contemporary topics (e.g. international issues). Prerequisite: Registration in a PhD program at the University of Alberta or written permission of instructor. Approval of the Business PhD Program Director is also required for non-PhD students.

231.155 Humanités, HUME

Faculté Saint-Jean

Cours de 1er cycle**0 HUME 420 Les grands écrits**

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Étude interdisciplinaire et approfondie de textes importants relatifs à la pensée humaniste et qui proviennent de plusieurs milieux à différents stades du développement de l'humanité, comme le Yi-king-Le Livre des mutations, Bhagavad-Gitā, la Bible, l'Odyssee (Homère), La République (Platon), Géorgiques (Virgile), La Divine Comédie (Dante), Micromégas (Voltaire), The Wealth of Nations (Smith), The Origin of Species (Darwin), L'Homme et ses symboles (Jung).

231.156 Humanities Computing, HUCO

Office of Interdisciplinary Studies
Faculty of Arts

Graduate Courses**HUCO 500 Survey of Humanities Computing**

★3 (*fi 6*) (either term, 0-3s-0).

HUCO 510 Theoretical Issues in Humanities Computing

★3 (*fi 6*) (either term, 0-3s-0). Relationship of computing methods to humanities research from several theoretical perspectives.

HUCO 520 Technical Concepts and Approaches in Humanities Computing

★3 (*fi 6*) (either term, 0-3s-0).

HUCO 530 Project Design and Management in Humanities Computing

★3 (*fi 6*) (either term, 0-3s-0). Design, implementation, management and maintenance of Humanities Computing research projects.

HUCO 612 Electronic Texts

★3 (*fi 6*) (either term, 0-3s-0). Creation, encoding, analysis and management of electronic texts.

HUCO 613 Cyberspace and Networked Culture

★3 (*fi 6*) (either term, 0-3s-0).

HUCO 614 Knowledge Management and Analysis in the Humanities

★3 (*fi 6*) (either term, 0-3s-0). Databases, textbases, graphical and statistical analysis.

HUCO 616 Multimedia for the Humanities

★3 (*fi 6*) (either term, 0-3s-0). Exploration of the nature and cultural significance of multimedia.

HUCO 617 Topics in Humanities Computing

★3 (*fi 6*) (either term, 0-3s-0).

HUCO 618 Directed Reading in Humanities Computing

★3 (*fi 6*) (either term, 0-3s-0).

231.157 Hungarian, HUNG

Department of Modern Languages and Cultural Studies
Faculty of Arts

Notes

- (1) The Department reserves the right to place students in the language course appropriate to their level of language skill.
- (2) Placement tests may be administered in order to assess prior background. Students with a Hungarian language background should consult a Department advisor. Such students may be granted advanced placement and directed to register in an advanced course more suitable to their level of ability. Students seeking to fulfill their Language Other than English requirement may begin at any one appropriate level, but must take the full ★6 in one language.
- (3) The Department will withhold credit from students completing courses for which prior background is deemed to make them ineligible. For example, 100-level courses are normally restricted to students with little or no prior knowledge in that language. Should a student with matriculation standing, or those possessing prior background (such as native speakers or those for whom it is their first language) register in the 100-level course, credit may be withheld.

Undergraduate Courses**0 HUNG 111 Beginners' Hungarian I**

★3 (*fi 6*) (either term, 5-0-0). Essentials of grammar, reading and writing with special emphasis on oral skills. Designed to give basic working knowledge of everyday spoken and written Hungarian. Note: not to be taken by students with native or near native proficiency, or Hungarian 35 or its equivalents in Canada and other countries.

0 HUNG 112 Beginners' Hungarian II

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

0 HUNG 211 Intermediate Hungarian I

★3 (*fi 6*) (either term, 4-0-0). Advanced grammar and phonetics. Further development of both oral and writing skills as well as acquisition of understanding of certain sociocultural, historical and political spheres of Hungary. Prerequisite: HUNG 112 or Hungarian 35.

0 HUNG 212 Intermediate Hungarian II

★3 (*fi 6*) (either term, 4-0-0). Prerequisite: HUNG 211 or Hungarian 35.

HUNG 303 Advanced Hungarian I

★3 (*fi 6*) (either term, 3-0-0). Development of conversational and written competence in advanced Hungarian grammar and style on various topics related to the Hungarian language and culture. Prerequisite: HUNG 212 or consent of department.

HUNG 304 Advanced Hungarian II

★3 (*fi 6*) (either term, 3-0-0). Continuation of HUNG 303 with particular emphasis on Hungarian culture. Prerequisite: HUNG 303 or consent of department.

231.158 Immunologie, IMINE

Faculté Saint-Jean

Cours de 1er cycle**IMINE 200 Infection et immunité**

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Introduction aux principes et aux mécanismes d'immunité dans les eucaryotes. Survol des principaux groupes d'agents infectieux (virus, bactéries, parasites); étude de micro-organismes spécifiques par rapport à la réponse de l'hôte aux agents pathogènes, et stratégies d'évasion à ces agents. Préalables ou concomitant: BIOCM 200 ou BIOCH 203 ou 220, et MICRB 265. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour MICRB 295.

IMINE 371 Introduction à l'immunologie

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Ce cours introduit des concepts d'immunologie. Les sujets abordés incluent la théorie de sélection clonale, la structure et la spécificité des anticorps, les fondements génétiques de la diversité immunologique, l'interaction antigène-anticorps, la réponse immunitaire à médiation cellulaire, les bases moléculaires de la reconnaissance du non-soi, le CMH et la transplantation, principe de tolérance immunitaire, mécanismes d'immunité

effectrice, hypersensibilité et immunodéficience. Préalables: BIOCM 200 ou BIOCH 205, BIOLE 207 et IMINE 200. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour INT D 371.

231.159 Immunology and Infection, IMIN

Department of Biological Sciences
Faculty of Science

Undergraduate Courses

O IMIN 200 Infection and Immunity

★3 (fi 6) (second term, 3-0-0). Introduces the principles and mechanisms of immunity in eukaryotes. Provides an overview of the major groups of infectious agents (virus, bacteria, parasites) and examines selected microorganisms within the context of the host response to pathogens and pathogen evasion strategies. Pre- or corequisites: BIOCH 200 or BIOCH 203 or 220 and MICRB 265. May not be taken for credit if credit already obtained in MICRB 295.

O IMIN 324 Basic Virology

★3 (fi 6) (first term, 3-0-0). An introduction to the structure, replication, and taxonomy of bacteriophages, plant, insect, and animal viruses. Their role in disease and methods of control and detection is also discussed. Prerequisites: BIOL 207, IMIN 200 and BIOCH 200 or 205. May not be taken for credit if credit already obtained in INT D 224. (Offered jointly by the Departments of Biological Sciences and of Medical Microbiology and Immunology.) [Biological Sciences]

O IMIN 371 Introduction to Immunology

★3 (fi 6) (first term, 3-0-0). Survey course introducing the student to immunological concepts. Topics include the clonal selection theory, antibody structure and specificity, genetic basis of immune diversity, antibody-antigen reactions, cell interactions in immune responses, the molecular basis of non-self recognition, MHC molecules and transplantation, tolerance, effector mechanism of immunity, hypersensitivity and immunodeficiency. Prerequisites: BIOCH 200 or 205, BIOL 207, and IMIN 200. May not be taken for credit if credit already obtained in INT D 371. (Offered jointly by the Department of Biological Sciences and the Department of Medical Microbiology and Immunology.) [Biological Sciences]

O IMIN 372 Research Techniques in Immunology

★3 (fi 6) (second term, 1-0-3). A lecture and laboratory course covering theory and practice behind selected immunological techniques. Techniques covered may include: lymphocyte isolation, flow cytometry, mixed lymphocyte reactions, immunocytochemistry, immunoprecipitation, ELISA, western blotting, expression cloning and monoclonal antibody technology. Labs will sometimes require students to return the next day to check on plates or cultures. Prerequisite: IMIN 371. May not be taken for credit if credit already obtained in INT D 372. (Offered jointly by the Departments of Biological Sciences and Medical Microbiology and Immunology.) [Biological Sciences]

O IMIN 401 Comparative Immunology

★3 (fi 6) (second term, 3-0-0). The phylogeny and evolution of immune systems. Examines the various strategies for disease resistance used by all organisms from plants to humans. The use and evolution of specific components of innate and adaptive immunity will be considered within the context of the biology of the organisms. This course involves both lectures and graded discussions. Prerequisites: IMIN 371 and permission of instructor. Credit cannot be obtained for both IMIN 401 and IMIN 501.

O IMIN 452 Advanced Immunology

★3 (fi 6) (second term, 3-1s-0). A lecture course on the detailed mechanisms of the immune system, describing recent discoveries in cellular and molecular immunology. Topics include mechanisms of T-cell receptor selection, antigen processing, activation of B and T lymphocytes, cellular collaboration, negative and positive regulatory mechanisms in immunity, transplantation, cytokine actions and interactions, autoimmunity. Interaction between immune systems and pathogens, and immunogenetics. Prerequisites: BIOCH 203 and 205 and IMIN 371. May not be taken for credit if credit already obtained in INT D 452. (Offered jointly by the Department of Biological Sciences, the Department of Medical Microbiology and Immunology and the Department of Oncology.) [Biological Sciences].

Graduate Courses

IMIN 501 Advanced Comparative Immunology

★3 (fi 6) (second term, 3-0-0). The phylogeny and evolution of immune systems. Examines the various strategies for disease resistance used by all organisms from plants to humans. The use and evolution of specific components of innate and adaptive immunity will be considered within the context of the biology of the organisms. Lectures and graded discussions are the same as for IMIN 401, but with additional assignments and evaluation appropriate to graduate studies. Prerequisite: Consent of instructor. Credit cannot be obtained for both IMIN 401 and IMIN 501.

231.160 Industrial Relations, IND R

Department of Strategic Management and Organization
Faculty of Business

Graduate Courses

IND R 701 Seminar in Industrial Relations Foundations

★3 (fi 6) (either term, 3-0-0). Readings topics will include industrial relations systems theory, historical development and theories of the labor movement, comparative industrial relations systems, and collective bargaining theory. Prerequisite: Registration in a PhD program at the University of Alberta or written permission of instructor. Approval of the Business PhD Program Director is also required for non-PhD students.

IND R 702 Seminar in Contemporary HRM/IR Issues

★3 (fi 6) (two term, 3-0-0). An examination of issues and research trends in the field of industrial relations and/or human resources management. Participants will present their own research and actively engage in the analysis and discussion of the work of others. This is a single term course taught over two terms. Prerequisite: Registration in a PhD program at the University of Alberta or written permission of instructor. Approval of the Business PhD Program Director is also required for non-PhD students.

IND R 704 Individual Research

★3 (fi 6) (either term, 3-0-0).

231.161 Informatique, INFOR

Faculté Saint-Jean

Cours de 1er cycle

INFOR 101 Introduction à l'informatique

★3 (fi 6) (l'un ou l'autre semestre, 3-0-3). Une introduction générale aux concepts informatiques provenant des sciences et du génie, incluant la représentation des nombres, l'architecture machine et les systèmes d'opération, y compris les algorithmes et leurs propriétés, de même que les techniques de contrôle de séquence, de sélection et de répétition. Y seront également abordés les types de données et les opérations sur ceux-ci en langages de programmation de bas et de haut niveau. Notes: (1) Ce cours s'adresse aux étudiants n'ayant aucune expérience préalable en informatique. (2) Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour INFOR 114.

INFOR 114 Introduction à la programmation

★3 (fi 6) (l'un ou l'autre semestre, 3-0-3). Une introduction à la résolution de problèmes informatiques à l'aide de programmes écrits dans un langage de haut niveau appelé Java. Initiation aux objets et valeurs, messages et méthodes, structures de contrôle, et conteneurs simples. Discussion des algorithmes de base et des techniques de génie logiciel pour la construction de solutions élégantes et robustes à divers problèmes. Préalable(s): Mathématiques 30 et Informatique 30 ou l'équivalent. Note: Les étudiants n'ayant aucune expérience préalable en informatique doivent suivre INFOR 101.

231.162 Interdisciplinary Undergraduate and Graduate Courses, INT D

Undergraduate Courses

231.162.1 Faculty of Agricultural, Life and Environmental Sciences Courses

Note: Courses listed below are the concern of more than one discipline. Instruction will be offered by members of one or more of the departments or faculties listed beneath the course description. For the following interdisciplinary courses, where the department responsible for registration has been assigned, the department so designated will appear in square brackets following the course description.

O INT D 303 Economics of World Food and Agriculture

★3 (fi 6) (second term, 3-0-0). Economic issues in international agriculture including the world food problem; the role of agriculture in development; agricultural and food trade; biotechnology and associated environmental and globalization issues. Prerequisite: ECON 101 or 102 or consent of Department. Credit will only be given for one of INT D 303, AREC 475 and AG EC 475. (Offered jointly by the Departments of Economics and Rural Economy.) [Rural Economy]

INT D 410 Interdisciplinary Health Team Development

★3 (fi 6) (either term, 0-3S-0 in 10 weeks). A process learning course intended to provide experience in building a team of health care professionals from different disciplines. Emphasis is placed on team building, recognizing the unique contributions of different professions, patients and families. (Offered jointly by the following faculties: Agriculture, Forestry, and Home Economics; Medicine and Dentistry; Nursing; Pharmacy and Pharmaceutical Sciences; Physical Education and Recreation; and Rehabilitation Medicine.) (Priority will be given to students in all undergraduate health professions where this is a required course.) [Health Sciences Council].

INT D 411 Interprofessional Health Team Placements

★0.05-6 (variable) (either term, 5 weeks). Clinical practicum designed to provide an orientation to interprofessional teamwork. May be taken in addition to or in conjunction with discipline-specific courses. Students from various health sciences disciplines are simultaneously placed within a health care organization with an established health team. The student team is responsible to develop either a community-driven project or provide intervention for patients. (Offered jointly by the following faculties: Agriculture, Forestry, and Home Economics; Medicine and Dentistry; Nursing; Pharmacy and Pharmaceutical Sciences; Physical Education and Recreation; and Rehabilitation Medicine.) Priority will be given to students in professional entry-level programs in health science disciplines. Prerequisite: INT D 410. [Health Sciences Council].

INT D 415 International Health Care Systems and Delivery

★3 (fi 6) (either term, 0-3s-0). Canadian and international health and social policies are explored using interdisciplinary and participatory learning experiences. Issues affecting health services, education, research, delivery models, workforce, finance, service recipients and complementary therapies will be discussed from an international perspective. (Offered jointly by the following faculties: Agriculture, Forestry, and Home Economics; Medicine and Dentistry; Nursing; Pharmacy and Pharmaceutical Sciences; Physical Education and Recreation; and Rehabilitation Medicine.) Priority will be given to students in professional entry-level health science programs. [Rehabilitation Medicine]

231.162.2 Faculty of Arts Courses**Notes**

- (1) Courses listed below are the joint concern of the departments stated in the course descriptions. Instructions will be offered by members of one or more of the departments or Faculties listed. Responsibility for registration is with the department shown in square brackets at the end of the description.
- (2) Unless otherwise indicated in the course description, an INT D course may be applied toward either the major or the minor or as an option if it appears under the department's course listings.

INT D 125 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]

INT D 211 Interdisciplinary Approaches to the Arts in Society

★3 (fi 6) (either term, 3-0-0). How the arts, including the literary arts, performing arts and the visual arts, reflect and influence society; creative works and different scholarly and artistic perspectives on selected topics will be explored, compared, and contrasted. [Faculty of Arts, Office of Interdisciplinary Studies]

INT D 212 International Studies

★3 (fi 6) (either term, 3-0-0). Selected topics in the relationship between nations from economic, political, cultural, and historical perspectives. [Faculty of Arts, Office of Interdisciplinary Studies]

INT D 222 Interdisciplinarity

★3 (fi 6) (either term, 3-0-0). Introduction to the history and theories of disciplinarity and interdisciplinarity; how to perform interdisciplinary research and learning. [Faculty of Arts, Office of Interdisciplinary Studies]

INT D 225 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]

INT D 257 Health Care Economics

★3 (fi 6) (either term, 3-0-0). Resource allocation in the health care industry; production and cost relationships within various types of institutional settings (hospital, medical firm) the role of the price mechanism in allocating resources. Manpower planning; the role of the Government and professional groups in allocating resources in the non-price sector of the health industry. (Offered jointly by the Departments of Economics and Public Health Sciences.) [Economics]

INT D 303 Economics of World Food and Agriculture

★3 (fi 6) (second term, 3-0-0). Economic issues in international agriculture including the world food problem; the role of agriculture in development; agricultural and food trade; biotechnology and associated environmental and globalization issues. Prerequisite: ECON 101 or 102 or consent of Department. Credit will only be

given for one of INT D 303, AREC 475 and AG EC 475. (Offered jointly by the Departments of Economics and Rural Economy). [Rural Economy]

INT D 311 Language Policy and Planning for Indigenous Language Communities

★3 (fi 6) (Spring/Summer, 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: Arts; Education; and Native Studies.) Prerequisite: LING 101 or LING 111. Note: Not to be taken by students with 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]

INT D 333 Mapping Interdisciplinary Studies

★3 (fi 6) (either term, 3-0-0). Provides an overview and comparison of the subject matter, types of theory, disciplinary perspectives, and methods utilized in the Faculty of Arts and beyond, to aid students in drawing connections across courses in diverse disciplines. [Faculty of Arts, Office of Interdisciplinary Studies]

INT D 352 Modern India: An Interdisciplinary Survey

★3 (fi 6) (either term, 3-0-0). Political, cultural, literary and historical perspectives on the processes of modernization in Indian society of the 19th and 20th centuries, with special attention to Indian nationalism. [Faculty of Arts, Office of Interdisciplinary Studies]

INT D 393 Political Sociology

★3 (fi 6) (either term, 3-0-0). A study of how society affects politics and politics affects society. Discussion of the political consequences of economic developments, ideological debates, class conflicts, social movements, elites, gender, nationalisms and state structures. Focus on Canada from a comparative perspective. Prerequisite: POL S 101 or one of SOC 100, 202 or 300. (Offered jointly by the Departments of Political Science and Sociology.) [Political Science]

INT D 394 Introduction to Criminal Law

★3 (fi 6) (either term, 3-0-0). Prerequisite: SOC 225. Note: Primarily for BA (Criminology) students. [Sociology]

INT D 425 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]

INT D 439 Ukrainian Dance

★3 (fi 6) (either term, 3-0-0). A theoretical and experiential investigation of the forms and history of Ukrainian dance. Course content is focused on the relationships of this dance to Ukrainian as well as Canadian culture, with consideration to its artistic and educational aspects. Offered jointly by the Faculty of Physical Education and Recreation and the Department of Modern Languages and Cultural Studies. [Faculty of Physical Education and Recreation] May be taken as a Faculty of Arts course.

INT D 520 Combined Honors Essay

★3-6 (variable) (variable, unassigned). For students in Combined Honors programs. Permission of both Departments is required. [Faculty of Arts, Undergraduate Student Services]

231.162.3 Faculty of Medicine and Dentistry Courses**INT D 370 Survey on International Health**

★3 (fi 6) (second term, 3-0-0). Overview of health issues and organization in a cross-cultural context with emphasis on developing and newly industrialized countries. Prerequisite: Completion of 10 full courses in any program or consent of Instructor. (Nursing, Dentistry, Medicine, Pharmacy and Pharmaceutical Sciences, Rehabilitation Medicine, and Social Sciences.) [Nursing]

INT D 409 Research Project

★3 (fi 6) (second term, 0-0-6). Directed research in a medical laboratory science. Supervisor and research project to be chosen by student. Requires writing a project proposal, keeping an accurate laboratory notebook, conducting adequate experimental research, writing a research paper and presenting a short seminar

based on the research. Restricted to fourth-year Medical Laboratory Science students. (Offered jointly by the Department of Medical Microbiology and Immunology, and the Division of Medical Laboratory Science.)

INT D 410 Interdisciplinary Health Team Development

★3 (*fi 6*) (either term, 0-3S-0 in 10 weeks). A process learning course intended to provide experience in building a team of health care professionals from different disciplines. Emphasis is placed on team building, recognizing the unique contributions of different professions, patients and families. (Offered jointly by the following faculties: Agriculture, Forestry, and Home Economics; Medicine and Dentistry; Nursing; Pharmacy and Pharmaceutical Sciences; Physical Education and Recreation; and Rehabilitation Medicine.) (Priority will be given to students in all undergraduate health professions where this is a required course.) [Health Sciences Council].

INT D 411 Interprofessional Health Team Placements

★0.05-6 (*variable*) (either term, 5 weeks). Clinical practicum designed to provide an orientation to interprofessional teamwork. May be taken in addition to or in conjunction with discipline-specific courses. Students from various health sciences disciplines are simultaneously placed within a health care organization with an established health team. The student team is responsible to develop either a community-driven project or provide intervention for patients. (Offered jointly by the following faculties: Agriculture, Forestry, and Home Economics; Medicine and Dentistry; Nursing; Pharmacy and Pharmaceutical Sciences; Physical Education and Recreation; and Rehabilitation Medicine.) Priority will be given to students in professional entry-level programs in health science disciplines. Prerequisite: INT D 410. [Health Sciences Council].

INT D 415 International Health Care Systems and Delivery

★3 (*fi 6*) (either term, 0-3s-0). Canadian and international health and social policies are explored using interdisciplinary and participatory learning experiences. Issues affecting health services, education, research, delivery models, workforce, finance, service recipients and complementary therapies will be discussed from an international perspective. (Offered jointly by the following faculties: Agriculture, Forestry, and Home Economics; Medicine and Dentistry; Nursing; Pharmacy and Pharmaceutical Sciences; Physical Education and Recreation; and Rehabilitation Medicine.) Priority will be given to students in professional entry-level health science programs. [Rehabilitation Medicine]

INT D 491 Research Project

★6 (*fi 12*) (two term, 0-0-6). Directed research in a medical laboratory science. Supervisor and research project to be chosen by student. Requires writing a project proposal, keeping an accurate laboratory notebook, conducting adequate experimental research, writing a research paper and presenting a short seminar based on the research. Restricted to fourth-year Medical Laboratory Science students. (Offered jointly by the Department of Medical Microbiology and Immunology, and the Division of Medical Laboratory Science.)

231.162.4 Faculty of Nursing Courses

INT D 370 Survey on International Health

★3 (*fi 6*) (second term, 3-0-0). Overview of health issues and organization in a cross-cultural context with emphasis on developing and newly industrialized countries. Prerequisite: Completion of 10 full courses in any program or consent of Instructor. (Nursing, Dentistry, Medicine, Pharmacy and Pharmaceutical Sciences, Rehabilitation Medicine, and Social Sciences.) [Nursing]

INT D 410 Interdisciplinary Health Team Development

★3 (*fi 6*) (either term, 0-3S-0 in 10 weeks). A process learning course intended to provide experience in building a team of health care professionals from different disciplines. Emphasis is placed on team building, recognizing the unique contributions of different professions, patients and families. (Offered jointly by the following faculties: Agriculture, Forestry, and Home Economics; Medicine and Dentistry; Nursing; Pharmacy and Pharmaceutical Sciences; Physical Education and Recreation; and Rehabilitation Medicine.) (Priority will be given to students in all undergraduate health professions where this is a required course.) [Health Sciences Council].

INT D 411 Interprofessional Health Team Placements

★0.05-6 (*variable*) (either term, 5 weeks). Clinical practicum designed to provide an orientation to interprofessional teamwork. May be taken in addition to or in conjunction with discipline-specific courses. Students from various health sciences disciplines are simultaneously placed within a health care organization with an established health team. The student team is responsible to develop either a community-driven project or provide intervention for patients. (Offered jointly by the following faculties: Agriculture, Forestry, and Home Economics; Medicine and Dentistry; Nursing; Pharmacy and Pharmaceutical Sciences; Physical Education and Recreation; and Rehabilitation Medicine.) Priority will be given to students in professional entry-level programs in health science disciplines. Prerequisite: INT D 410. [Health Sciences Council].

INT D 415 International Health Care Systems and Delivery

★3 (*fi 6*) (either term, 0-3s-0). Canadian and international health and social

policies are explored using interdisciplinary and participatory learning experiences. Issues affecting health services, education, research, delivery models, workforce, finance, service recipients and complementary therapies will be discussed from an international perspective. (Offered jointly by the following faculties: Agriculture, Forestry, and Home Economics; Medicine and Dentistry; Nursing; Pharmacy and Pharmaceutical Sciences; Physical Education and Recreation; and Rehabilitation Medicine.) Priority will be given to students in professional entry-level health science programs. [Rehabilitation Medicine]

231.162.5 Faculty of Pharmacy and Pharmaceutical Sciences Courses

INT D 370 Survey on International Health

★3 (*fi 6*) (second term, 3-0-0). Overview of health issues and organization in a cross-cultural context with emphasis on developing and newly industrialized countries. Prerequisite: Completion of 10 full courses in any program or consent of Instructor. (Nursing, Dentistry, Medicine, Pharmacy and Pharmaceutical Sciences, Rehabilitation Medicine, and Social Sciences.) [Nursing]

INT D 410 Interdisciplinary Health Team Development

★3 (*fi 6*) (either term, 0-3S-0 in 10 weeks). A process learning course intended to provide experience in building a team of health care professionals from different disciplines. Emphasis is placed on team building, recognizing the unique contributions of different professions, patients and families. (Offered jointly by the following faculties: Agriculture, Forestry, and Home Economics; Medicine and Dentistry; Nursing; Pharmacy and Pharmaceutical Sciences; Physical Education and Recreation; and Rehabilitation Medicine.) (Priority will be given to students in all undergraduate health professions where this is a required course.) [Health Sciences Council].

INT D 411 Interprofessional Health Team Placements

★0.05-6 (*variable*) (either term, 5 weeks). Clinical practicum designed to provide an orientation to interprofessional teamwork. May be taken in addition to or in conjunction with discipline-specific courses. Students from various health sciences disciplines are simultaneously placed within a health care organization with an established health team. The student team is responsible to develop either a community-driven project or provide intervention for patients. (Offered jointly by the following faculties: Agriculture, Forestry, and Home Economics; Medicine and Dentistry; Nursing; Pharmacy and Pharmaceutical Sciences; Physical Education and Recreation; and Rehabilitation Medicine.) Priority will be given to students in professional entry-level programs in health science disciplines. Prerequisite: INT D 410. [Health Sciences Council].

INT D 415 International Health Care Systems and Delivery

★3 (*fi 6*) (either term, 0-3s-0). Canadian and international health and social policies are explored using interdisciplinary and participatory learning experiences. Issues affecting health services, education, research, delivery models, workforce, finance, service recipients and complementary therapies will be discussed from an international perspective. (Offered jointly by the following faculties: Agriculture, Forestry, and Home Economics; Medicine and Dentistry; Nursing; Pharmacy and Pharmaceutical Sciences; Physical Education and Recreation; and Rehabilitation Medicine.) Priority will be given to students in professional entry-level health science programs. [Rehabilitation Medicine]

231.162.6 Faculty of Physical Education and Recreation Courses

INT D 410 Interdisciplinary Health Team Development

★3 (*fi 6*) (either term, 0-3S-0 in 10 weeks). A process learning course intended to provide experience in building a team of health care professionals from different disciplines. Emphasis is placed on team building, recognizing the unique contributions of different professions, patients and families. (Offered jointly by the following faculties: Agriculture, Forestry, and Home Economics; Medicine and Dentistry; Nursing; Pharmacy and Pharmaceutical Sciences; Physical Education and Recreation; and Rehabilitation Medicine.) (Priority will be given to students in all undergraduate health professions where this is a required course.) [Health Sciences Council].

INT D 411 Interprofessional Health Team Placements

★0.05-6 (*variable*) (either term, 5 weeks). Clinical practicum designed to provide an orientation to interprofessional teamwork. May be taken in addition to or in conjunction with discipline-specific courses. Students from various health sciences disciplines are simultaneously placed within a health care organization with an established health team. The student team is responsible to develop either a community-driven project or provide intervention for patients. (Offered jointly by the following faculties: Agriculture, Forestry, and Home Economics; Medicine and Dentistry; Nursing; Pharmacy and Pharmaceutical Sciences; Physical Education and Recreation; and Rehabilitation Medicine.) Priority will be given to students in professional entry-level programs in health science disciplines. Prerequisite: INT D 410. [Health Sciences Council].

INT D 415 International Health Care Systems and Delivery

★3 (*fi 6*) (either term, 0-3s-0). Canadian and international health and social policies are explored using interdisciplinary and participatory learning experiences. Issues affecting health services, education, research, delivery models, workforce, finance, service recipients and complementary therapies will be discussed from an international perspective. (Offered jointly by the following faculties: Agriculture, Forestry, and Home Economics; Medicine and Dentistry; Nursing; Pharmacy and Pharmaceutical Sciences; Physical Education and Recreation; and Rehabilitation Medicine.) Priority will be given to students in professional entry-level health science programs. [Rehabilitation Medicine]

INT D 439 Ukrainian Dance

★3 (*fi 6*) (either term, 3-0-0). A theoretical and experiential investigation of the forms and history of Ukrainian dance. Course content is focused on the relationships of this dance to Ukrainian as well as Canadian culture, with consideration to its artistic and educational aspects. Offered jointly by the Faculty of Physical Education and Recreation and the Department of Modern Languages and Cultural Studies. [Faculty of Physical Education and Recreation] May be taken as a Faculty of Arts course.

231.162.7 Faculty of Rehabilitation Medicine Courses**INT D 370 Survey on International Health**

★3 (*fi 6*) (second term, 3-0-0). Overview of health issues and organization in a cross-cultural context with emphasis on developing and newly industrialized countries. Prerequisite: Completion of 10 full courses in any program or consent of Instructor. (Nursing, Dentistry, Medicine, Pharmacy and Pharmaceutical Sciences, Rehabilitation Medicine, and Social Sciences.) [Nursing]

INT D 410 Interdisciplinary Health Team Development

★3 (*fi 6*) (either term, 0-3S-0 in 10 weeks). A process learning course intended to provide experience in building a team of health care professionals from different disciplines. Emphasis is placed on team building, recognizing the unique contributions of different professions, patients and families. (Offered jointly by the following faculties: Agriculture, Forestry, and Home Economics; Medicine and Dentistry; Nursing; Pharmacy and Pharmaceutical Sciences; Physical Education and Recreation; and Rehabilitation Medicine.) (Priority will be given to students in all undergraduate health professions where this is a required course.) [Health Sciences Council].

INT D 411 Interprofessional Health Team Placements

★0.05-6 (*variable*) (either term, 5 weeks). Clinical practicum designed to provide an orientation to interprofessional teamwork. May be taken in addition to or in conjunction with discipline-specific courses. Students from various health sciences disciplines are simultaneously placed within a health care organization with an established health team. The student team is responsible to develop either a community-driven project or provide intervention for patients. (Offered jointly by the following faculties: Agriculture, Forestry, and Home Economics; Medicine and Dentistry; Nursing; Pharmacy and Pharmaceutical Sciences; Physical Education and Recreation; and Rehabilitation Medicine.) Priority will be given to students in professional entry-level programs in health science disciplines. Prerequisite: INT D 410. [Health Sciences Council].

INT D 412 Critical Reflection: Interprofessional Health Topics

★6 (*fi 12*) (either term, variable). An opportunity to critically reflect on the relationship of published literature in interprofessional health and the interprofessional health team experiences to date. A project related to interprofessional health or education is required. (Offered jointly by the following faculties: Agriculture, Forestry, and Home Economics; Medicine and Dentistry; Nursing; Pharmacy and Pharmaceutical Sciences; Physical Education and Recreation; and Rehabilitation Medicine) Priority will be given to students in professional entry-level health science programs. Prerequisite: INT D 410. (Rehabilitation Medicine)

INT D 415 International Health Care Systems and Delivery

★3 (*fi 6*) (either term, 0-3s-0). Canadian and international health and social policies are explored using interdisciplinary and participatory learning experiences. Issues affecting health services, education, research, delivery models, workforce, finance, service recipients and complementary therapies will be discussed from an international perspective. (Offered jointly by the following faculties: Agriculture, Forestry, and Home Economics; Medicine and Dentistry; Nursing; Pharmacy and Pharmaceutical Sciences; Physical Education and Recreation; and Rehabilitation Medicine.) Priority will be given to students in professional entry-level health science programs. [Rehabilitation Medicine]

231.162.8 School of Public Health Courses**INT D 257 Health Care Economics**

★3 (*fi 6*) (either term, 3-0-0). Resource allocation in the health care industry; production and cost relationships within various types of institutional settings (hospital, medical firm) the role of the price mechanism in allocating resources. Manpower planning; the role of the Government and professional groups in allocating resources in the non-price sector of the health industry. (Offered jointly by the Departments of Economics and Public Health Sciences.) [Economics]

Graduate Courses**231.162.9 Faculty of Agricultural, Life and Environmental Sciences Courses****INT D 565 Natural Resource and Environmental Economics**

★3 (*fi 6*) (either term, 3-0-0). Economic analysis of renewable resource and environmental issues. Renewable resource theory with applications to the fishery, forestry, soils and wildlife. Economic analysis of environmental protection and policy. Topics in applied benefit-cost analysis including the valuation of non-market goods and services. Prerequisite: consent of Instructor; (AREC 313 or AG EC 416) and (AREC 502 or AG EC 502) recommended. (Offered jointly by the Departments of Rural Economy and Economics.) [Rural Economy]

INT D 665 Natural Resource Utilization

★3 (*fi 6*) (either term, 3-0-0). Economics of utilizing and conserving land, water and energy resources in Agriculture and Forestry. Prerequisite: INT D 365 or AREC 365. Not available for students with credit in INT D 465 or AREC 465. Available only to students in MBA/MAG, MBA/MF, MBA in Natural Resource and Energy Programs, or by consent of Department. [Rural Economy]

231.162.10 Faculty of Arts Courses**INT D 554 Research in Cognitive Science**

★3 (*fi 6*) (either term, 3-0-0). A multidisciplinary survey of theoretical issues and research practices in Cognitive Science to be taught by various members of such Departments as Psychology, Computing Science, Linguistics, and Philosophy. Prerequisites: consent of course coordinator and consent of student's home department. [Psychology] May be taken as a Faculty of Science course.

INT D 593 Seminar in Political Sociology

★3 (*fi 6*) (either term, 0-3s-0).

231.162.11 Faculty of Business Courses**INT D 561 Energy and Environment: An Interdisciplinary View of Research and Issues**

★3 (*fi 6*) (either term, 3-0-0). The course provides students with an overview of research issues in energy and environment across the various disciplines. The objective is for students from all disciplines to acquire a better understanding of the various methodological and disciplinary approaches involved in the study of energy and the environment. [Marketing, Business Economics and Law]

231.162.12 Faculty of Medicine and Dentistry Courses**INT D 570 Healthcare Ethics**

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

INT D 600 Building Foundations

★3 (*fi 6*) (first term, 3-0-0). Transdisciplinary/interdisciplinary lecture series on maternal-fetal-newborn health are presented; Defining and navigating the challenges of conducting Interdisciplinary research, defining conceptual frameworks, research resources, research approaches to MFN health, research grant funding structures and grant review, communicating outside of academia, and a variety of maternal-fetal-newborn transdisciplinary health topics; genetics, neuroscience, pharmacology, physiology, nursing, health population outcomes. Four projects involving transdisciplinary/interdisciplinary composition related to the lecture series will be required.

INT D 670 Research Ethics

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

231.162.13 Faculty of Nursing Courses**INT D 560 Selected Topics in Nursing**

★3 (*fi 6*) (either term, 0-3s-0). Selected topics in a variety of advanced nursing practice specialty areas. The role of the advanced practice nurse is examined from varying perspectives.

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 577 Spiritual Assessment in the Promotion of Health

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

INT D 670 Research Ethics

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

INT D 690 Topics in Knowledge Utilization

★3 (fi 6) (either term, 0-3s-0). Examines the scientific, theoretical, and historical underpinnings of the field of knowledge utilization. Covers contemporary manifestations of knowledge utilization in Canadian society such as evidence based decision-making, and in health care such as evidence-based practice and evidence-based medicine. It addresses the challenges of knowledge use in health care organizations and will focus on the central conceptual and methodological challenges facing investigators undertaking knowledge utilization research. Prerequisite: consent of Instructor.

231.162.14 Faculty of Rehabilitation Medicine Courses

INT D 601 Seminar in Bone and Joint Health Research

★3 (fi 6) (two term, 0-1.5s-0). Credit. This seminar is designed to expose students to the scope of transdisciplinary research in bone and joint health. Students attend monthly seminars presented by faculty members and graduate students from a variety of health sciences and engineering faculties. Open to graduate students in the Alberta Provincial CIHR Training Program in Bone and Joint Health, and to others with consent of the instructor.

INT D 602 Transdisciplinary Bone and Joint Health Research

★3 (fi 6) (either term, 2-2s-0). Designed to allow students to explore select issues in interdisciplinary bone and joint health research from basic science to population health. Open to graduate students in the Alberta Provincial CIHR Training Program in Bone and Joint Health, and to others with consent of Instructor.

INT D 603 Directed Study in Bone and Joint Health Research

★3 (fi 6) (either term, 0-3s-0). Work on a special transdisciplinary project to meet individualized objectives under the supervision of a faculty member. Open to graduate students in the Alberta Provincial CIHR Training Program in Bone and Joint Health, and to others with consent of Instructor.

231.162.15 Faculty of Science Courses

INT D 554 Research in Cognitive Science

★3 (fi 6) (either term, 3-0-0). A multidisciplinary survey of theoretical issues and research practices in Cognitive Science to be taught by various members of such Departments as Psychology, Computing Science, Linguistics, and Philosophy. Prerequisites: consent of course coordinator and consent of student's home department. [Psychology] May be taken as a Faculty of Science course.

231.163 Italian, ITAL

Department of Modern Languages and Cultural Studies
Faculty of Arts

Undergraduate Courses

Notes

- (1) The Department reserves the right to place students in the language course appropriate to their level of language skill.
- (2) Placement tests may be administered in order to assess prior background. Students with an Italian language background should consult a Department advisor. Such students may be granted advanced placement and directed to register in an advanced course more suitable to their level of ability. Students

seeking to fulfill their Language Other than English requirement may begin at any one appropriate level, but must take the full ★6 in one language.

- (3) The Department will withhold credit from students completing courses for which prior background is deemed to make them ineligible. For example, 100-level courses are normally restricted to students with little or no prior knowledge in that language. Should a student with matriculation standing, or those possessing prior background (such as native speakers or those for whom it is their first language) register in the 100-level course, credit may be withheld.
- (4) See also listings under Modern Languages and Cultural Studies (MLCS).

ITAL 111 Beginners' Italian I

★3 (fi 6) (either term, 5-0-0). Italian grammar and pronunciation. Readings of easy texts dealing with different aspects of Italian culture. Note: not to be taken by students with credit in ITAL 100, or with native or near native proficiency, or with Italian 30 or its equivalents in Canada and other countries.

ITAL 112 Beginners' Italian II

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

ITAL 205 Topics in Italian Studies

★3 (fi 6) (either term, 3-0-0). Modern Italy studied through its cultural context and forms of expression. The course will be taught in English.

ITAL 211 Second-Year Italian I

★3 (fi 6) (either term, 4-0-0). Selected contemporary prose and poetry. Advanced grammar and phonetics. Prerequisite: Italian 30 (or equivalent) or ITAL 112 or consent of Department. Note: not to be taken by students with credit in ITAL 250.

ITAL 212 Second-Year Italian II

★3 (fi 6) (either term, 4-0-0). Prerequisite: ITAL 211 or consent of Department. Note: not to be taken by students with credit in ITAL 250.

ITAL 333 Topics in Italian Short Stories

★3 (fi 6) (either term, 3-0-0). Prerequisite: ITAL 212 or consent of Department. Note: Not open to students with credit in ITAL 331 or 332.

ITAL 340 Topics in Italian Culture

★3 (fi 6) (either term, 3-0-0). Prerequisite: ITAL 212 or consent of Department.

ITAL 363 Studies in Italian Literary Genres

★3 (fi 6) (either term, 3-0-0). Prerequisite: ITAL 212 or consent of Department.

ITAL 393 Grammar, Composition and Translation

★3 (fi 6) (either term, 3-0-0). Prerequisite: ITAL 212 or consent of Department. Note: Not to be taken by students with credit in ITAL 394 or 395.

ITAL 415 Studies in Italian Literature

★3 (fi 6) (either term, 3-0-0). Prerequisite: A 300-level course in Italian literature or consent of Department.

ITAL 419 Topics in Italian Studies I

★3 (fi 6) (either term, 3-0-0). Prerequisite: A 300-level course in Italian literature or consent of Department.

ITAL 420 Topics in Italian Studies II

★3 (fi 6) (either term, 3-0-0). Prerequisite: A 300-level course in Italian literature or consent of Department.

ITAL 425 Translation

★3 (fi 6) (either term, 3-0-0). Literary and technical translation from English to Italian. Prerequisite: ITAL 393 or consent of Department.

ITAL 495 Honors Thesis

★3 (fi 6) (either term, 0-3s-0).

ITAL 499 Special Topics

★3 (fi 6) (either term, 3-0-0).

Graduate Courses

ITAL 515 Studies in Italian Literature

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

ITAL 519 Topics in Italian Studies I

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

ITAL 521 Topics in Italian Studies II

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

ITAL 599 Directed Reading

★3 (fi 6) (either term, 3-0-0).

ITAL 698 Topics in Italian Linguistics

★3 (fi 6) (either term, 3-0-0).

ITAL 699 Topics in Italian Literature and Culture

★3 (fi 6) (either term, 3-0-0).

ITAL 900 Directed Research Project★6 (*fi 12*) (variable, unassigned).**231.164 Japanese, JAPAN**Department of East Asian Studies
Faculty of Arts**Notes**

- (1) The Department reserves the right to place students in the language course appropriate to their level of language skill.
- (2) Placement tests may be administered in order to assess prior background. Students with an Asian (Chinese, Japanese, Korean) language background should consult a Department advisor. Such students may be granted advanced placement and directed to register in a more advanced course suitable to their level of ability or they may be encouraged to seek "Credit by Special Assessment" (see §44.5) when appropriate.
- (3) The Department will withhold credit from students completing courses for which prior background is deemed to make them ineligible. For example, 100-level courses are normally restricted to students with little or no prior knowledge in that language. Should a student with matriculation standing, or those possessing prior background (such as native speakers or those for whom it is their first language) register in the 100-level courses, credit may be withheld.

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 150 First-Year University Japanese**★3 (*fi 6*) (either term, 5-0-0). A non-intensive course designed for students who have some previous knowledge of spoken and written Japanese but need further training in grammar. Prerequisite: Japanese 30, 35 or equivalent.**JAPAN 201 Basic Japanese III**★3 (*fi 6*) (either term, 5-0-0). A non-intensive course designed to develop further basic skills in spoken and written Japanese. Prerequisite: JAPAN 102, 150 or equivalent. Note: Students who wish to take JAPAN 201 are expected to have completed prerequisite courses with a minimum grade of C+.**JAPAN 202 Basic Japanese IV**★3 (*fi 6*) (either term, 5-0-0). A continuation of JAPAN 201. Prerequisite: JAPAN 201.**JAPAN 240 Japanese Literature and the Arts**★3 (*fi 6*) (either term, 3-0-0). The relationship between modern literature and pre-modern literature and visual arts: painting, prints, manga, calligraphy. Taught in English. No prerequisite. Note: Not open to students with credit in JAPAN 340. This course will not fulfill the language other than English Requirement of the BA.**JAPAN 241 Overview of the Japanese Language System**★3 (*fi 6*) (either term, 3-0-0). To be taken concurrently with JAPAN 201 or 202. Taught in English. Note: This course will not fulfill the Language other than English requirement of the BA degree. Co-requisite 201. Note: Not open to students with credit in or completing JAPAN 301.**JAPAN 250 The Japanese Language in Its Cultural Setting I**★6 (*fi 12*) (Spring/Summer, 15-0-0). A language/culture immersion course to be studied in Japan. Designed for improvement of oral/aural skills and for increased understanding of Japanese people and culture. Note: Offered in alternate years. Prerequisite: JAPAN 202 or consent of Department. Note: JAPAN 250 and 350 may not both be taken for credit.**JAPAN 301 Intermediate Japanese I**★3 (*fi 6*) (either term, 4-0-0). Designed to develop basic reading skills in modern Japanese prose with special emphasis on grammar and usage. Prerequisite: JAPAN 202 or equivalent. Note: Students who wish to take JAPAN 301 are expected to have completed prerequisite courses with a minimum grade of C+.**JAPAN 302 Intermediate Japanese II**★3 (*fi 6*) (either term, 4-0-0). A continuation of JAPAN 301. Prerequisite: JAPAN 301 or equivalent.**JAPAN 321 Pre-Modern Japanese Literature in Translation**★3 (*fi 6*) (either term, 3-0-0). Exploration of traditional Japanese culture through lived experience of Japanese people preserved in literary texts spanning more

than a millennium. Prerequisite: JAPAN 240, or consent of the Department. Note: This course will not fulfill the Language other than English requirement of the BA degree.

JAPAN 322 Modern Japanese Literature in Translation★3 (*fi 6*) (either term, 3-0-0). Selected works by prominent writers from 1868 to the present. Prerequisite: JAPAN 240, or consent of the Department. Note: This course will not fulfill the Language other than English requirement of the BA degree.**JAPAN 325 Introduction to Japanese Linguistics**★3 (*fi 6*) (either term, 3-0-0). Sound system, parts of speech, basic sentence structure, writing system, and language change and variation. Taught in English. Note: not open to students with credit in JAPAN 225. This course will not fulfill the Language Other than English requirement of the BA degree. Prerequisite: JAPAN 202 and 241 or consent of Department.**JAPAN 326 Japanese Sociolinguistics**★3 (*fi 6*) (either term, 3-0-0). Introduction to social and interactional aspects of the Japanese language. Note: This course will not fulfill the Language Other than English requirement of the BA degree. Prerequisite: JAPAN 301 and 325 (formerly 225) or equivalent.**JAPAN 330 Japanese Literature and Film**★3 (*fi 6*) (either term, 3-0-0). Sub-titled film and animation adaptations of literary works from the modern and pre-modern eras. Note: Not open to students with credit in JAPAN 430. This course will not fulfill the language other than English requirement of the BA.**JAPAN 341 Classical Japanese I**★3 (*fi 6*) (either term, 3-0-0). Prerequisite: JAPAN 202 and 241, or consent of the Department.**JAPAN 350 The Japanese Language in Its Cultural Setting II**★6 (*fi 12*) (Spring/Summer, 0-15L-0). A language/culture immersion course to be studied in Japan. Designed to improve oral/aural skills and increase understanding of Japanese people and culture. Note: Offered in alternate years. Prerequisite: JAPAN 302, or 306, or consent of Department. Note: JAPAN 250 and 350 may not both be taken for credit.**JAPAN 360 Japanese Religion Through Literature**★3 (*fi 6*) (either term, 3-0-0). Japanese religion through pre-modern literary texts. Emphasis on mythology, poetry, Shintō-Buddhist synthesis, angry ghosts and karmic retribution. Note: does not fulfill any Faculty of Arts Language Other than English requirement.**JAPAN 401 Advanced Japanese I**★3 (*fi 6*) (either term, 3-0-0). An advanced course designed to develop skills in spoken and written Japanese with special emphasis on the acquisition of an extensive vocabulary. Prerequisite: JAPAN 302.**JAPAN 402 Advanced Japanese II**★3 (*fi 6*) (either term, 3-0-0). A continuation of JAPAN 401. Prerequisite: JAPAN 401 or equivalent.**JAPAN 415 Haiku and the Japanese Poetic Tradition**★3 (*fi 6*) (either term, 3-0-0). The course will discuss in English the evolution of haiku, the work of the great masters of the 17th and 18th centuries and modern haiku. Prerequisite: JAPAN 321 or any 300-level literature course. Note: This course will not fulfill the Language other than English requirement of the BA degree.**JAPAN 416 Japanese Theatre from the Noh to the Avant-garde**★3 (*fi 6*) (either term, 3-0-0). The course will discuss, in English, forms of Japanese drama from the Noh to modern theatre. Prerequisite: JAPAN 321 or any 300-level literature or drama course. Note: This course will not fulfill the Language other than English requirement of the BA degree.**JAPAN 420 Japanese Fiction**★3 (*fi 6*) (either term, 3-0-0). Works in English translation of important Japanese writers in their cultural, social and historical contexts. Prerequisite: JAPAN 322 or any 300-level literature course. Note: Does not fulfill any Faculty of Arts Language Other than English requirement.**JAPAN 421 Topics in Japanese Literary History**★3 (*fi 6*) (either term, 3-0-0). The major works in English translation of a particular historical period in pre-twentieth century Japan, in their cultural and social contexts. Focus will be on one of the following: ancient, classical, medieval or early modern period. Prerequisite: JAPAN 321 or any other 300-level literature course. Note: May be repeated for credit when course content differs. Does not fulfill any Faculty of Arts Language other than English requirement.**JAPAN 425 Japanese Linguistics**★3 (*fi 6*) (either term, 3-0-0). Discussion of the major linguistic features of the Japanese language. Lectures in English. Prerequisite: JAPAN 302 and 325 or consent of Department.**JAPAN 427 Practical Japanese Linguistics**★3 (*fi 6*) (either term, 3-0-0). Practical linguistic knowledge for effective learning

of Japanese as a second language. Prerequisite: JAPAN 225 or 325, and 302 or consent of Department.

O JAPAN 429 Japanese-English Translation

★3 (fi 6) (either term, 3-0-0). Theory and practice in translation as applied to Japanese and English literary and non-literary texts. Prerequisite: JAPAN 301 or consent of Department.

O JAPAN 439 Practical Translation

★3 (fi 6) (either term, 3-0-0). The practice of translation in media, government, and business. Prerequisite: JAPAN 429 or consent of Department.

O JAPAN 451 Advanced Readings in Japanese

★3 (fi 6) (either term, 3-0-0). Advanced readings from newspapers, magazines, social commentary and literary prose. Prerequisite: JAPAN 402 or consent of Department.

O JAPAN 460 Topics in Japanese Studies

★3 (fi 6) (either term, 3-0-0). Prerequisite: ★6 of senior courses in Japanese or consent of Department. May be repeated for credit when course content differs. Not open to web registration.

O JAPAN 481 Supervised Reading in Japanese

★3 (fi 6) (either term, 3-0-0). Accelerated reading course primarily for senior and graduate students in special areas of need or interest. Prerequisite: consent of Department.

JAPAN 490 Honors Thesis

★3 (fi 6) (either term, 3-0-0).

Graduate Courses

JAPAN 500 Topics in Japanese Language

★3 (fi 6) (either term, 3-0-0). A reading knowledge of Japanese is required. May be repeated for credit when course content differs.

JAPAN 502 Methods of Research

★3 (fi 6) (either term, 3-0-0). Theory and practice of historical and critical approaches to premodern and modern Japanese literature. A reading knowledge of Japanese is required.

JAPAN 503 Colloquia in Japanese Language Research

★1 (fi 2) (either term, 0-1s-0). Seminars on research in Japanese language. Prerequisites: advanced knowledge of Japanese is required and consent of the Department. May be repeated when course content differs. Not open to web registration.

JAPAN 510 Japanese for Business I

★3 (fi 6) (either term, 3-0-0). An introduction to the Japanese language through Japanese business culture. Primarily for graduate students in the MBA program. Prerequisite: Consent of Department.

JAPAN 511 Japanese for Business II

★3 (fi 6) (either term, 3-0-0). A continuation of JAPAN 510. Prerequisite: JAPAN 510.

JAPAN 525 Japanese Linguistics

★3 (fi 6) (either term, 3-0-0). Discussion of the major linguistics features of the Japanese language. Lectures in English. Prerequisite: advanced knowledge of Japanese language, a prior linguistics course required, and consent of Department.

JAPAN 527 Practical Japanese Linguistics

★3 (fi 6) (either term, 3-0-0). Students will develop advanced-level practical linguistics knowledge for effective learning of Japanese as a second language. Prerequisite: advanced knowledge of Japanese and consent of department.

JAPAN 557 Japanese Women Writers: Theory and Criticism

★3 (fi 6) (either term, 3-0-0). A reading knowledge of Japanese is required.

JAPAN 598 Topics in Pre-Modern Japanese Literature

★3 (fi 6) (either term, 3-0-0). Graduate students specializing in pre-modern Japanese literature must take JAPAN 598 at least once. May be repeated for credit when course content differs. A reading knowledge of Classical Japanese is required.

JAPAN 599 Topics in Japanese Literature, Premodern and Modern

★3 (fi 6) (either term, 3-0-0). JAPAN 599 must be taken at least once and may be repeated for credit when course content differs. A reading knowledge of Japanese is required.

231.165 Korean, KOREA

Department of East Asian Studies
Faculty of Arts

Notes

- (1) The Department reserves the right to place students in the language course appropriate to their level of language skill.
- (2) Placement tests may be administered in order to assess prior background.

Students with an Asian (Chinese, Japanese, Korean) language background should consult a Department advisor. Such students may be granted advanced placement and directed to register in a more advanced course suitable to their level of ability or they may be encouraged to seek "Credit by Special Assessment" (see §44.5) when appropriate.

- (3) The Department will withhold credit from students completing courses for which prior background is deemed to make them ineligible. For example, 100-level courses are normally restricted to students with little or no prior knowledge in that language. Should a student with matriculation standing, or those possessing prior background (such as native speakers or those for whom it is their first language) register in the 100-level courses, credit may be withheld.

Undergraduate Courses

L KOREA 101 Introductory Korean I

★3 (fi 6) (first term, 3-0-2). Designed to develop basic skills in spoken and written Korean. Note: Only one of KOREA 101 and 121 may be taken for credit.

L KOREA 102 Introductory Korean II

★3 (fi 6) (second term, 3-0-2). A continuation of KOREA 101. Prerequisite: KOREA 101 or equivalent. Note: Only one of KOREA 102 and 122 may be taken for credit.

L KOREA 201 Intermediate Korean I

★3 (fi 6) (first term, 3-0-2). A course designed to improve reading, speaking and writing. Prerequisite: KOREA 102, 122, or equivalent.

L KOREA 202 Intermediate Korean II

★3 (fi 6) (second term, 3-0-2). A continuation of Korea 201. Prerequisite: KOREA 201, or equivalent.

231.166 Laboratory Medicine and Pathology, LABMP

Department of Laboratory Medicine and Pathology
Faculty of Medicine and Dentistry

Undergraduate Courses

LABMP 400 Introduction to Human Disease

★3 (fi 6) (either term, 3-0-0). Lecture sessions on the study of human disease are presented. The causes and general mechanisms of disease with selected specific examples from various organ systems are discussed. Disease related structural and functional changes at the molecular, cellular and tissue level are presented, and how these changes can be appreciated by various laboratory methods. The discipline bridges basic science and clinical medicine. Prerequisites: PHYSL ★6, BIOCH ★3. Credit can be obtained in only 1 of LABMP 400 or LABMP 500

Graduate Courses

LABMP 500 Introduction to Human Disease

★3 (fi 6) (either term, 3-0-0). Lecture sessions on the study of human disease are presented (LABMP 400). The causes and general mechanisms of disease with selected specific examples from various organ systems are discussed. Disease related structural and functional changes at the molecular, cellular and tissue level are presented, and how these changes can be appreciated by various laboratory methods. A written review of scientific literature on a specific topic in Pathology will be required. Prerequisites: Credit may only be obtained in one of LABMP 400 or LABMP 500.

LABMP 510 Cryobiology I

★3 (fi 6) (first term, 2-1s-0). Physicochemical changes in aqueous solutions at low temperatures and responses of living cells and tissues to those changes. Current theories of damage and protection during freezing and thawing. Prerequisite: consent of Department. This course may not be taken for credit if credit has already been received in PATH 510.

LABMP 511 Cryobiology II

★3 (fi 6) (second term, 2-1s-0). Freeze-thaw responses of enzyme systems, individual cells and organized tissues. Preservation of spermatozoa, blood and bone marrow cells, embryos and various tissues. Approaches to the cryopreservation of organs and whole organisms. Applications in medicine and agriculture. Prerequisite: consent of Department. This course may not be taken for credit if credit has already been received in PATH 511.

LABMP 520 Laboratory Medicine and Pathology Research Seminar

★2 (fi 4) (two term, 0-1s-0). Graduate seminars presented by graduate students, faculty and guests in the Department. Required of all Laboratory Medicine and Pathology graduate students. This course may not be taken for credit if credit has already been received in PATH 520.

LABMP 530 Experimental Design and Scientific Communication

★3 (fi 6) (either term, 1-3s-0). This course is designed to develop the skills of graduate students in the areas of critical review of clinical and basic science literature, experimental study design, research ethics, concepts in oral and poster

presentations of scientific research, abstract writing for clinical and basic science conferences, as well as how to maximize the scientific conference experience. Active class discussion is a component of each lecture, with group and individual assignments to give practical experiences to each student immediately applicable to their graduate research program. Open to graduate students and clinical residents in the Faculty of Medicine & Dentistry. Students from other faculties may register with consent of the instructors.

LABMP 535 Practical Tools for Scientific Research

★3 (fi 6) (second term, 0-3s-0). This course utilizes a workshop format designed to develop the skills of graduate students and clinical residents in scientific writing (i.e. literature reviews, manuscripts, grant applications), research budget planning, developing effective collaborations, intellectual property and technology transfer. An overview of the safety requirements WHMIS, radiation safety, and biological hazards) in order to conduct scientific research. Students will learn how to prepare an ethics application for the use of animals and humans in research. Guest speakers from academia, government and industry are featured. Open to graduate students and clinical residents in the Faculty of Medicine & Dentistry. Students from other faculties may register with consent of the instructors.

LABMP 540 Directed Reading in Laboratory Medicine and Pathology

★3 (fi 6) (either term, 0-3s-0). Reading and study of basic laboratory medicine and pathology topics relevant to the student's chosen field of study under the direction of one or more faculty members. Prerequisite: Consent of Graduate Co-ordinator, Laboratory Medicine and Pathology.

LABMP 550 Analytical and Environmental Toxicology

★3 (fi 6) (either term, 3-0-0). Principles of and recent advances in analytical and environmental toxicology, fate and behavior of environmental contaminants, sampling and analysis of toxic substances, biomonitoring and biomarkers. Open to graduate students in Laboratory Medicine and Pathology. Students from other departments may register with consent of the instructor.

LABMP 551 Laboratory Research Methods

★3 (fi 6) (either term, 2.5-0-0.5). Theory and practice of laboratory research techniques and methods. Fundamentals and applications of quantitative analysis, separation, atomic spectrometry, mass spectrometry, PCR and cloning with laboratory experiments. For students who will perform laboratory research. This course may not be taken for credit if credit has been received in PHS 513. Prerequisite: Consent of the instructor.

LABMP 581 Techniques in Molecular Biology

★3 (fi 6) (either term, 1-0-5). A laboratory course emphasizing introductory and advanced techniques in molecular biology (MLSCI 481). Isolation of RNA, Northern blotting, construction of cDNA, amplification of DNA by the polymerase chain reaction, analysis of DNA by restriction digestion, transfection of eukaryotic cells for protein expression and Western blotting analysis. Prerequisites: GENET and BIOCH 200 and BIOCH 330 and consent of the Department. A written review of scientific literature on a topic in molecular biology will be required. This course is designed for graduate students. Credit may only be obtained in one of MLSCI 481 or LABMP 581.

231.168 Latin, LATIN

Department of History and Classics
Faculty of Arts

Notes

- (1) Prerequisite for all 400-level Latin courses: LATIN 300, or 302, or consent of Department.
- (2) For additional related courses see Classics (CLASS) and Greek (GREEK) listings.

Undergraduate Courses

L LATIN 101 Beginners' Latin I

★3 (fi 6) (either term, 3-0-1). Elements of Latin grammar and reading of simple texts. Note: Not to be taken by students with credit in Latin 30 or LATIN 100.

L LATIN 102 Beginners' Latin II

★3 (fi 6) (either term, 3-0-1). A continuation of LATIN 101. Students who intend to proceed to LATIN 301 should register in LATIN 104. Prerequisite: LATIN 101 or consent of Department. Not open to students with credit in LATIN 104.

LATIN 104 Beginners' Latin II (For Further Study)

★3 (fi 6) (either term, 3-0-1). Continuation of LATIN 101 for those who intend to proceed to LATIN 301. Prerequisite: LATIN 101 or consent of Department. Not open to students with credit in LATIN 102.

L LATIN 301 Intermediate Latin I

★3 (fi 6) (either term, 3-0-1). Review of grammar; reading of Latin texts; translation of simple sentences from English into Latin. Prerequisite: LATIN 102 (prior to 2005-06), or 104 or consent of Department.

L LATIN 302 Intermediate Latin II

★3 (fi 6) (either term, 3-0-0). Selections from Latin poetry and prose. Prerequisite: LATIN 301 or consent of Department.

LATIN 406 Topics in Latin Poetry

★3 (fi 6) (either term, 3-0-0).

LATIN 410 Topics in Latin Prose

★3 (fi 6) (either term, 3-0-0).

L LATIN 433 Medieval Latin

★3 (fi 6) (either term, 0-3s-0). Prerequisite: LATIN 302 or consent of Department.

LATIN 468 Topics in Latin Literature

★3 (fi 6) (either term, 3-0-0).

L LATIN 470 Roman Historians

★3 (fi 6) (either term, 3-0-0).

L LATIN 475 Roman Elegiac and Lyric Poetry

★3 (fi 6) (either term, 3-0-0).

L LATIN 481 Roman Epic and Didactic Poetry

★3 (fi 6) (either term, 3-0-0).

L LATIN 488 Latin Authors I

★3 (fi 6) (either term, 3-0-0).

L LATIN 499 Individual Study in Latin Authors

★3 (fi 6) (either term, 3-0-0).

LATIN 500 Fourth-Year Honors Tutorial

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

Graduate Courses

LATIN 502 Latin Epic and Didactic Poetry

★3 (fi 6) (either term, 3-0-0).

LATIN 506 Latin Poetry

★3 (fi 6) (either term, 3-0-0).

LATIN 508 Latin Historiography

★3 (fi 6) (either term, 3-0-0).

LATIN 510 Latin Prose Writers

★3 (fi 6) (either term, 3-0-0).

LATIN 599 Supervised Reading

★3 (fi 6) (either term, 3-0-0).

LATIN 699 Conference Course

★3 (fi 6) (either term, 3-0-0).

231.168 Latin American Studies, LA ST

Department of Modern Languages and Cultural Studies
Faculty of Arts

Notes

- (1) All LA ST courses are taught in English.
- (2) See also listings under Modern Languages and Cultural Studies (MLCS).

Undergraduate Courses

L LA ST 205 Mexico, Central America and the Caribbean

★3 (fi 6) (either term, 3-0-0). Regional similarities and national differences. An introduction to Mexico, Central America and the Caribbean today, including, Spanish, French, and Creole speaking countries through study of their cultural contexts and forms of expression.

L LA ST 210 South America

★3 (fi 6) (either term, 3-0-0). Regional similarities and national differences. An introduction to South America today, including Brazil and the Spanish speaking countries of the continent, through study of their cultural contexts and forms of expression.

O LA ST 310 Latin America at the Movies

★3 (fi 6) (either term, 3-0-3). The representation of Latin American people, places and events in the cinemas of Latin America, North America and Europe. Prerequisite: LA ST 205 or 210 or consent of Department.

O LA ST 311 Latin America and the Cultures of Popular Music

★3 (fi 6) (either term, 3-0-0). Popular music and its role in the formation of regional and national identities, with a focus on concepts such as high and low cultures, mass culture and mass media, cultural hybridity, diaspora, and creativity. Prerequisite: LA ST 205 or 210 or consent of Department. Note: not to be taken by students with credit in MUSIC 311.

O LA ST 313 Women in Latin America

★3 (*fi 6*) (either term, 3-0-0). Women as creators, consumers, transformers, and guardians of culture. Forms of female representation through stereotypes, clichés, archetypes, and mythologies. Prerequisite: LA ST 205 or 210 or consent of Department.

L LA ST 314 Urban Space and Visual Culture

★3 (*fi 6*) (either term, 3-0-0). The representation of urban space in art, architecture, film and other media. Prerequisite: LA ST 205 or 210 or consent of the Department.

L LA ST 330 The Latino Experience Abroad

★3 (*fi 6*) (either term, 3-0-0). Exile, immigration, identity, language, and other questions in texts from Latin American and Caribbean communities in North America. Note: not to be taken by students with credit in SPAN 330.

O LA ST 360 Latin America in its Literature (in English Translation)

★3 (*fi 6*) (either term, 3-0-0). Relations among the literature, culture, history, and politics of Latin America through a selection of texts originally written in Spanish, Portuguese and/or an indigenous language. Prerequisite: ★3 in any senior literature course, or consent of Department. Note: not to be taken by students with credit in SPAN 360 or C LIT 363.

O LA ST 399 Topics in Latin American Studies

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: LA ST 205 or 210 or consent of Department.

LA ST 411 Culture, Race and Ethnicity in Latin America

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

LA ST 412 Latin America in Focus

★3 (*fi 6*) (either term, 3-0-0). Study of a particular region, country, or city. Prerequisite: ★3 in LA ST courses at the 300-level or consent of Department.

LA ST 413 Gendering Latin America

★3 (*fi 6*) (either term, 3-0-0). Through gender and queer theory, a discussion of sex and sexualities in literature, film and visual arts. Prerequisite: ★3 in LA ST at the 300-level or consent of Department.

LA ST 499 Special Topics

★3 (*fi 6*) (either term, 3-0-0).

231.169 Law, LAW

Faculty of Law

Undergraduate Courses

LAW 399 Introduction to Environmental Law

★3 (*fi 6*) (second term, 3-0-0). Introduces students to the basic structure and function of the legal system. It will then focus on the way in which law is used to control environmental problems, focussing on major federal and provincial pollution licensing legislation, and the legal duties of persons working within industry. Regimes for environmental impact assessment and the use of criminal and civil enforcement mechanisms will also be included. The relationship between legal rules and non-legal industry standards and voluntary initiatives may also be explored. Note: Open to students in the Civil Engineering (Environmental Option) degree program only. This course may not be taken for credit if credit has already been obtained for LAW 459.

LAW 401 Foundations to Law

★3 (*fi 6*) (first term, 3-0-0). An introduction to the institutions and processes of the Canadian legal system, and its underlying values and systems of thought. Also introduced are the history, structure and function of the modern system, and the role of law and the legal profession in society.

LAW 405 Legal Research and Writing

★4 (*fi 8*) (two term, 2-0-0). Instruction in the fundamentals of legal research tools and techniques, including the impact of modern technology. Through a variety of written assignments, students will develop their analytical, research, communication and drafting skills, as well as becoming familiar with proper citation methods. Exercises in oral communications, advocacy skills and/or a moot court presentation may also be included.

LAW 410 Contracts

★5 (*fi 10*) (two term, 2-0-0; 3-0-0). A discussion of the prerequisites to the creation of contractual obligation: offer and acceptance, intention and certainty, consideration, the requirements of writing and capacity. The effect of misrepresentations and terms of the contract, together with the problems of exclusion clauses and of standard form contracts. Questions of discharge from contractual obligation on the grounds of mistake, undue influence, duress, unconscionable transactions and frustration. Remedies for breach of contract.

LAW 420 Criminal Law

★5 (*fi 10*) (two term, 2-0-0; 3-0-0). A general introduction to the criminal law,

including basic procedure, evidence, and sentencing rules, with primary emphasis on substantive criminal law. Topics include the physical and fault elements of offences, common law and statutory defences, and constitutional principles.

LAW 430 Torts

★5 (*fi 10*) (two term, 2-0-0; 3-0-0). The law of negligence, damages, intentional interferences with persons, property and chattels, the law of strict liability, occupiers' liability, nuisance, defamation, the economic torts, the future of tort law.

LAW 435 Constitutional Law

★5 (*fi 10*) (two term, 2-0-0; 3-0-0). An introduction to the legal framework governing the exercise of power by the legislative, executive and judicial branches of the Canadian state, covering who has the power to make new laws, the power to implement laws, and the power to adjudicate disputes. The limitations imposed on these powers by the rules of federalism and by the provisions of the Canadian Charter of Rights and Freedoms are also considered. An introduction to the constitutional provisions concerning Canada's Aboriginal peoples is also included.

LAW 440 Property Law

★5 (*fi 10*) (two term, 2-0-0; 3-0-0). This course involves the study of basic principles which govern the institution of real and personal property. Included in this analysis will be the history of property law and issues of social and political context. Other topics include right incident to the ownership and possession of land, tenures and estates, concurrent ownership, dower, leases and tenancies, easements, restrictive covenants, finders law, bailment, and gifts. Other special issues may be explored.

LAW 450 Administrative Law

★3 (*fi 6*) (either term, 3-0-0). Designed to provide an understanding of the legal constraints courts have placed on the behavior of administrative tribunals and government departments. Topics to be discussed: What is Administrative Law? How the courts supervise the acts and decisions of administrative bodies. Pitfalls to be avoided by administrative officers: errors of fact and law; excesses of discretion; breach of natural justice. How administrative acts and decisions may be attacked by an aggrieved citizen: remedies. Appeal and review, time limits, locus standi, choice of remedy, procedure. How to avoid attacks by aggrieved citizens. The practical outcome; strength of review. Recent trends in Administrative Law in Canada.

LAW 451 Corporations Law

★3 (*fi 6*) (either term, 3-0-0). The laws governing corporations including: pre-incorporation matters; the corporation as a legal person; the tortious, criminal, regulatory, and contractual liability of the corporation; corporate social responsibility; corporate management; shareholder rights; and shareholder remedies. May not be taken for credit if credit has already been obtained for LAW 510.

LAW 452 Civil Procedure

★3 (*fi 6*) (either term, 3-0-0). The fundamentals of the traditional litigation process (under the Rules of Court and applicable statutes) and current issues including access and reform. May not be taken for credit if credit has already been obtained for LAW 570.

LAW 453 Evidence

★3 (*fi 6*) (either term, 3-0-0). The principles, rules, and procedures governing the admissibility of evidence in criminal and civil trials. Topics include competence and compellability, relevance, prejudicial effect and probative value, and character, hearsay, and expert evidence.

LAW 454 Conflict of Laws

★3 (*fi 6*) (either term, 3-0-0). Theoretical basis of conflict of laws. Preliminary topics: characterization, renvoi, time element domicile. Choice of Law: domestic relations, contract, torts. Jurisdiction and the recognition of foreign judgments. May not be taken for credit if credit has already been obtained for LAW 600.

LAW 456 Professional Responsibility

★3 (*fi 6*) (either term, 3-0-0). A consideration of the responsibilities of the lawyer to the profession and the profession to the public. Ethics and organization of the profession. Course may not be taken for credit if credit has already been obtained for LAW 670.

LAW 486 Jurisprudence

★3 (*fi 6*) (either term, 3-0-0). An enquiry into the nature of law and legal obligation. The first part of the course is a survey of the major schools of jurisprudence with particular emphasis upon positivism, natural law and legal realism. The second part consists of an examination of the modern applications of these theories, especially in relation to the process of judicial decision making and the question of whether there is an obligation to obey the law. May not be taken for credit if credit has already been obtained for LAW 500.

LAW 496 Legal History

★3 (*fi 6*) (either term, 3-0-0). An introduction to the historical development of law, from early times to the present day. May not be taken for credit if credit has already been obtained for LAW 505.

LAW 504 Taxation

★3 (*fi 6*) (either term, 3-0-0). The scope and purpose of taxation. The taxing

power; tax appeal procedures; constitutional problem. Personal jurisdiction. Property jurisdiction. Income from a business; capital gains and losses; statutory interpretation, deductions, expenses. Gift tax. May not be taken for credit if credit has already been obtained for LAW 460.

LAW 506 Public International Law

★3 (*fi 6*) (either term, 3-0-0). A survey of the foundational principles, structure and institutions of public international law, including the nature of the international legal system, the sources of international law, and the relevance of international law to the Canadian legal system. The role of international organizations, such as the United Nations, will also be discussed.

LAW 512 Techniques in Negotiation

★3 (*fi 6*) (either term, 3-0-0). An in-depth analysis of the nature, purpose, and methodology of negotiation. Mock negotiations will be undertaken by the class. Mediation and arbitration will be discussed. May not be taken for credit if credit has already been obtained for LAW 472.

LAW 514 Judgment Enforcement Law

★3 (*fi 6*) (either term, 3-0-0). The law governing the enforcement of judgments by unsecured creditors. Will provide an in-depth analysis of the Civil Enforcement Act of Alberta. Topics include prejudgment remedies, registration and priority of writs, enforcement against personal property, enforcement against land, garnishment and distribution. Will also cover fraudulent conveyances and preferences.

LAW 515 Sale of Goods

★3 (*fi 6*) (either term, 3-0-0). The law of the sale of goods; nature of contract of sale, conditions and warranties implied by the Sale of Goods Act, passing of property and risk, documentary sales transactions, remedies of the buyer and the seller, circumstances under which a seller can pass a better title than he/she has. A portion of the course will be devoted to a discussion of consumer protection legislation.

LAW 516 Alternative Dispute Resolution

★3 (*fi 6*) (either term, 3-0-0). This course will provide students with an understanding of the breadth and scope of dispute resolution alternatives with a focus on how those alternative processes are being utilized in Alberta. Students will learn various forms of dispute resolution including client interviewing, negotiation, mediation, arbitration, med-arb, the mini-trial and litigation risk analysis. Course will look at how alternative dispute resolution fits within the adversarial system, the benefits and drawbacks of each process and how to choose the most appropriate form. Course may not be taken for credit if credit has already been obtained for LAW 474.

LAW 518 Intellectual Property

★3 (*fi 6*) (either term, 3-0-0). A study of the law with respect to patents, trade marks, trade secrets, copyrights and intangible property generally.

LAW 519 Insurance Law

★3 (*fi 6*) (either term, 3-0-0). General principles affecting insurance contracts including good faith, indemnity, subrogation, and insurable interest; particular problems arising out of the Alberta Insurance Act in relation to automobile, life and fire insurance.

LAW 520 Criminal Procedure

★3 (*fi 6*) (either term, 3-0-0). An overview of the entire criminal process, from the investigatory stage to the laying of charges through to appeals. The primary emphasis will be on the pre-adjudicative phase of criminal matters, particularly the authority of the police to detain, search/seize, question and arrest individuals.

LAW 522 Sentencing

★3 (*fi 6*) (either term, 3-0-0). An introduction to and survey of the law of sentencing. Topics include the history of punishment, the philosophical underpinnings of sentencing law, the evidentiary rules governing sentencing hearings, and the substantive principles of adult and young offender sentencing.

LAW 524 Family Law

★3 (*fi 6*) (either term, 3-0-0). The formation and annulment of marriage; various matrimonial remedies; judicial separation; alimony; loss of consortium; divorce; ground and procedure; custody of children; financial obligations and property rights between spouses. May not be taken for credit if credit has already been obtained for LAW 485.

LAW 526 Research Paper

★3 (*fi 6*) (either term, 3-0-0). Will give selected students an opportunity to engage in original research. The research topic is subject to prior approval of a Faculty member, who shall direct the students, and of the Associate Dean.

LAW 531 Law and Medicine

★3 (*fi 6*) (either term, 3-0-0). Selected topics pertinent to law and medicine with an emphasis on the practical implications of the law for the medical profession and the effect of changes in medical practice and institutions on the law. Problems will be examined with assistance from professionals working in the relevant areas and recommendations for law reform will be sought.

LAW 532 Constitutional Litigation

★3 (*fi 6*) (either term, 3-0-0). Will address current issues in constitutional litigation particularly those involving the Charter. The emphasis will be on both substantive

knowledge of constitutional litigation issues and development of skills within that framework. Issues such as pleadings, interventions and class actions, examination of lay and expert witnesses, the use of extrinsic aids, statistical and other forms of ordinary and expert evidence, forms of remedies, form and role of written briefs, and other related matters will be addressed. May not be taken for credit if credit has already been obtained for LAW 639.

LAW 533 Advanced Problems in Constitutional Law

★3 (*fi 6*) (either term, 3-0-0). Entails an examination of various current problems in constitutional law. Topics covered in past years include Criminal Justice and the Charter, Comparative Constitutional Law, and Federal/Provincial Law. May not be taken for credit if credit has already been obtained for LAW 637.

LAW 536 Civil Liberties

★3 (*fi 6*) (either term, 3-0-0). An in-depth analysis and discussion of the Charter of Rights and Freedoms and the cases decided thereunder; the role of the judiciary and the legitimacy and scope of judicial review under the Charter; the protection afforded under the Constitution Act, 1867 (e.g. implied Bill of Rights, provisions regarding denominational guarantees), Canadian Bill of Rights, 1960, anti-discrimination laws (e.g. Canadian Human Rights Act, Individual Rights Protection Act), the Office of the Ombudsman, Freedom of Information legislation. All or some of the above will be discussed. Comparative materials will be studied where appropriate.

LAW 538 Alberta Law Review

★3 (*fi 6*) (either term, 3-0-0). Students enrolled in this course will be involved in all facets of the production of the Alberta Law Review, including the assessment, selection and substantive and stylistic editing of manuscripts submitted for publication. Students enrolled in this course must normally participate as a member of the Law Review for two academic years to be eligible for credit. Students may be admitted only on application. May not be taken for credit if credit has already been obtained for LAW 650.

LAW 540 Land Titles

★3 (*fi 6*) (either term, 3-0-0). A detailed study of the Alberta Land Titles Act consisting of an analysis of the Common Law and Registry Systems of Conveyancing; Introduction to the Torrens System of Land Titles; The Principles of Indefeasibility; Exceptions to Indefeasibility; Boundary Problems; Caveats; Registrable Instruments; Miscellaneous Title Problems; Remedies and Limitations; Reform.

LAW 542 Alberta Law Review Research Paper

★3 (*fi 6*) (either term, 3-0-0). This course provides members of the Alberta Law Review with an opportunity to engage in original research and to prepare a paper of publishable quality. The research topic is subject to the prior approval of the Faculty Advisor and the Assistant or Associate Dean. The paper must be presented at a seminar of Law Review members. May not be taken for credit if credit has already been obtained for LAW 655.

LAW 543 Basic Oil and Gas Law

★3 (*fi 6*) (either term, 3-0-0). The origin, occurrence, and production of oil and gas; the nature of interests in oil and gas; the acquisition and disposition of interests in oil and gas; the rights and duties of parties under oil and gas leases; pooling of oil and gas interests; acquisition of surface leases and pipeline easements.

LAW 545 The Law of Fiduciary Obligation

★3 (*fi 6*) (either term, 3-0-0). Fiduciary law regulates relationships which depend, for their efficacy, on a strict duty of loyalty. Fiduciaries have protective responsibility for the interests, both economic and non-economic, of other persons, usually "vulnerable" persons. Fiduciary law regulates diverse relationships, including relationships between joint venturers, business partners, directors and senior management and corporations, senior employees and employers, professional service providers, lawyers, doctors, accountants, therapists and their clients and patients, principals and agents, the Crown and Indigenous Peoples and parents and their children. Topics covered will include the nature of fiduciary relationships, obligations of fiduciaries, including the obligation to avoid conflict of interest and remedies for breach of fiduciary obligation. Some attention will be paid to "unexpected" fiduciary relationships and the interrelation between fiduciary law and other sources of liability.

LAW 546 Interviewing and Counselling

★3 (*fi 6*) (either term, 3-0-0). The purpose of this course is to assist students in developing skills in the interviewing and counselling process. The course attempts to introduce and develop models for interviewing and counselling. The principal model is one that stresses a client-centred approach.

LAW 547 Entertainment Law

★3 (*fi 6*) (either term, 3-0-0). This course examines the law which regulates the entertaining industry, including the music and recording industry, television, radio, motion pictures, written publications, sports agency, satellite and advanced communication and the internet.

LAW 548 Alberta Human Rights and Citizenship Commission Practicum

★3 (*fi 6*) (either term, 3-0-0). This course provides an opportunity for a small group of students to gain experience in the areas of human rights and citizenship through research, writing and advocacy. Students will provide assistance to otherwise

unrepresented complainants in respect of quasi-judicial proceedings conducted under the Human Rights, Citizenship and Multicultural Act.

LAW 552 Natural Resources Law

★3 (*fi 6*) (either term, 3-0-0). The judicial, legislative, administrative and policy problems related to the regulation and management of natural resources, including problems of allocation, development, use, pollution control, and conservation.

LAW 555 Labor Law

★3 (*fi 6*) (either term, 3-0-0). Legal problems concerning the establishment of collective bargaining; negotiation and enforcement of the collective agreement; the activities of unions and employers in industrial disputes; and the internal affairs of labor organizations.

LAW 556 Labor Arbitration

★3 (*fi 6*) (either term, 3-0-0). The law and practice relating to interest and rights arbitrations in Alberta. The course will be taught partly as a seminar and partly through a series of mock arbitrations in which students will act as counsel.

LAW 557 International Human Rights Law

★3 (*fi 6*) (either term, 3-0-0). This seminar focuses on U.N. human rights law (political, civil, economic, social and cultural rights), rights of women, children's rights, regional human rights systems, Canadian implementation of international human rights obligations, national human rights institutions, transitional justice issues, interface with international humanitarian law, and student research presentations.

LAW 558 Poverty Law

★3 (*fi 6*) (either term, 3-0-0). The culture of poverty and its implications for anti-poverty planning will be examined with emphasis on psychological, sociological and economic theory. Organizational models for the delivery of legal services will be considered together with a treatment of the theory of equality, the problem of accessibility to the claims process and alternative methods of dispute settlement. The character of the law concerning the poor will be analyzed as reflected in selected case studies in welfare law, public housing policy, workmen's compensation and unemployment insurance.

LAW 559 Environmental Law and Policy

★3 (*fi 6*) (either term, 3-0-0). Canadian laws and policies designed to control air, land, and water pollution, including licensing systems, the use of quasi-criminal sanctions, environmental impact assessment processes, constitutional issues, and the usefulness of the common law. Other topics may include alternative legal approaches, such as economic incentives, wildlife protection, environmental rights, parks, the public trust doctrine or environmental mediation.

LAW 561 International Criminal Law

★3 (*fi 6*) (either term, 3-0-0). An introduction to the legal framework of international crimes (i.e. war crimes, crimes against humanity, aggression, genocide, terrorism), their procedural enforcement, defences, immunities, and amnesties. Territoriality, extradition, and international abduction will be examined, as will be the International Criminal Court, the International Criminal Tribunal for the former Yugoslavia, and the International Criminal Tribunal for Rwanda.

LAW 565 International Business Transactions

★3 (*fi 6*) (either term, 3-0-0). This is a survey course on the international and domestic law governing the transactional aspects of international trade/investment activities of Canadian and foreign business entities. Topics covered include contract types and drafting, international sale of goods, financing of transactions, dispute settlement by international commercial arbitration, export/import laws, human rights and MNCs, anti-bribery laws, and international investment law.

LAW 567 Pacific Rim Law

★3 (*fi 6*) (either term, 3-0-0). This course will give students the opportunity to understand the Japanese, their society and their law in the context of international society. The exact contents of the course will depend on the speciality area of the visiting professor.

LAW 578 Family at Risk

★3 (*fi 6*) (either term, 3-0-0). Focuses on the human dimension behind family law. A panorama of subjects will be discussed which may include new family structures, adoption, troubled children, young offenders, and the causes and effects of marriage breakdown. This course may not be taken for credit if credit has already been obtained for LAW 687.

LAW 580 Trusts

★3 (*fi 6*) (either term, 3-0-0). A brief survey of the historical development of the trust. Definition and classification of trusts. Creation of express trust; the three certainties. Completely and incompletely constituted trusts. Secret, protective, discretionary and illusory trusts. Charitable trust and the rule against perpetuities. Cy-pres doctrine. Non-charitable purpose trusts. Implied or resulting trusts. Constructive trusts. Revocation, termination and variation of trusts. The appointment, retirement and removal of trustees. Duties, discretion and powers of trustees. Breach of trust.

LAW 582 Wills and Administration

★3 (*fi 6*) (either term, 3-0-0). Principles of the Wills Act, including formalities of execution, revocation, revival, republication, types of legacies, and principles

of construction. Testamentary capacity, fraud, and undue influence. Drafting of wills. Appointment of executors and administrators, their powers and duties; probate practice.

LAW 583 Start Up and Growth Businesses

★3 (*fi 6*) (either term, 3-0-0). The study of the business and legal issues that arise in the development of start-up and growth companies and the various legal techniques and structures used to resolve them. Among other issues we will examine: optimal legal structures for the business, venture capital terms, mezzanine debt terms, trade secret regimes, stock option issues, private placement regulations and pitfalls, the function of public venture markets, common employment issues and the unique corporate governance issues affecting these types of companies.

LAW 584 Bankruptcy and Insolvency

★3 (*fi 6*) (either term, 3-0-0). Participants will acquire an understanding of the rules, principles and policies underlying modern bankruptcy and insolvency law. The principal focus of the course is on the federal Bankruptcy and Insolvency Act. Topics include the invocation of bankruptcy, the vesting of property in the trustee in bankruptcy, the effect of bankruptcy on third parties, impugning pre-bankruptcy transactions, the scheme of distribution, and bankruptcy discharge. The course will also examine reorganizations under the federal Companies' Creditors Arrangement Act, and review the foundational features of receivership law.

LAW 587 Personal Property Security Law

★3 (*fi 6*) (either term, 3-0-0). The course will provide an in-depth analysis of the law of secured transactions in personal property. The salient features of the Alberta Personal Property Security Act will be examined, including topics on the scope of the Act, security agreements, the concepts of attachment and perfection, the priority of security interests in relation to other interests, proceeds and enforcement of security interests. Course may not be taken for credit if credit has already been obtained for LAW 614.

LAW 588 Immigration Law

★3 (*fi 6*) (either term, 3-0-0). An in-depth analysis of Immigration Law in Canada. Will review the Immigration Act and Regulations and look at various tribunals involved in the immigration process including the Immigration and Refugee Board and the Federal Court. Will provide a brief historical review and discuss new developments in the law and important policy areas.

LAW 590 Aboriginal Peoples and the Law

★3 (*fi 6*) (either term, 3-0-0). This is a survey course on Aboriginal Peoples in Canadian Law. Subjects covered include issues of race and legal reasoning, legal and historical foundations of claims to Aboriginal rights, treaty rights, Metis rights, Aboriginal peoples and the Constitution, Aboriginal claims negotiation and litigation, the Indian Act, and contemporary legal and political developments including an introduction to Aboriginal government. The course is organized as a seminar in which a great deal of learning arises from discussion and class participation.

LAW 592 Advanced Criminal Law

★3 (*fi 6*) (either term, 3-0-0). The course comprises an examination of substantive criminal law particularly: offences against the person and rights of property; the jury system; juvenile justice and quasi-criminal proceedings; and, the extraordinary remedies. May not be taken for credit if credit has already been obtained for LAW 620.

LAW 593 International Environmental Law

★3 (*fi 6*) (either term, 3-0-0). The development of international law in the environmental area. Topics to be covered include: customary principles of state responsibility; multilateral environmental treaties; global atmospheric issues; toxic contamination; sustainable development; biodiversity conservation; and international trade implications. It is recommended, but not required, that students enrolled in this course take Public International Law.

LAW 596 Advanced Torts

★3 (*fi 6*) (either term, 3-0-0). An analysis of, and problems in, the Law of Torts.

LAW 598 Moot Court Competition

★3 (*fi 6*) (either term, 3-0-0). Selection to the Gale Cup, Jessup Moot, Laskin Moot, Kawaskimhon Aboriginal Moot, Western Canada/Sopinka Trial Cup Trial Moot, Canadian Corporate/Securities Moot, Labour Arbitration Moot, Alberta Court of Appeal Moot, Client Counselling Competition, Clinton J. Ford Moot, or other designated moot competition team through a preliminary round competition, preparation of a memorandum, factum or memorial, training in oral advocacy or criminal trial practice through practice rounds, and participation as a representative of the law school at the moot court competition.

LAW 599 Seminars on Specialized Legal Topics

★3 (*fi 6*) (either term, 0-3s-0). These seminars will cover specialized topics of emerging importance in the law at a senior level. The particular topic covered would vary dependent on the availability of Faculty with necessary teaching competence, student interest, and the needs of the legal profession.

LAW 608 Advocacy

★3 (*fi 6*) (either term, 3-0-0). The conduct of civil litigation including: interviewing and counselling, drafting pleadings, examinations for discovery, settlement attempts,

preparation for court and participation in a mock trial. Emphasis on ethics and techniques of persuasion. Prerequisites: Completion of LAW 452 and 453. However, LAW 452 may be a corequisite in both the Fall and Winter Terms. This course may not be taken for credit if credit has already been obtained for LAW 470.

LAW 613 Corporate Securities and Finance

★3 (fi 6) (either term, 3-0-0). The course will cover methods of small business financing including equity, borrowing, government assistance; special structures such as partnerships, joint ventures, farmouts and leases. A second major part of the course will deal with sale of securities to the public, the various parties in public financing, preparation of a prospectus, continuous disclosure and stock exchange requirements; evaluation of and issues involved in takeovers. Prerequisite: LAW 451, or consent of the Faculty.

LAW 640 Real Estate Transactions

★3 (fi 6) (either term, 3-0-0). The law governing agreements for sale of land; the open contract of sale, implied terms, special covenants in agreements for sale. Remedies of vendors and purchasers; election of remedies; cancellation and determination clauses. Deposits and instalments. Mortgages: legal, equitable and statutory. Foreclosure; sales; redemption; possession and attornment. Prerequisite: LAW 540, or consent of the Faculty.

LAW 651 Municipal and Planning Law

★3 (fi 6) (either term, 3-0-0). The first part of the course will consist of an examination of the theory, structure, organization and operation of local government units in Alberta. The powers and duties of local governments to make laws, to tax, to expropriate, to enter into contracts and to provide and maintain municipal servicing infrastructure will be explored as will the role of the courts, both procedurally and substantively, in respect of supervising the judicial review proceedings and actions in contract and tort. The second part of the course will focus on municipal duties and powers relative to land use planning and regulation as well as the nature and role of non-municipal planning authorities. The objective is to leave the student with an appreciation of how a subdivision or development project is processed through the maze of regulations and agencies that are typically confronted and the role of the lawyer in that process. Prerequisite: LAW 450, or consent of the Faculty. This course may not be taken for credit if credit has already been obtained for LAW 551.

LAW 660 Estate Planning

★3 (fi 6) (either term, 3-0-0). A review of the objectives of estate planning; study of various estate planning techniques with the use of hypothetical problems; an examination of provisions found in the Income Tax Act which affect estate planning, estate tax, and gift tax. Prerequisite: LAW 504, or consent of the Faculty.

LAW 665 Corporate Taxation

★3 (fi 6) (either term, 3-0-0). The tax consequences of corporation financing; amalgamations, mergers, international business transactions; tax planning from a corporation and personal standpoint; and trends in taxation. Prerequisite: LAW 504, or consent of the Faculty. Course may not be taken for credit if credit has already been obtained for LAW 560.

LAW 675 Advanced Evidence

★3 (fi 6) (either term, 3-0-0). Course is designed to offer an in-depth analysis of several areas of current practical value for lawyers. The course will discuss recent developments and future possibilities relating to hearsay evidence, technology and opinion evidence, children as witnesses, and privileges. The course will track developments as to Charter-connected matters of the law of evidence, relating to burden of proof, discovery and disclosure, and principles of law touching on exclusion of evidence such as the 'discoverability' rule. The course may also examine special evidentiary rules applicable to special tribunals and boards. Prerequisite: LAW 453, or consent of the Faculty.

LAW 680 Unjust Enrichment

★3 (fi 6) (either term, 3-0-0). A study of unjust enrichment and its place in private law, including the concepts of enrichment, corresponding deprivation, and "unjust", methods of restitution of unjust enrichment, and defences to claims for restitution. May not be taken for credit if credit has already been obtained for LAW 680 Restitution.

Graduate Courses

LAW 695 Research Paper

★3 (fi 6) (either term, 3-0-0). This program will give selected graduate students an opportunity to engage in original research. The research topic is subject to prior approval of the Faculty supervisor and the Chair of the Graduate Studies Committee. The research topic shall be different from the thesis topic.

LAW 698 Legal Research Methodology and Education

★3 (fi 6) (either term, 3-0-0). This seminar covers key research techniques and methodological approaches to assist thesis research and writing. Legal education is addressed on a theoretical and practical level. Students are introduced to contemporary and historical debates concerning legal education and practical topics such as curricula design. Students may be provided with opportunities to practise teaching skills.

LAW 699 Graduate Seminar on Specialized Legal Topics

★3 (fi 6) (either term, 3-0-0). Graduate Level. These seminars will cover a specialized topic of emerging importance in the law. The particular topic covered would vary depending on the availability of Faculty with necessary teaching competence, student interest, and the needs of the legal profession.

231.169.1 Non-LLB Spring/Summer

Note: LAW 300, normally offered in Spring/Summer, is available to students in other faculties. It will not be considered for credit in the LLB program.

LAW 300 Law for Non-LLB Students I

★3 (fi 6) (first term, 30 hours). The nature, functions, and sources of law; an outline and components of the Canadian legal system. Note: Not available for credit in the LLB Program.

231.170 Library and Information Studies, LIS

School of Library and Information Studies
Faculty of Education

Undergraduate Courses

LIS 210 Critical Strategies for the Information Universe

★3 (fi 6) (either term, 2-0-1). This course explores the challenges of acquiring, evaluating and communication information. Students will examine information theory and practical techniques relating to the Internet, databases, and other electronic sources, to develop a critical understanding of the information universe. Open to second, third and fourth year undergraduate students.

LIS 401 Survey of Children's Literature

★3 (fi 6) (either term, 3-0-0). Literature for children from infancy through the elementary school years. The emphasis is on books currently read by children. Principles of evaluation, children's reading needs and interests, and current issues and trends will be examined. This course is not open to MLIS students.

LIS 402 Storytelling

★3 (fi 6) (either term, 3-0-0). The past and present forms of storytelling, including the oral tradition, the function of the storyteller, the selection of material and the techniques of telling stories and listening to stories. This course is not open to MLIS students.

LIS 403 Survey of Young Adult Materials

★3 (fi 6) (either term, 3-0-0). A survey of fiction in all media forms for upper elementary and secondary school-aged readers. Adolescents' reading and media needs and interests, and current issues and trends will be examined. Not open to MLIS students.

LIS 404 Comic Books and Graphic Novels in School and Public Libraries

★3 (fi 6) (either term, 3-0-0). Examines the history and contemporary reality of comic book publishing and readership in Canada, Great Britain, Japan and the United States, and issues related to perception of the format of educators, librarians, and readers. Focus on collection development, censorship concerns and challenges, gender issues in both readership and content, genres, and impact of the Internet. Not open to MLIS students.

LIS 405 Canadian Children's Literature for Young People in Schools and Libraries

★3 (fi 6) (second term, 3-0-0). A survey of Canadian children's materials from books for babies to those aimed at the young adult market. Focus on contemporary works, trends in both publishing and content, and issues such as censorship, multimedia forms and the Internet.

Graduate Courses

Note: All the following courses are restricted to MLIS students and may not be offered each year. Interested students should contact the School of Library and Information Studies for scheduling information. The following courses are required for both the thesis and course-based routes of the MLIS program and are normally prerequisites to the rest of the program: LIS 501, 502, 503, 504, 505, and 506.

The following courses are also available as part of the MLIS program: EDES 541, 542, 546, 547, and 548; EDIT 535, 537, and 568.

LIS 501 Foundations of Library and Information Studies

★3 (fi 6) (first term, 3-0-0). Introduction to the historical, current, and potential roles of libraries and of library and information professionals in western society. Required course.

LIS 502 Organization of Knowledge and Information

★3 (fi 6) (either term, 3-0-0). An introduction to the organization of knowledge

and information focusing on theory and principles for application in a variety of settings. Required course.

LIS 503 Reference and Information Services

★3 (*fi 6*) (either term, 3-0-0). An introduction to reference and information services and resources. Includes history and varieties of reference services, user populations, instruction, ethics, access issues, the reference interview, search strategies, evaluation of services, and the organization, selection, evaluation, and use of major information resources. Required course.

LIS 504 Leadership and Management Principles for Library and Information Services

★3 (*fi 6*) (either term, 3-0-0). An introduction to principles and practices of leadership and management in the professional lives of librarians, archivists, and other information service practitioners. Required course.

LIS 505 Research Methods for Library and Information Studies

★3 (*fi 6*) (second term, 3-0-0). Introduction to qualitative, quantitative, and textual research approaches relevant to the field of library and information studies. Includes theoretical discussion of issues and the application of research design principles through the development of a research project proposal. Required course.

LIS 506 Information Technology

★3 (*fi 6*) (either term, 3-0-0). An introduction to information technology and its implications for libraries and information services. Required course.

LIS 510 Storytelling

★3 (*fi 6*) (either term, 3-0-0). The past and present forms of storytelling, including the oral tradition, the function of the storyteller, the selection of material and the techniques of telling stories and listening to stories.

LIS 515 Materials for Young Adults

★3 (*fi 6*) (either term, 3-0-0). Materials for young adults of junior and senior high school age, young adults' reading interests, and current trends and issues in young adults literature.

LIS 516 Canadian Children's Literature for Young People in Schools and Libraries

★3 (*fi 6*) (second term, 3-0-0). A survey of Canadian children's materials from books for babies to those aimed at the young adult market. Focus on contemporary works, trends in both publishing and content, and issues such as censorship, multimedia forms and the Internet.

LIS 517 Government Publications

★3 (*fi 6*) (either term, 3-0-0). The control and dissemination of government publications, using the Canadian system as a model applicable to other political jurisdictions.

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

★3 (*fi 6*) (either term, 3-0-0). Examines the history and contemporary reality of comic book publishing and readership in Canada, Great Britain, Japan and the United States, and issues related to perception of the format by educators, librarians, and readers. Focus on collection development, censorship concerns and challenges, gender issues in both readership and content, genres, and impact of the Internet. Open to MLIS students and other graduate students.

LIS 519 Introduction to Children's Literature

★3 (*fi 6*) (either term, 3-0-0). Literature for children from infancy through the elementary school years, principles of evaluation and selection, and current issues and trends.

LIS 520 Information Resources in Specialized Fields

★3 (*fi 6*) (either term, 3-0-0). Information resources and their administration in a specialized field and for a specialized clientele. The emphasis is on the nature of the field, problems of collection development, bibliographic access, retrieval and use by the clientele, and administrative issues in solving these problems. Specialized fields regularly examined are law, business, and health sciences.

LIS 526 Instructional Practices in Library and Information Services

★3 (*fi 6*) (either term, 3-0-0). Theory and practice related to the teaching roles of the librarian or information professional. Includes planning, implementation and evaluation of pedagogical approaches for the design of effective information literacy and professional development instructional sessions.

LIS 531 Collection Management

★3 (*fi 6*) (either term, 3-0-0). An analytical approach to collection management including the acquisition, review and evaluation of collections.

LIS 532 Cataloguing and Classification

★3 (*fi 6*) (either term, 3-0-0). To prepare students to construct a catalogue, to create catalogue records for various forms of materials in diverse Library situations and to evaluate Online Public Access Catalogues.

LIS 533 Database Design for Information Management

★3 (*fi 6*) (either term, 3-0-0). An introduction to core concepts, principles, and techniques of database design for information management, from user requirement analysis, to data and information modeling and querying.

LIS 534 Information Architecture: Web Design for Usability

★3 (*fi 6*) (either term, 3-0-0). An examination of the principles and practice of web usability, with a focus on information architecture, layout and design, metadata, and other topics related to effective web design and management. Includes an introduction to HTML and other web coding. Prerequisites: LIS 501, 502, 503, 506. Corequisite: LIS 505.

LIS 535 Advanced Topics in the Organization of Knowledge

★3 (*fi 6*) (either term, 3-0-0). An examination of the principles and practice of indexing, abstracting, thesaurus construction, metadata, or other topics relevant to the organization of knowledge.

LIS 536 Digital Reference and Information Retrieval

★3 (*fi 6*) (either term, 3-0-0). An examination of the integration of digital services into the array of reference services, with an emphasis on information retrieval systems and their effective use by professionals and end users. 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.

LIS 537 Management of Information Technology

★3 (*fi 6*) (either term, 3-0-0). Areas of library and information operations suitable for computer applications with emphasis on management and evaluation.

LIS 538 Digital Libraries

★3 (*fi 6*) (either term, 3-0-0). An introduction to the concept, development, types and trends of digital libraries. This course will focus on the creation, organization, access, use and evaluation of digital libraries with a view to socioeconomic and cultural issues. Prerequisites: LIS 534.

LIS 542 Library Preservation, Security, and Risk Management

★3 (*fi 6*) (either term, 3-0-0). An introduction to and overview of the role and activities of preservation administration in libraries of all kinds, from the physical preservation and conservation of book and multimedia collections, to risk management and insurance, prevention of theft and vandalism, disaster contingency planning and preparedness, through post-disaster salvage and recovery operations.

LIS 545 Management of Resources in Library and Information Services

★3 (*fi 6*) (either term, 3-0-0). The field of resource management and its application in library and information services.

LIS 546 Marketing Library and Information Services

★3 (*fi 6*) (either term, 3-0-0). The principles of marketing and public relations for nonprofit organizations, with an emphasis on library and information services.

LIS 548 Library Services to Children and Young Adults

★3 (*fi 6*) (either term, 3-0-0). The principles and practices of library service to children and young adults. Prerequisite: LIS 515 or 519.

LIS 580 Contemporary Theories and Practices of Reading

★3 (*fi 6*) (either term, 3-0-0). A study of different theories of reading (e.g. social, psychological, literary) and of sites and practices of literacy in an era of rapid cultural and technological change.

LIS 582 Contemporary Issues in Library and Information Studies

★3 (*fi 6*) (either term, 0-3s-0). New and continuing topics of concern or debate in the library and information professions, and how they influence information attitudes and programs.

LIS 583 Globalization, Diversity and Information

★3 (*fi 6*) (either term, 3-0-0). Explores global and local interactions as they affect information access within and outside of libraries, including cultural, ethical, political and institutional discourses.

LIS 585 Multimedia Literacies

★3 (*fi 6*) (either term, 3-0-0). An introduction to the theories, practices and implications of multimedia literacies. Examples of multimedia texts include print, video, audio, CD-ROM, DVD, computer programs, digital games, hypermedia, Internet sites, graphic forms, electronic books, and text-based toys, games, and commodities. The course will explore the cultural, social, commercial, and educational issues raised by the proliferation of such texts.

LIS 586 History of the Book

★3 (*fi 6*) (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 587 Facilities Planning for Libraries and Information Centres

★3 (*fi 6*) (either term, 3-0-0). The examination of the building needs of various types of libraries and information centres, the involvement of information professionals and architects in the planning process, and various contemporary building styles.

LIS 589 Feminism and Library and Information Studies

★3 (*fi 6*) (either term, 3-0-0). Examines the nature of librarianship as a profession, issues related to information, and practices of information management from gendered perspectives using applicable feminist theoretical interpretations.

LIS 590 Practicum

★3 (*fi 6*) (either term, 100 hours). The application of LIS theories and principles

through experiential learning in a library, archives, records management and other services settings.

LIS 591 Publishing

★3 (fi 6) (either term, 3-0-0). The organized business of writing, manufacturing and marketing of books and other media.

LIS 592 Intellectual Freedom and Social Responsibility in Librarianship

★3 (fi 6) (either term, 3-0-0). An examination of the central concepts of intellectual freedom and social responsibility and the range of related issues impacting librarians, library institutions, and library associations. Prerequisite: LIS 501.

LIS 593 Archives Administration

★3 (fi 6) (either term, 3-0-0). Theories, standards and methods used in management of modern archives, with an historical overview and an emphasis on contemporary theory and practice.

LIS 594 Records Management

★3 (fi 6) (either term, 3-0-0). The theory and techniques of records management.

LIS 597 Seminar in Advanced Research Methods

★3 (fi 6) (first term, 0-3s-0). In-depth examination of research approaches and issues relevant to the field of library and information studies, and to the research interests of students pursuing doctoral programs, thesis-route master's programs, and other advanced projects.

LIS 598 Special Topics

★3 (fi 6) (either term, 3-0-0). 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 (fi 6) (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 will be a World Wide Web version of the students best work in the MLIS program, and a reflective paper on the significance of the work. The capping exercise paper is to be submitted during the final term of course work.

LIS 697 Seminar in Doctoral Research Methods

★3 (fi 6) (either term, 3-0-0). In-depth examination of research approaches and issues relevant to the field of library and information studies and to the research interests of students enrolled in a doctoral program.

LIS 699 Directed Study

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

231.171 Linguistics, LING

Department of Linguistics
Faculty of Arts

Undergraduate Courses

0 LING 100 Introduction to Human Language

★3 (fi 6) (either term, 3-0-0). An introduction to how human language works: how it is structured, how it is learned, how it is used in different societies and how it changes over time. Note: Not to be taken by students with credit in LING 102.

0 LING 101 Introduction to Linguistic Analysis

★3 (fi 6) (either term, 3-0-0). Central concepts of linguistics: linguistic categories and structure (phonetics, phonology, morphology, syntax, semantics). Note: May not be taken by students with credit in LING 109.

0 LING 102 Introduction to Linguistics II

★3 (fi 6) (either term, 3-0-0). An introduction to cross-disciplinary and applied areas in linguistics (e.g. language change, language acquisition, language in society). Pre- or corequisite: LING 101.

LING 111 Intro to Linguistic Analysis for Language Revitalization

★3 (fi 6) (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 the Indigenous languages of Western Canada. Restricted to CILLDI program students.

0 LING 204 English Syntax

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

0 LING 205 Phonetics

★3 (fi 6) (either term, 3-0-0). Recognizing, transcribing, and producing speech sounds using the International Phonetic Alphabet; problems in phonetic analysis;

elementary acoustic phonetics; techniques for describing the sound system of an unfamiliar language. Prerequisite: LING 101.

LING 211 Phonetics of Canadian Aboriginal Languages

★3 (fi 6) (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 Indigenous languages of Western Canada. Prerequisite: LING 111. Restricted to CILLDI program students.

LING 212 Morphosyntax of Indigenous Languages

★3 (fi 6) (Spring/Summer, 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 (fi 6) (Spring/Summer, 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.

0 LING 308 Morphology and the Lexicon

★3 (fi 6) (either term, 3-0-0). Basic principles of word formation and structure across languages: the organization of the lexicon and representation of words. Prerequisites: LING 101, 204 and 205. Note: Not to be taken by students with credit in LING 208.

0 LING 309 Syntax and Semantics

★3 (fi 6) (either term, 3-0-0). Basic principles in syntax (constituent structure, sentence relatedness, grammatical relations) and semantics (word meaning, semantic roles, event structure). Prerequisites: LING 101 and 204. Note: Not to be taken by students with credit in LING 209.

0 LING 310 Introductory Phonology

★3 (fi 6) (either term, 3-0-0). Basic principles of phonological analysis across languages. Prerequisites: LING 101 and 205. Note: Not to be taken by students with credit in LING 210.

LING 311 Special Topics in Linguistics

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

0 LING 314 Discourse Analysis

★3 (fi 6) (either term, 3-0-0). Analysis of selected approaches to the study of discourse including conversational analysis, narrative structure, text analysis. Prerequisite: LING 101. Not offered every year.

0 LING 316 Sociolinguistics

★3 (fi 6) (either term, 3-0-0). An examination of phonological, syntactic, lexical, and semantic variation in language systems in connection with extra-linguistic factors such as individual, social, or demographic differences. Prerequisite: LING 101. Not offered every year.

0 LING 319 Child Language Acquisition

★3 (fi 6) (either term, 3-0-0). Basic issues in first language acquisition: theories, research methods, and major findings. Prerequisite: LING 101. LING 204 and 205 recommended.

0 LING 320 Second Language Acquisition

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

0 LING 321 Neurolinguistics

★3 (fi 6) (either term, 3-0-0). A neurolinguistic approach to the representation and processing of linguistic structures in the brain; patterns of language breakdown resulting from damage to the brain. Prerequisites: LING 101 and 204, or consent of Department. Not offered every year.

0 LING 322 Language and Gender

★3 (fi 6) (either term, 3-0-0). An examination of gender-related differences in the structure of language, discourse, communication, and how those differences relate to language processing, acquisition, and loss. Prerequisite: LING 101 or consent of Department. Not offered every year.

0 LING 323 Linguistics and the Mind

★3 (fi 6) (either term, 3-0-0). Language as an expression of the symbolic capacity of the mind. Attention will be given to the relation between meaning

and language and other social-cultural practices in constituting mind and world. Prerequisite: None.

O LING 324 Endangered Languages

★3 (*fi 6*) (either term, 3-0-0). An examination of languages facing extinction: how language endangerment arises, local and global factors affecting loss, how linguistic and cultural diversity suffers, and how linguists can respond. Prerequisite: LING 101.

LING 325 Writing Systems

★3 (*fi 6*) (either term, 3-0-0). History and typology of writing systems and how different writing systems influence the reading process. Prerequisite: LING 101.

O LING 399 Special Topics in Linguistics

★3 (*fi 6*) (either term, 3-0-0). A study of recent developments in particular sub-areas of linguistics. Prerequisite: consent of Department. Normally offered only as a reading course through special arrangement.

LING 401 Semantics

★3 (*fi 6*) (either term, 3-0-0). An overview of natural language semantics across languages at both the lexical and clause levels. Topics covered include sense, reference, features, compositionality, semantic roles, logical form, categorization, and conceptualization. Prerequisite: LING 309. Not offered every year.

LING 405 Historical Linguistics

★3 (*fi 6*) (either term, 3-0-0). Principles and methods in the study of language change. Prerequisite: LING 310. Not offered every year.

LING 407 Linguistic Typology

★3 (*fi 6*) (either term, 3-0-0). A survey of similarities, differences, tendencies, and universals in the phonological, morphological, and syntactic patterns of different languages. Prerequisite: LING 309. Not offered every year.

O LING 409 Syntactic Theory

★3 (*fi 6*) (either term, 3-0-0). Syntactic analysis and argumentation in generative theory and its extensions and revisions. Prerequisite: LING 309; and either 308 or 310.

O LING 410 Phonological Theory

★3 (*fi 6*) (either term, 3-0-0). Generative phonological analysis: phonological rules, representations, and related theoretical issues. Prerequisites: LING 310; and either 308 or 309.

LING 419 Linguistics and Child Language Disorders

★3 (*fi 6*) (either term, 3-0-0). Linguistic characteristics of language disorders across special populations of children. Theoretical issues in linguistic approaches to developmental language disorders. Prerequisite: LING 319; 309 recommended.

LING 420 Phonological Acquisition

★3 (*fi 6*) (either term, 3-0-0). An overview of data, theories and methodologies in the study of phonological development, including L1 and L2 production and perception. Prerequisite: LING 310.

LING 499 Special Topics in Linguistic Theory

★3 (*fi 6*) (either term, 3-0-0). A course designed to explore recent developments in particular areas of linguistic theory. Prerequisite: consent of Department. Normally offered only as a reading course through special arrangement.

LING 500 Psycholinguistics

★3 (*fi 6*) (either term, 3-0-0). Issues and methods involved in the experimental study of language production, comprehension, and acquisition. Prerequisites: Any two of LING 308, 309 or 310. Recommended: a course in elementary statistics.

LING 501 Research Project Seminar

★3 (*fi 6*) (first term, 3-0-0). Requires a literature review, devising research methodology, writing and defending a project proposal. Prerequisite: consent of Department. Note: Required for BA Honors students in Linguistics in their final year. Restricted to BA Honors and graduate students in Linguistics.

LING 502 Honors Project

★3 (*fi 6*) (either term, 3-0-0). Directed Honors thesis. Prerequisites: LING 501 and consent of Department. Note: Required for and Restricted to BA Honors students in Linguistics in their final year.

LING 509 Syntactic Theory

★3 (*fi 6*) (either term, 3-0-0). Advanced syntactic analysis and related theoretical issues. Prerequisite: LING 309 or consent of Department. Note: Required for BA Honors in Linguistics.

LING 510 Current Phonological Theory

★3 (*fi 6*) (either term, 3-0-0). Current approaches to phonological theory, focusing on constraint-based analysis. Prerequisite: LING 310 or consent of Department. Note: Required for BA Honors in Linguistics.

LING 511 Special Topics in Linguistic Research

★3 (*fi 6*) (either term or Spring/Summer, 3-0-0). A study of recent developments in particular areas of linguistic research with special attention to the Indigenous languages of Western Canada. Prerequisite: LING 111 and/or consent of Department. Restricted to CILLDI program students.

LING 512 Acoustic Phonetics

★3 (*fi 6*) (either term, 3-0-0). Analysis of the articulatory, perceptual, and acoustic aspects of speech signal; measuring the acoustic aspects of speech. Prerequisite: LING 310 or 312 (formerly LING 412).

LING 513 Speech Technology

★3 (*fi 6*) (either term, 3-0-0). Introduction to speech synthesis and speech recognition, with some time allotted to other speech and language technologies. The purpose of this course is to give students background that would be useful for work in the speech technology industry. Prerequisite: LING 205 or consent of Department.

LING 515 Field Methods

★3 (*fi 6*) (either term, 3-0-0). Practical experience in linguistic data collection and analysis of the sound and form systems of an unfamiliar language. Prerequisites: LING 205, 309 (formerly 209), and 310 (formerly 210) or consent of Department. Not offered every year.

LING 516 Languages in Contact

★3 (*fi 6*) (either term, 3-0-0). Variation in language and language usage in bilingual and cross-linguistic situations. Prerequisite: Consent of Department.

LING 519 Corpus Linguistics

★3 (*fi 6*) (either term, 3-0-0). Theoretical and practical issues relating to using corpora in linguistic analysis: principles of corpus construction, application of corpus techniques to problems in linguistics, frequency counts, collocational searches, creating databases out of search results. Prerequisites: LING 309 and 310 or consent of department.

LING 599 Special Topics in Linguistic Research

★3 (*fi 6*) (either term, 3-0-0). A study of recent developments in particular areas of linguistic research. Prerequisite: consent of Department. Formerly LING 443.

Graduate Courses

LING 533 Topics in Medieval Latin

★3 (*fi 6*) (either term, 3-0-0).

LING 601 Phonology I

★3 (*fi 6*) (either term, 0-3s-0). Current approaches to phonological theory, focusing on constraint-based analysis--advanced level. Prerequisite: consent of Department.

LING 602 Seminar in Syntax

★3 (*fi 6*) (either term, 0-3s-0). Critical examination of selected theoretical issues in morphosyntax. Prerequisite: consent of Department.

LING 603 Quantitative Methods in Linguistics

★3 (*fi 6*) (either term, 3-0-0). Analysis of variance and experimental design in relation to problems in experimental linguistics. Prerequisite: A course in elementary statistics or consent of Department.

LING 604 Seminar in Psycholinguistics

★3 (*fi 6*) (either term, 0-3s-0). A review of the current theories and research in psycholinguistics. Prerequisite: LING 500.

LING 605 Seminar in Experimental Phonetics

★3 (*fi 6*) (either term, 0-3s-0). A survey of the present state of knowledge in speech production and perception. Prerequisite: LING 512 (LING 412 prior to 1997-98). Note: offered in alternate years.

LING 606 Seminar in Sociolinguistics

★3 (*fi 6*) (either term, 3-0-0). Sociolinguistics of minority/L2 language situations including standard/non-standard variants and societal challenges that accompany bilingualism. Prerequisite: Consent of Department.

LING 607 Linguistic Typology

★3 (*fi 6*) (either term, 0-3s-0). An examination of implications that the study of language universals and linguistic typology has for theories of grammar. Prerequisite: consent of Department. Note: offered in alternate years.

LING 608 Morphology

★3 (*fi 6*) (either term, 0-3s-0). Current approaches to morphological theory and analysis and their implications for grammatical theory and models of the lexicon. Prerequisite: consent of Department. Note: offered in alternate years.

LING 610 Formal Grammatical Theory

★3 (*fi 6*) (either term, 0-3s-0). In-depth examination of a current grammatical theory. Prerequisite: LING 602 or consent of Department. Note: offered in alternate years.

LING 611 Phonology II

★3 (*fi 6*) (either term, 0-3s-0). Current examination of selected theoretical topics in phonology, focusing on issues of representation. Prerequisite: LING 601 or consent of Department. Note: offered in alternate years.

LING 614 Methods in Experimental Phonetics

★3 (*fi 6*) (either term, 0-3s-0). Training in experimental phonetics research

methods with emphasis on practical experience. Prerequisite: LING 512 and graduate level Statistics course.

LING 615 Methods in Experimental Psycholinguistics

★3 (fi 6) (either term, 0-3s-0). Training in experimental psycholinguistic research methods with emphasis on practical experience. Prerequisite: graduate level Statistics course.

LING 616 Methods in Laboratory Phonology

★3 (fi 6) (either term, 0-3s-0). Current experimental approaches to phonological questions, including laboratory phonology, artificial language learning and computational modeling. Prerequisite: Graduate level statistics course.

LING 617 Methods in Language Acquisition

★3 (fi 6) (either term, 0-3s-0). Training in language acquisition research methods with emphasis on practical experience. Prerequisite: graduate level Statistics course.

LING 618 Methods in Field Linguistics

★3 (fi 6) (either term, 0-3s-0). Training in field linguistics research methods with emphasis on practical experience. Prerequisite: LING 515.

LING 619 Methods in Corpus Linguistics

★3 (fi 6) (either term, 0-3s-0). Technical and practical training in corpus linguistics. Prerequisite: LING 519.

LING 636 Analysis of Meaning

★3 (fi 6) (either term, 0-3s-0). Relations between social historical practices and linguistic meaning in a contemporary philosophical discourse. Prerequisite: consent of Department.

LING 638 Topics in Child Language Acquisition

★3 (fi 6) (either term, 0-3s-0). Recent theoretical and empirical research on child language acquisition. Special focus on either bilingual, second language, or language-impaired populations of child learners. Prerequisite: Consent of Department.

LING 639 Topics in Phonological Acquisition

★3 (fi 6) (either term, 3-0-0). Recent theoretical and empirical developments in L1 and L2 phonological acquisition, including novel data, methodologies, and learning algorithms. Prerequisite: Consent of Department.

LING 645 Linguistic Analysis of Aphasic Language

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

LING 655 Instrumentation in Experimental Linguistics

★3 (fi 6) (either term, 3-0-0). Prerequisites: LING 312 or 512, or consent of Department. Recommended: an elementary course in calculus.

LING 670 Foreign Language Analysis

★3 (fi 6) (either term, 0-3s-0). Study and analysis of a language other than English resulting in demonstrated proficiency or analytic competency in the language's structural, psycholinguistic, or acquisitional properties. Prerequisite: consent of Department.

LING 683 Conference Course I

★3 (fi 6) (first term, 0-3s-0).

LING 684 Conference Course II

★3 (fi 6) (second term, 0-3s-0).

LING 693 Generals Paper I

★3 (fi 6) (variable, unassigned).

LING 694 Generals Paper II

★3 (fi 6) (variable, unassigned).

LING 903 Directed Research Project

★3 (fi 6) (either term, unassigned). Represents research activity equivalent to ★3 for registration status and fee assessment purposes.

LING 906 Directed Research Project

★6 (fi 12) (either term, unassigned). Represents research activity equivalent to ★6 for registration status and fee assessment purposes.

LING 909 Directed Research Project

★9 (fi 18) (either term, unassigned). Represents research activity equivalent to ★9 for registration status and fee assessment purposes.

231.172 Linguistique, LINGQ

Faculté Saint-Jean

Cours de 1er cycle

O LINGQ 200 Introduction à l'étude du langage

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Étude du langage comme phénomène social et individuel. La langue et son fonctionnement.

O LINGQ 300 Lexicologie et terminologie

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Étude des approches et des techniques en lexicologie et en terminologie. Analyse de ressources documentaires et mises en application.

LINGQ 305 Étude historique du vocabulaire français

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Historique du lexique français en parallèle avec l'historique de l'anglais. Facteurs externes (événements historiques) et facteurs internes (évolution phonétique). Description de phénomènes lexicaux. Mise en application de stratégies de transferts linguistiques. Préalable : LINGQ 200.

O LINGQ 320 Phonétique et phonologie du français canadien

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Phonétique et phonologie du français canadien. Préalable(s): LINGQ 200 ou l'équivalent.

231.173 Maintaining Registration, M REG

University of Alberta

Graduate Courses

M REG 800 Maintaining Registration

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

231.174 Maîtrise ès sciences de l'éducation, M EDU

Faculté Saint-Jean

Les cours M EDU sont réservés aux étudiants inscrits dans un programme de 2e ou de 3e cycle.

Cours de 2e cycle

M EDU 500 Langue, culture et éducation

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Étude interdisciplinaire (anthropologie, sociologie, psychologie sociale) des théories scientifiques contemporaines sur la nature de la culture, ses rapports avec la langue et ses mécanismes de transmission et de modification. La problématique locale sera examinée dans le contexte de la communauté scientifique internationale. L'histoire de la science de l'éducation bilingue sera aussi abordée. Peut comprendre des sections Alternative Delivery; veuillez consulter le Fees Payment Guide dans la section University Regulations and Information for Students de l'annuaire.

M EDU 501 La culture et l'individu

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Étude de la relation entre culture et personnalité dans les sociétés homogènes selon les théories de l'anthropologie psychologique. L'application de ces principes aux sociétés industrialisées permettra de mieux comprendre le développement de l'identité culturelle chez l'être humain et ses rapports avec l'identité de soi dans/parmi les groupes ethno-culturels en situation minoritaire. Peut comprendre des sections Alternative Delivery; veuillez consulter le Fees Payment Guide dans la section University Regulations and Information for Students de l'annuaire.

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

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Analyse des divers facteurs qui influencent l'apprentissage d'une deuxième langue. Étude des différentes dimensions du bilinguisme (aspects psychologique, cognitif, socio-linguistique, et socio-culturel).

M EDU 511 Fondements théoriques de l'acquisition de la langue

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Étude des diverses théories de l'acquisition de la langue. Le rôle de la langue dans le développement de l'enfant. Le lien entre le développement langagier et le développement cognitif. Peut comprendre des sections Alternative Delivery; veuillez consulter le Fees Payment Guide dans la section University Regulations and Information for Students de l'annuaire.

M EDU 520 Tendances actuelles en éducation des francophones

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Étude des phénomènes propres à l'éducation des Francophones au Canada selon la pratique et la recherche effectuées dans les diverses provinces: abandon du bilinguisme institutionnel; programmes socio-culturels; innovations en didactique de la langue maternelle. Peut comprendre des sections Alternative Delivery; veuillez consulter le Fees Payment Guide dans la section University Regulations and Information for Students de l'annuaire.

M EDU 521 Tendances actuelles en pédagogie de l'immersion française

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Étude critique des orientations théoriques et des pratiques actuelles dans la pédagogie de l'immersion française. Analyse de questions importantes dans l'implantation des programmes d'immersion. Peut