

PHYS 109 Introduction to University Physics II

★3 (*fi 6*) (second term, 3-1.5s-3). A non-calculus course in physics for students without Physics 30, to be taken in sequence with PHYS 108. Waves, sound, fluids, geometrical, and physical optics, heat, and thermodynamics. Prerequisite: PHYS 103 or 108. Credit may normally be obtained for only one of PHYS 100, 109, 130.

PHYS 130 Wave Motion, Optics, and Sound

□3.8 (*fi 6*) (either term, 3-0-3/2). Geometrical optics, optical instruments, oscillations, waves, sound, interference, diffraction. Prerequisites: Mathematics 30, Mathematics 31, Physics 30. Corequisite: MATH 100 or equivalent. Restricted to Engineering students. (★3)

PHYS 200 Relativistic Aspects of Modern Physics

★3 (*fi 6*) (second term, 3-0-0). Topics included are limitations of classical physics; Einstein's special theory; length contraction; time dilation; twin paradox; equivalence of mass and energy; relativistic mass and momentum; the General Theory of Relativity including deflection of light, black holes, models of the universe, and curvature of space. Prerequisite: First year physics course(s) (two-term). Pre- or corequisite: MATH 113 or 114. Credit may be obtained in only one of PHYS 200, 251, or 351. Note: This course is not available for credit toward Honors or Specialization Physics and Mathematical Physics degree programs.

PHYS 201 General Physics III

★3 (*fi 6*) (first term, 3-0-3). Electrostatics; principles and applications, the Bohr atom; DC and AC circuits; magnetism and electromagnetic induction; electric motors and power generation; electromagnetic waves and lasers; wave-particle duality and electron waves. Prerequisites: PHYS 101 or 102 or 109 or EN PH 131, and MATH 113 or 114. This course is part of a sequence with PHYS 100 and 101 (or PHYS 108 and 109) for General Program students. Credit may normally be obtained in only one of PHYS 201 or 281.

PHYS 202 Revolutions in Physics

★6 (*fi 12*) (full session, 3-0-0). Discussion of the way scientists were forced to change their concepts that caused the major revolutions in physics and the accompanying reverberations in the non-scientific world; illustrations from celestial motion; Newtonian synthesis; theory of relativity; the probabilistic nature of quantum mechanics. Prerequisite: First-year physics course(s) (two-term).

PHYS 208 Quantum Aspects of Modern Physics

★3 (*fi 6*) (second term, 3-0-0). Experimental evidence leading to the development of quantum mechanics including the photo-electric effect, the Compton effect, X-ray production and electron diffraction; a discussion of the Heisenberg uncertainty principle and the Schrodinger theory of quantum mechanics including applications of one dimensional potential wells and barriers; tunnelling; the simple harmonic oscillator. Prerequisite: PHYS 201. Pre- or corequisite: MATH 115. Credit may be obtained in only one of PHYS 208 or 271.

PHYS 211 Thermodynamics and Kinetic Theory

★3 (*fi 6*) (second term, 3-0-0). Temperature: heat, work, and the first law of thermodynamics; entropy and the second law, enthalpy, Helmholtz and Gibbs free energy; thermodynamic equilibrium criteria; Maxwell's relations, phase transitions; elementary kinetic theory of gases. Prerequisite: PHYS 102 or EN PH 131. Pre- or corequisite: MATH 215 or 317.

PHYS 230 Electricity and Magnetism

★3 (*fi 6*) (either term, 3-0-3/2). Electric fields, Gauss' Law; electric potential; capacitance and dielectrics; electric current and resistance; magnetic fields, Ampere's Law; Faraday's Law; inductance; magnetic properties of matter. Prerequisite: PHYS 130. Note: Restricted to Engineering students.

PHYS 244 Mechanics

★3 (*fi 6*) (second term, 3-0-0). Particle dynamics; oscillating systems and normal modes; conservative forces and energy; introduction to Lagrangian and Hamiltonian dynamics; central forces; orbital motion and scattering. Prerequisite: PHYS 102 or EN PH 131. Corequisite: MATH 215 or 317.

PHYS 261 Physics of Energy

★3 (*fi 6*) (first term, 3-0-0). Energy in its various forms; conservation of energy principle; consumption of primary energy by various countries; space heating, RSI, heating degree-days; hydro, tidal, and wind power; ideal gases; heat engines, refrigerators and the second law of thermodynamics; nuclear fission nuclear reactors. Prerequisites: First year Physics course(s) (two-term) and MATH 113 or 114, plus one other Mathematics course.

PHYS 264 Environmental Physics I

★3 (*fi 6*) (second term, 3-0-0). Principles of materials balance and the calculation of the concentration of pollutants; exponential growth and decay; consumption of resources; thermal conduction, convection and radiation; solar energy and solar technology; photovoltaics; water vapor and humidity. Prerequisites: First year physics courses (two-term) and MATH 113 and 114, plus one other mathematics course.

PHYS 271 Introduction to Modern Physics

★3 (*fi 6*) (either term, 3-0-0). Experimental evidence for limitations of classical physics: photoelectric effect, Franck-Hertz experiment, Davisson-Germer experiment, Compton effect, Stern-Gerlach experiment, atomic spectra; wave-particle duality, de Broglie relation, wave theory, Bohr atom, Schrödinger equation and application to simple problems in one dimension; Pauli exclusion principle, periodic table, electrons in metals. Prerequisite: PHYS 102, 137, or 143 or EN PH 131. Note: Credit may be obtained in only one of PHYS 208 or 271.

PHYS 281 Electricity and Magnetism

★3 (*fi 6*) (first term, 3-0-0). Electric fields; Gauss' law; electric potential; capacitance and dielectrics; electric current and resistance; DC circuits; magnetic fields; Ampere's Law; Faraday's Law; inductance; magnetic properties of matter, AC circuits; Maxwell's equations; electromagnetic waves. Prerequisite: PHYS 102. Corequisite: MATH 214 or 217.

PHYS 292 Physics Laboratory A

□3.0 (*fi 6*) (full session, 0-0-3). Experiments in mechanics, electromagnetism and atomic physics. Prerequisite or corequisite: PHYS 281 or 285. Note: Restricted to Engineering students. (★3)

PHYS 294 General Physics Laboratory

★3 (*fi 6*) (first term, 0-0-6). Introduction to methods of experimental physics with examples from modern physics. Prerequisite: PHYS 201. Note: Not to be taken by Specialization or Honors students. Credit may be obtained in only one of PHYS 294 or 295.

PHYS 295 Experimental and Statistical Methods of Physics

★3 (*fi 6*) (first term, 0-0-6). Detection of radioactive emissions using a Geiger counter, determination of the absolute zero of temperature using a gas thermometer, and other experiments illustrating the analysis of experimental data. Prerequisites: PHYS 101 or 102, and MATH 115. Credit may be obtained in only one of PHYS 294 or 295.

PHYS 297 Classic Experiments in Physics

★3 (*fi 6*) (either term, 0-0-6). Choice of modern physics experiments including speed of light, measurement of e/m , Balmer series in hydrogen, photoelectric effect, and the Millikan oil drop and Franck-Hertz experiments. Prerequisite: PHYS 294 or 295. Corequisites: PHYS 208 or 271, and 281.

PHYS 301 Nuclear Physics and Elementary Particles

★3 (*fi 6*) (first term, 3-0-0). Topics include the properties and structure of the nucleus; radioactivity, carbon dating, tracer techniques; nuclear fission; fusion; nuclear reactors; elementary particles and particle accelerators. Prerequisite: PHYS 208. Corequisite: MATH 214. Note: This course is not available for credit toward Honors Physics and Mathematical Physics degree programs.

PHYS 302 Atomic Molecular and Laser Physics

★3 (*fi 6*) (second term, 3-0-0). The Rutherford Model of the atom; the Balmer series in hydrogen; the Bohr model; the wave-mechanical model; electron spin; the Pauli exclusion principle and X-ray spectra; molecular bonding; experimental and theoretical aspects of molecular structure; vibrational and rotational spectra of simple molecules; requirements for laser action; population inversion mechanisms; applications of lasers. Prerequisites: PHYS 208 and MATH 214. Note: This course is not available for credit toward Honors Physics and Mathematical Physics degree programs.

PHYS 307 Solid State and Materials Physics

★3 (*fi 6*) (second term, 3-0-0). Crystal structure, diffraction and atomic binding; structural defects; electrons in metals; energy bands; semiconductors, p-n junctions and transistors; low temperature physics; superconductivity; magnetic materials; applications to data storage, integrated circuits, lasers, and other devices. Prerequisites: PHYS 208 and MATH 115. Note: This course is not available for credit toward Honors Physics and Mathematical Physics degree programs.

PHYS 309 Statistical Physics with Biological Applications

★3 (*fi 6*) (first term, 3-0-0). Elements of probability theory with applications; molecular motion and physical properties of gases; random walk in one and three dimensions with application to diffusion and solute flow across boundaries; the diffusion equation; particle conservation; Fick's Law; porous membranes; flow and diffusion of particles; Poisson statistics applied to physical and biological systems. Prerequisite: PHYS 201 or 204. Note: This course is not available for credit toward Honors Physics and Mathematical Physics degree programs.

PHYS 311 Statistical Physics I

★3 (*fi 6*) (first term, 3-0-0). Quantum states, probability distributions, temperature and entropy; canonical ensemble and the partition function; ideal gases, paramagnets; blackbody radiation. Debye model for phonons; quantum statistics; Fermi-Dirac distribution and electrons in metals; Bose-Einstein distribution. Prerequisites: PHYS 211, 271 and MATH 215 or 317.

PHYS 319 Physical Principles of Electron Microscopy

★3 (*fi 6*) (second term, 3-0-0). Application of the basic principles of optics, electricity, and magnetism to the focusing of electron beams and

to the design of transmission and scanning electron microscopes; electron scattering by atoms; electron diffraction; interpretation of images of biological and crystalline specimens; microanalysis by X-ray emission spectroscopy. Prerequisite: PHYS 201 or 204.

PHYS 351 Relativity

★3 (*fi 6*) (either term, 3-0-0). Lorentz transformations, definition of scalars, vectors, tensors; transformation of electromagnetic field; relativistic kinematics-collisions, centre of momentum, and laboratory frames; applications; introduction to general relativity. Prerequisites: PHYS 244 and 281 or 285. Credit may be obtained for only one of PHYS 200, 251, or 351.

PHYS 362 Optics

★3 (*fi 6*) (first term, 3-0-0). Gaussian optics; optical instruments; matrix analysis of lens systems; aberrations; polarization; double- and multiple-beam interference; Fraunhofer and Fresnel diffraction; selected topics from contemporary optics. Prerequisite: PHYS 238 or 281 or 285.

PHYS 364 Environmental Physics II

★3 (*fi 6*) (first term, 3-0-0). Terrestrial thermal environment; molecular absorption of electromagnetic radiation and the CO₂ problem; factors affecting the long-term stability of the earth's climate; wet and dry adiabatic lapse rates and the dispersal of air pollutants; the ozone problem; the physics of air movement and the ventilation of buildings; radioactivity and the effect of ionizing radiation on humans, the radon problem. Prerequisites: PHYS 264 and MATH 115.

PHYS 372 Quantum Mechanics A

★3 (*fi 6*) (second term, 3-0-0). Origins of quantum mechanics; wave functions; Schrodinger equation and its application to one dimensional systems; postulates and physical interpretation of quantum mechanics; orbital angular momentum; central potentials and three-dimensional systems. Prerequisites: PHYS 271, and PHYS 230 or 238 or 281 or 285. Corequisite: MATH 300 or 337.

PHYS 381 Electromagnetic Theory I

★3 (*fi 6*) (second term, 3-0-0). Gradient, divergence, curl; curvilinear coordinates; Dirac delta function; electrostatics; conductors, capacitors; Laplace's equation, boundary value problems; method images; dielectrics, polarization, and displacement. Prerequisite: PHYS 230 or 238 or 281 or 285. Corequisite: MATH 300 or MATH 337.

PHYS 395 Instrumentation and Electronics

★3 (*fi 6*) (first term, 3-0-3). Amplification, feedback and switching; examples will be taken from analog and digital computer applications. Prerequisites: PHYS 230 or 238 or 281 or 285, and PHYS 290 or 292 or 294 or 295.

PHYS 397 Projects in Experimental Physics

★3 (*fi 6*) (either term, 0-0-6). Projects in optics, electricity magnetism, and modern physics. Prerequisite: PHYS 290 or 292 or 295 or 297. Corequisite: PHYS 381.

PHYS 400 Industrial Internship Practicum

★3 (*fi 6*) (first term, 0-3s-0). Required by all students who have just completed a physics Industrial Internship Program. Must be completed during the first academic term following return to full-time studies. Note: A grade of 1 to 9 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 to learn from the experiences of the Internship as demonstrated in an oral presentation. Prerequisite: WKEX 403.

PHYS 413 Statistical Physics II

★3 (*fi 6*) (second term, 3-0-0). Grand canonical ensemble; quantum statistical mechanics. Fermi-Dirac and Bose-Einstein distributions; Bose-Einstein condensation; kinetic theory, transport coefficients, and the Boltzmann equation; fluctuations; phase transitions and critical phenomena. Prerequisites: PHYS 311 and 372.

PHYS 415 Introduction to Condensed Matter Physics I

★3 (*fi 6*) (first term, 3-0-0). Lattice structure and binding; lattice vibrations; electrons in solids, band structure of metals, Fermi surface; semiconductors and junctions; paramagnetism and diamagnetism; introduction to lattice defects. Prerequisites: PHYS 311 and 372.

PHYS 417 Introduction to Condensed Matter Physics II

★3 (*fi 6*) (second term, 3-0-0). Lattice imperfections, dislocations, crystal growth; first and second order phase transitions; ferro- and antiferromagnetism; production of low temperatures; superconductivity and superfluidity; dielectric and optical properties of solids; ferro-electricity. Prerequisite: PHYS 415.

PHYS 445 Theory of Classical Fields

★3 (*fi 6*) (second term, 3-0-0). Lagrangian and Hamiltonian formulations for continuous systems and fields; field equations; Schrodinger field; scalar field, conservation laws. Prerequisites: PHYS 383 or 481, and MA PH 343.

PHYS 462 Atomic and Laser Spectroscopy

★3 (*fi 6*) (either term, 3-0-0). Radiative transitions; hydrogenic fine-structure; two-electron systems; external fields; width and shape of spectral lines; radiative transfer; population inversion mechanisms; applications of lasers in atomic physics. Prerequisite: PHYS 472.

PHYS 465 Physics of Stellar Interiors

★3 (*fi 6*) (either term, 3-0-0). Stellar interiors and nuclear transformation; model stars; variable stars; stellar evolution. Prerequisites: PHYS 271, and MATH 300 or 337.

PHYS 472 Quantum Mechanics B

★3 (*fi 6*) (first term, 3-0-0). Review of the postulates of quantum mechanics; quantization of angular momentum; matrix representations, spin and parity; approximation methods; perturbation theory; variational and other methods; applications; scattering theory; systems of identical particles. Prerequisite: PHYS 372.

PHYS 475 Medical Radiation Physics—Fundamentals

★3 (*fi 6*) (either term, 3-0-0). Basic concepts of dosimetry; microscopic energy distribution in irradiated matter; production of X-rays; photon interactions; charged particle interactions; ionization cavity chambers. Prerequisite: PHYS 271, and 372 or 381.

PHYS 477 Medical Radiation Physics—Radiotherapy Applications

★3 (*fi 6*) (second term, 3-0-0). The physics of radiation therapy including photon and electron beams, brachytherapy, unsealed radionuclides, applied dosimetry, and treatment planning. Prerequisites: PHYS 475.

PHYS 481 Electromagnetic Theory II

★3 (*fi 6*) (first term, 3-0-0). Magnetostatics; Biot-Savart Law; Ampere's law; vector potential; magnetic media; Faraday's law; self and mutual inductance; Maxwell's equations in free space and matter, gauges; Poynting vector, Maxwell's stress tensor; reflection and refraction of electromagnetic waves; transmission lines and wave guides. Prerequisite: PHYS 381.

PHYS 484 Nuclear Physics

★3 (*fi 6*) (first term, 3-0-0). Nuclear forces and the two nucleon system. Bulk properties of nuclei. Nuclear excitation and decay. Shell and collective models of nuclear structure. Nuclear reactions and gamma and beta decay. Nuclear reactions in astrophysics. Prerequisite: PHYS 372.

PHYS 485 Introductory Particle Physics

★3 (*fi 6*) (second term, 3-0-0). Particles and forces; relativistic kinematics; symmetries and conservation laws; bound states, heavy flavours, and the quark model; Dirac equation and the electrodynamics of leptons; electrodynamics of quarks and the parton model; quantum chromodynamics and the strong interactions; weak interactions and electroweak unification. Prerequisite: PHYS 472.

PHYS 491 Advanced Laboratory

★3 (*fi 6*) (first term, 0-0-6). Open-ended experiments in atomic, nuclear, and solid state physics. Prerequisites: PHYS 381 and 395. Corequisite: PHYS 383 or 481.

PHYS 493 Instrumentation B

★3 (*fi 6*) (second term, 3-0-0). Topics in instrument design in several fields of experimental physics. Prerequisites: PHYS 383 or 481, and PHYS 397. (PHYS 395 is also strongly recommended as a prerequisite).

PHYS 499 Special Projects

★3 (*fi 6*) (second term, 0-0-6). Experimental or reading project under the direction of a staff member. This course is intended for both Honors Physics students and Honors Mathematical Physics students. Prerequisites: A 300-level Physics course and consent of Department.

211.192.2 Graduate Courses

Note: The following undergraduate courses may be taken for credit by graduate students: PHYS 413, 415, 417, 445, 462, 465, 472, 475, 477, 481, 484, 485, 491, 493, 499.

PHYS 501 Seminar in Current Topics

★2 (*fi 4*) (full session, 0-1s-0). Weekly colloquia are held in the Department. Students are required to attend all colloquia.

PHYS 510 Advanced Quantum Mechanics

★6 (*fi 12*) (full session, 3-0-0). Review of classical methods; theory of angular momentum; symmetries and conservation laws; identical particles; approximation methods, scattering theory; relativistic quantum theory.

PHYS 520 Classical Electrodynamics I

★3 (*fi 6*) (first term, 3-0-0). Boundary value problems in electrostatics, Green's functions, electrostatics in dielectrics; magnetostatics, time varying fields and Maxwell's equations, gauge transformations; plane electromagnetic waves.

PHYS 524 Classical Electrodynamics II

★3 (*fi 6*) (second term, 3-0-0). Wave guides, radiating systems; special

relativity, dynamics of relativistic particles and electromagnetic fields; radiation by moving charges; multiple fields. Additional special topics will be discussed.

PHYS 530 Statistical Mechanics

★3 (*fi 6*) (either term, 3-0-0). Fundamentals of classical and quantum statistical mechanics, with selected applications.

PHYS 540 Solid State Physics

★6 (*fi 12*) (full session, 3-0-0). Classification of solids; crystal lattices; classical and quantum theory of the harmonic crystal; anharmonic effects; dielectric properties; theories of metals; the semiclassical model of electron dynamics; conduction in metals; phonons in metals; homogeneous semiconductors.

PHYS 562 Experimental Techniques of Atomic Physics

★3 (*fi 6*) (either term, 3-0-0). A summary of techniques currently being used in atomic physics, with emphasis on experiments using fast beams and/or lasers.

PHYS 572 Nuclear Forces and Few-Body Problems

★3 (*fi 6*) (either term, 3-0-0). The deuteron; the tensor force; nucleon-nucleon scattering; potential models; meson theory; fundamental symmetries; quark models; the nuclear three-body problem.

PHYS 574 Experimental Methods in Physics

★3 (*fi 6*) (either term, 3-0-3/2). Statistics and data analysis: S/N considerations; interactions of photons, neutrons, and charged particles with matter; detectors; vacuum technology. Other topics to be selected according to students' needs and instructor's preference.

PHYS 590 Particle Physics II

★3 (*fi 6*) (either term, 3-0-0). Field theory and symmetries; gauge theories; spontaneous symmetry breaking; electroweak interactions of quarks and leptons; quantum chromodynamics; unified theories.

PHYS 602 Seminar in Special Topics

★2 (*fi 4*) (full session, 0-1s-0).

PHYS 610 Quantum Field Theory I

★3 (*fi 6*) (first term, 3-0-0).

PHYS 614 Quantum Field Theory II

★3 (*fi 6*) (second term, 3-0-0).

PHYS 635 Statistical Theory of Plasmas

★3 (*fi 6*) (either term, 3-0-0).

PHYS 640 Solid State Theory

★3 (*fi 6*) (either term, 3-0-0).

PHYS 641 Semiconductors

★3 (*fi 6*) (either term, 3-0-0).

PHYS 643 Superconductivity

★3 (*fi 6*) (either term, 3-0-0).

PHYS 644 Analytical Electron Microscopy

★3 (*fi 6*) (either term, 3-0-0).

PHYS 646 Special Topics in Condensed State Physics

★3 (*fi 6*) (either term, 3-0-0).

PHYS 649 Superfluids

★3 (*fi 6*) (either term, 3-0-0).

PHYS 673 Special Topics in Subatomic Physics I

★3 (*fi 6*) (either term, 3-0-0).

PHYS 675 Experimental Topics in Subatomic Physics II

★3 (*fi 6*) (either term, 3-0-0).

PHYS 676 Topics in Nuclear Structure

★3 (*fi 6*) (either term, 3-0-0).

PHYS 691 Advanced Particle Physics I

★3 (*fi 6*) (either term, 3-0-0).

PHYS 692 Group Theory and Applications

★3 (*fi 6*) (either term, 3-0-0).

PHYS 693 Advanced Particle Physics II

★3 (*fi 6*) (either term, 3-0-0).

PHYS 695 Cosmology

★3 (*fi 6*) (either term, 3-0-0).

PHYS 696 Black Hole Physics

★3 (*fi 6*) (either term, 3-0-0).

PHYS 697 Quantum Cosmology

★3 (*fi 6*) (either term, 3-0-0).

PHYS 698 Quantum Fields in Curved Space

★3 (*fi 6*) (either term, 3-0-0).

PHYS 699 Special Topics in Theoretical Physics

★3 (*fi 6*) (either term, 3-0-0).

211.193 Physics/Biomedical Engineering

Departments of Biomedical Engineering and Physics
Faculties of Medicine and Oral Health Sciences, and
Science

PH BE 221 Introduction to Medical Physics

★3 (*fi 6*) (second term, 3-0-0). A descriptive course designed to illustrate the basic principles of physics that underlie clinical medicine and medical research. Examples will be drawn from and may include: skeletal mechanics; thermography; cryosurgery; ultracentrifugation, the physics of the lung, breathing, and the cardiovascular system; diagnostic ultrasound; membrane and action potentials; electrocardiography and electroencephalography; microscopy, including confocal, video-enhanced, and electron; lasers and fibre optics, nuclear medicine-diagnostic imaging (CT, MRI, and PET). Prerequisites: PHYS 101, 102 or 109.

211.194 Physiology

Department of Physiology
Faculty of Medicine and Oral Health Sciences

Note: Details on the BSc Program in Physiology can be found in the Science section.

211.194.1 Undergraduate Courses

PHYSL 161 Elementary Physiology

★6 (*fi 12*) (full session, 3-0-1). Available only to students in the Faculty of Rehabilitation Medicine (Physical Therapy and Occupational Therapy) and the Medical Laboratory Science program in the Faculty of Medicine and Oral Health Sciences.

PHYSL 162 Elementary Physiology

★6 (*fi 12*) (full session, 3-0-0). Available only to students in the Faculty of Nursing.

PHYSL 210 Mammalian and Human Physiology

★6 (*fi 12*) (full session, 3-0-0). Introductory course in mammalian and human physiology. Prerequisites: BIOL 107 or 108; CHEM 101 and 102. Prerequisites or corequisites: CHEM 161 and 163; or CHEM 261 and 263. Credit may be obtained in only one of PHYSL 210 and 211.

PHYSL 211 Mammalian and Human Physiology

★6 (*fi 12*) (full session, 3-0-0). Introductory course in mammalian and human physiology. Required for students in Honors Physiology. Recommended for students in other Honors programs. Prerequisites: BIOL 107 or 108; CHEM 101 and 102. Prerequisites or corequisites: CHEM 161 and 163; or CHEM 261 and 263. Credit may be obtained in only one of PHYSL 210 and 211.

PHYSL 252 Human Physiology

★6 (*fi 12*) (full session, 3-0-0). An introductory course on mammalian and human physiology. Available only to students in the Faculties of Pharmacy and Pharmaceutical Science and Agriculture, Forestry and Home Economics.

PHYSL 372 Systems Neuroscience

★3 (*fi 6*) (second term, 3-0-0). Introduction to the organization and function of vertebrate nervous systems. The major topics considered in this course will be the control of movement, integration of sensory information, and the neuronal mechanisms underlying memory and learning. Prerequisite: PHYSL 210 or ZOOL 242.

PHYSL 401 Molecular and Cellular Physiology

★3 (*fi 6*) (first term, 3-0-0). A course which covers the molecular and cellular aspects of physiological processes. Some of the main areas covered will be the structure and functions of plasma membranes with emphasis on transport processes and their regulation. The mechanism of action of hormones (hormone-receptor interactions, receptor regulation and interactions of intracellular mediators). The physiological significance of these processes will be stressed throughout. Prerequisites: PHYSL 210 and consent of Instructor.

PHYSL 402 Homeostatic Physiology

★3 (*fi 6*) (second term, 3-0-0). Principles of regulatory mechanisms in human and mammalian physiology. This course will explore the interrelationships between different organ systems in the maintenance of homeostasis and will include some theoretical modelling. Prerequisites: PHYSL 210 and consent of Instructor.

PHYSL 404 Cardiovascular Physiology

★3 (fi 6) (second term, 3-0-0). The course will emphasize general concepts in human cardiovascular physiology: properties of the myocardium, hemodynamics and control of the cardiovascular system; there will be limited discussion of relevant clinical situations. Prerequisite: PHYSL 210 or equivalent.

PHYSL 410 Modern Techniques in Physiology

★3 (fi 6) (second term, 0-0-6). Students will rotate through several laboratory exercises which will illustrate some currently used techniques in physiology. Areas will include endocrinology, neurophysiology, membrane and cell physiology. Prerequisites: PHYSL 210 and 401, or consent of Department.

PHYSL 411 Medical Physiology

★6 (fi 12) (full session, 136 hours). Open to medical and dental students only. Consists of a comprehensive lecture course in mammalian and human physiology, designed to fulfil the requirements of medical and dental students.

PHYSL 465 Undergraduate Research Project

★3 (fi 6) (either term, 0-0-6). Individual study. Restricted to students in the Physiology Honors Program. Students will spend one term in the laboratory of a faculty member and carry out a laboratory research project. Successful completion of an oral presentation is required at the conclusion of the project. Credit for this course may be obtained more than once.

PHYSL 466 Undergraduate Tutorial

★3 (fi 6) (either term, 3-0-0). Individual study. Restricted to students in the Physiology Honors Program. Students will select a faculty member who will guide them through a course of reading at an advanced level on a specialized topic. Successful completion of an oral presentation is required at the conclusion of the project. Credit for this course may be obtained more than once.

211.194.2 Graduate Courses

Note: See also INT D 543 and 544 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.

PHYSL 501 Topics in Cardiovascular Physiology

★3 (fi 6) (second term, 3-0-0).

PHYSL 502 Problems in Current Research

★3 (fi 6) (either term, 0-0-6). Individual study. Credit for this course may be obtained more than once.

PHYSL 506 Tutorial and Seminar Course

★3 (fi 6) (either term, 3-0-0). Guided reading course. Credit for this course may be obtained more than once.

PHYSL 512 Physiology of the Respiratory System

★3 (fi 6) (first term, 3-1s-0). Cellular and molecular physiology of airways and the lung. Major topics include ion transport mechanisms, fluid balance, epithelial electrophysiology, cystic fibrosis, cellular mechanisms of asthma, neural and chemical control of respiration, and perinatal control of breathing. Designed for advanced undergraduate and graduate students. Prerequisites: PHYSL 210, 211 or 252 or consent of Department.

PHYSL 527 Experimental Approaches in Neuroscience

★3 (fi 6) (second term, 3-0-0). Lecture course designed to give the student an appreciation and understanding of the vast array of experimental approaches utilized in neurobiological research. Topics will include electrophysiological, neuropharmacological, and anatomical approaches used to understand how the nervous system functions at the molecular, cellular, and system levels. Designed for advanced undergraduate and graduate students. Prerequisite: PHYSL 372 or PHARM 371. Offered in alternate years.

PHYSL 545 Physiology of Transport Systems

★3 (fi 6) (second term, 3-1s-0). A consideration of transport mechanisms primarily from the physiological rather than biochemical viewpoint. Major models considered are the erythrocyte and a variety of epithelia from vertebrates. Designed for advanced undergraduate and graduate students. Offered in alternate years. Prerequisites: PHYSL 210 or 252, ZOO 241 or 242.

211.195 Physique

Faculté Saint-Jean

PHYSQ 100 Introduction à la physique générale

★3 (fi 6) (premier semestre, 3-0-3). La physique des oscillations et du mouvement ondulatoire, et applications au son et à la lumière. Physique des fluides. Optique géométrique et instruments d'optique de base. Optique ondulatoire, interférométrie. Prerequisite: Physique 30, Mathématiques 30. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits en PHYS 109 et 130.

PHYSQ 102 Mécanique

★3 (fi 6) (deuxième semestre, 3-0-3). Cours de mécanique basé sur le calcul. Vecteurs, cinématique. Lois de Newton. Travail et énergie, énergie potentielle, conservation de l'énergie. Quantité de mouvement, moment cinétique, et leur conservation. Moment d'inertie, mouvement d'un corps rigide. Oscillations harmoniques simples, forcées et amorties. Force de gravitation. Prerequis: MATHQ 113, 114 ou MATH 117, et PHYSQ 100. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits en PHYSQ 101, 141, ou en PHYS 103, 105, 108, ou en EN PH 131.

PHYSQ 200 Aspects relativistes de la physique moderne

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Les sujets sont les limitations de la physique classique, la théorie spéciale d'Einstein, la contraction des longueurs et la dilatation du temps, le paradoxe des jumeaux, l'équivalence entre la masse et l'énergie, masse et impulsion relativistes. La théorie de la relativité générale inclut: déviation de la lumière, trous noirs, modèles de l'univers et courbure de l'espace-temps. Prerequis: ★6 en physique de première année, et MATHQ 113 ou 114 (en pré- ou corequis). Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits en PHYS 251 ou 351.

PHYSQ 211 Thermodynamique et théorie cinétique

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Température, chaleur, travail et première loi de la thermodynamique. Entropie et la deuxième loi de la thermodynamique. Enthalpie, énergie libre de Helmholtz et de Gibbs. Critères d'équilibre thermodynamique. Relations de Maxwell. Transitions de phase. Introduction élémentaire à la théorie cinétique des gaz. Prerequis: PHYSQ 102. Pré- ou corequis: MATHQ 215.

PHYSQ 264 Physique de l'environnement I

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Mathématiques de la croissance et de la décroissance. Consommation des ressources. Mécanismes de transfert de chaleur, isolation thermique. Énergie solaire, technologie solaire active et passive. Eau, vapeur et humidité. Construction de bâtiments pour un climat froid. Prerequis: ★6 en physique de première année et MATHQ 113 ou 114, ainsi qu'un cours additionnel de mathématiques de première année. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits en PHYS 263.

PHYSQ 271 Introduction à la physique moderne

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Contradictions expérimentales de la physique classique: effet photo-électrique, expérience de Franck et Hertz, expérience de Davisson et Germer, effet Compton, et expérience de Stern et Gerlach. Spectre atomique, dualité onde-corpuscule, relation de de Broglie, théorie ondulatoire, atome de Bohr, équation de Schrödinger, et application à des problèmes simples à une dimension. Principe d'exclusion de Pauli, tableau périodique, électrons dans les métaux. Prerequis: PHYSQ 102 ou 143, ou PHYS 137. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour PHYS 208.

PHYSQ 281 Électricité et magnétisme

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Champ électrique: loi de Gauss, potentiel électrique, condensateurs et diélectriques. Courant électrique et résistance, circuits à courant continu. Champ magnétique: loi d'Ampère, loi de Faraday, inductance. Propriétés magnétiques et la matière. Circuits alimentés en courant alternatif. Équations de Maxwell et ondes électromagnétiques. Prerequis: PHYSQ 102. Corequis: MATHQ 214 ou MATH 217.

PHYSQ 294 Laboratoire de physique moderne

★3 (fi 6) (sur deux semestres, 0-0-3). Expériences en physique atomique et nucléaire. Prerequis: PHYSQ 143. Corequis: PHYSQ 271 et PHYSQ 301. Note: Demi-cours qui s'étale sur les deux semestres. Anciennement PHYSQ 394.

PHYSQ 301 Physique nucléaire et particules élémentaires

★3 (fi 6) (premier semestre, 3-0-0). Les sujets traités sont: les propriétés et la structure du noyau, datation au carbone, technique du traceur isotopique, fission et fusion nucléaire, réacteurs nucléaires, particules élémentaires et accélérateurs. Prerequis: PHYSQ 271. Corequis: MATH 214.

211.196 Plant Science

Department of Agricultural, Food and Nutritional Sciences
Faculty of Agriculture, Forestry and Home Economics

Note: See also Environmental and Conservation Sciences, Interdisciplinary Undergraduate Courses, and the Nutrition and Food Sciences course listings for related courses.

The following table lists renumbered courses effective 1995/96:

Old	New	Old	New
PL SC 356	ENCS 356	PL SC 407	ENCS 407
PL SC 406	ENCS 406	PL SC 471	ENCS 471

The following course was renumbered effective 1997/98:

Old	New
PL SC 460	PL SC 360

211.196.1 Undergraduate Courses

S PL SC 211 Plant Agriculture

★3 (*fi 6*) (first term, 3-0-0). The role and importance of field crop and horticultural crop plants in production systems. Societal needs and methods for food and other plant production. Sustainability, environmental aspects, resource conservation, crop protection, crop improvement, and other issues.

S PL SC 221 Principles of Crop Science

★3 (*fi 6*) (first term, 3-0-3/2). Agronomic principles and plant-soil-environment interaction in crop production systems. Crop physiology, selection and improvement, crop protection, and crop management practices in Alberta cropping systems. Includes one Saturday field trip at the start of term. (Offered jointly by the Departments of Agricultural, Food, and Nutritional Sciences and Renewable Resources.)

S PL SC 235 Principles of Horticulture

★3 (*fi 6*) (first term, 3-0-3/2). A basic course in horticulture, with special emphasis on the physiology of horticultural crops. Influence of climatic, edaphic, and other environmental factors on cultural practices and systems, plant propagation, principles of plant growth regulation, mineral nutrition, and techniques in postharvest preservation of horticultural crops.

S PL SC 301 Developmental Physiology and Biotechnology of Crop Plants

★3 (*fi 6*) (first term, 3-0-0). A theoretical approach to plant and plant cell developmental physiology as it relates to crop production and crop improvement through biotechnology, including use of tissue culture and recombinant DNA technologies. Topics covered will include changes through the lifecycle and in response to environmental stress, and genomic and expressional control of these changes. Prerequisites: CHEM 161/163 and BIOL 107.

S PL SC 324 Field Crop Physiology

★3 (*fi 6*) (second term, 3-0-3). The study of crop growth and development, with emphasis on the interactions among physiology, environment and management. Examples from forage, cereal, oilseed and grain legume crops, considering both annual and perennial forms. Prerequisite: One of PL SC 221, PL SC 235, BOT 204, BOT 240, or ENCS 204

S PL SC 331 Plant Biochemistry I

★3 (*fi 6*) (first term, 3-0-3). An introduction to biochemistry emphasizing the basic similarity of all organisms, and the different ways of studying biochemical reactions. Prerequisite: CHEM 161 and 163.

S PL SC 335 Plant Propagation

★3 (*fi 6*) (second term, 3-0-3). Study of the physiological and practical aspects of sexual and asexual plant propagation. Propagation by seed and cuttings, layering, grafting, and micropropagation. Prerequisite: PL SC 221 or 235 or consent of Instructor.

S PL SC 352 Weeds and Weed Control

★3 (*fi 6*) (second term, 3-0-3). Crop-weed relationships, methods of control, herbicide properties and uses, weed identification. Prerequisite: PL SC 221 or 235 recommended.

S PL SC 354 Forage Crops

★3 (*fi 6*) (second term, 3-0-3). An introduction to the establishment, management, conservation and utilization of forages for pasture and hay. Morphological structure and varietal forms of the principal forage grasses and legumes. Prerequisite: PL SC 221 or 235 recommended.

S PL SC 355 Cereal, Oilseed, and Pulse Crops

★3 (*fi 6*) (first term, 3-0-1.5). The role of cereals, oilseeds, and pulse crops in Western Canadian agricultural systems. Their botanical, physiological, agricultural, and market quality characteristics. Prerequisite: PL SC 221 or 235 or consent of Instructor.

S PL SC 357 Greenhouse Crops

★3 (*fi 6*) (second term, 3-0-3). History and present status of protected cropping industry; greenhouse structural design; systems of environmental control; cultural procedures for some commonly grown greenhouse crops. Prerequisite: PL SC 221, or 235, or consent of Instructor.

S PL SC 360 Landscape Planning and Design

★3 (*fi 6*) (first term, 3-0-3). Site planning; introduction to design; graphic techniques, grading and surface drainage. Prerequisite: ★3 in natural sciences or consent of Instructor.

S PL SC 380 Principles of Plant Pathology

★3 (*fi 6*) (first term, 3-0-3). An introduction to plant diseases; the nature of nonparasitic and parasitic causal agents such as air pollutants, temperature, viruses, bacteria, fungi, higher plants and nematodes; principles involved in disease prevention and control. Prerequisite: BIOL 107 recommended.

S PL SC 385 Forest Pathology

★3 (*fi 6*) (first term, 3-0-3). An introduction to forest diseases. Lectures and discussions focus on the biology and management of the major types of tree diseases causing economic loss. Labs focus on disease identification. A basic knowledge of forestry is assumed.

S PL SC 430 Fruit Crops

★3 (*fi 6*) (second term, 3-0-0). Commercial production, utilization, and physiology of tree fruits, small fruits, strawberry, cane and bush fruits. Practices and growing systems used in the prairie orchard. Prerequisite: PL SC 221 or 235 or consent of Instructor. PL SC 335 recommended. Offered in alternate years commencing 1994-95.

S PL SC 432 Plant Biochemistry II

★3 (*fi 6*) (second term, 3-0-3). A continuation of PL SC 331. Emphasis is on the utilization of energy for synthetic processes. Chemistry and biochemistry of cellular structures, isoprenoids and steroids. Photosynthesis. Nitrogen and protein biochemistry. Enzyme kinetics. Regulation and control of chemical reactions in living organisms. Offered in odd numbered years. Prerequisite: PL SC 331 or ★3 in Biochemistry.

S PL SC 435 Growth Regulation in Crop Plants

★3 (*fi 6*) (second term, 3-0-3). Physiological and morphological basis of the control of plant growth and development in horticultural and field crops. Chemistry and effects of hormones and cultural methods of manipulation. Prerequisite: PL SC 221 or 235 or consent of Instructor. Offered in alternate years commencing in 1995-96.

S PL SC 440 Vegetable Crops

★3 (*fi 6*) (first term, 3-0-3). The science and practice of producing commercially important cool and warm season vegetable crops with emphasis on botany, taxonomy, morphology, growth processes, production, harvesting, handling quality and composition. Prerequisite: PL SC 221, or 235, or consent of Instructor. Offered in odd-numbered years.

S PL SC 465 Introduction to Plant Breeding

★3 (*fi 6*) (first term, 3-0-0). Basic principles of crop improvement by plant breeding. Development of plant breeding methods and their relationship to the major crop species. Prerequisites: GENET 197 or BIOL 207; and ★3 of statistics.

S PL SC 470 Physiology of Herbicidal Action

★3 (*fi 6*) (first term, 3-0-0). Absorption, translocation, degradation, mechanism of action. Offered in alternate years commencing in 1994-95. Prerequisites: PL SC 352 and BOT 240.

S PL SC 472 Advances in Forage Production

★3 (*fi 6*) (first term, 3-0-0). Forage production and management practices as related to the growth and development of the plant. Maximizing forage utilization under different grazing systems. Pasture establishment and rejuvenation. Forage preservation. The forage seed industry. Managing grass legume mixtures. Two Saturday field trips are required. Offered in even-numbered years. Prerequisite: PL SC 354.

S PL SC 481 Diseases of Field and Horticultural Crops

★3 (*fi 6*) (second term, 0-3s-0). Diseases of cereal, oilseed, pulse, forage, vegetable, fruit, and ornamental crops. Prerequisite: PL SC 380 or consent of Instructor.

S PL SC 495 Integrated Crop Protection

★3 (*fi 6*) (second term, 0-3s-0). Integrated agronomic, mechanical, biological, and chemical control of insects, disease organisms, and weeds that interfere with field crop and horticultural crop production. Prerequisite: At least one of ENT 308, PL SC 352 or PL SC 380. (Offered jointly by the Departments of Agriculture, Food, and Nutritional Sciences and Biological Sciences.)

211.196.2 Graduate Courses

Note: See also Agricultural, Food and Nutritional Sciences listings for related courses.

S PL SC 503 Plant Breeding Methods

★3 (*fi 6*) (second term, 3-0-0). Theory and application in plant breeding. Topics include technological application of plant genetics, design of efficient breeding systems (including biotechnology approaches), application of quantitative methods, development of new crop species, gene patents, and special breeding problems. Extensive reference to literature, and guest visits by plant breeders. Offered in even-numbered years. Prerequisite: PL SC 465.

S PL SC 509 Selected Topics in Horticulture

★3 (*fi 6*) (either term, 0-3s-0). Recent developments of special interest discussed at an advanced level.

S PL SC 510 Plant Virology

★3 (*fi 6*) (first term, 3-0-3). Basic principles and methods dealing with morphology, purification, multiplication, mutation, and transmission of plant viruses. Prerequisite: consent of Instructor.

S PL SC 520 Disease Diagnostics

★3 (*fi 6*) (variable, 0-0-6). Identification of diseases of field, greenhouse, and forest crops. A disease collection is required. (Also offered in Intersession.)

S PL SC 580 Epidemiology of Plant Diseases

★3 (*fi 6*) (second term, 1-3s-0). Reproduction, spread and survival of and soil-borne plant pathogens. Monitoring and modelling of disease and crop loss progression. Plant pathosystems and principles of breeding for disease resistance. Critical evaluation of current literature will be stressed. Offered in odd-numbered years. Prerequisite: consent of Instructor.

S PL SC 601 Plant Molecular Genetics

★3 (*fi 6*) (Intersession, 0-10s-40). A laboratory research approach to the study of gene transfer and insertional mutagenesis in plant cells. Gene regulation in transgenic plants. Emphasis on interdisciplinary aspects and new techniques. It is offered over a three-week period, with participants from different discipline areas working in teams. Prerequisites: GENET 304 and 364, and consent of Instructor.

S PL SC 670 Weed Science

★3 (*fi 6*) (first term, 0-3s-0). Discussion of current issues in weed science, with emphasis on herbicide physiology. Offered in odd-numbered years. Prerequisite: consent of Instructor.

211.197 Polish

(Division of Slavic and East European Studies)
Department of Modern Languages and
Comparative Studies
Faculty of Arts

S POLSH 100 Beginners' Polish

★6 (*fi 12*) (full session, 3-0-2). Essentials of grammar, reading, and drill on useful expressions designed to give a working knowledge of the Polish language. Not open to students with credit in matriculation-level Polish.

S POLSH 201 Second-Year Polish I

★3 (*fi 6*) (first term, 3-0-1). Intermediate grammar, composition, and oral practice based on selected texts of Polish classical and contemporary literature. Prerequisite: POLSH 100 or consent of Department. Formerly POLSH 303.

S POLSH 202 Second-Year Polish II

★3 (*fi 6*) (second term, 3-0-1). A continuation of POLSH 201, with greater emphasis on reading and composition. Prerequisite: POLSH 201. Formerly POLSH 304.

S POLSH 414 Polish Literature of Renaissance, Baroque, and Classicism

★3 (*fi 6*) (either term, 3-0-0). Survey of Polish literature and culture from its origins to the end of the eighteenth century. Masterpieces of the Polish renaissance, baroque, and classicism read in the original and/or with the aid of English translations. Prerequisite: POLSH 202 or consent of Department. Note: Not open to students with credit in POLSH 411.

S POLSH 415 Polish Romanticism and Realism

★3 (*fi 6*) (either term, 3-0-0). Reading and analysis of the major Polish writers against the aesthetic and philosophical background of romanticism and realism (including poetry, drama, and folklore). Major themes in the Polish realist novel and short story. Prerequisite: POLSH 202 or consent of Department. Note: Not open to students with credit in POLSH 411.

S POLSH 416 20th-Century Polish Literature

★3 (*fi 6*) (either term, 3-0-0). Principal literary movements with emphasis on contemporary Polish literature, including the post-communist era. Polish literary criticism and literary theory before and after the war. Prerequisite: POLSH 415 or consent of Department. Note: Not open to students with credit in POLSH 412.

S POLSH 443 Polish-English Translation

★3 (*fi 6*) (either term, 3-0-0). Introduction to translation theories and practice as applied to Polish. Exercises in translation of minimal textual units (written and oral) with emphasis on nonliterary texts. Prerequisite: POLSH 202 or consent of Department. Note: Formerly POLSH 441. Not open to students with credit in POLSH 441.

S POLSH 444 English-Polish Translation

★3 (*fi 6*) (either term, 3-0-0). Semantic-syntactic theories of translation and practice. Exercises in translation of written and oral textual units with emphasis on literary and artistic texts. Prerequisite: POLSH 202 or consent of Department. Note: Formerly POLSH 442. Not open to students with credit in POLSH 442.

S POLSH 499 Conference Course (Literature/Folklore)

★3 (*fi 6*) (either term, 3-0-0) or ★6 (*fi 12*) (full session, 3-0-0). Students as well as staff may initiate proposals in any given year for the content

of this course. Please consult the Department Chair for the procedure for student-initiated proposals.

211.198 Political Science

Department of Political Science
Faculty of Arts

Note: See also INT D 346, 393, 447, and 468 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.

211.198.1 Undergraduate Courses**S POL S 100 Introduction to Government and Politics**

★6 (*fi 12*) (full session, 3-0-0). An introduction to the institutions, processes and problems of democratic states with particular emphasis on the Anglo-American democracies. Some of the topics considered are ideologies, the role of government, democracy, the roles of the executive, legislative and judicial branches of government, political parties and interest groups, and political behavior, including elections. Formerly POL S 200.

S POL S 103 Modern Political Issues

★3 (*fi 6*) (either term, 3-0-0). An introduction to contemporary issues and events. Note: This course is designed for students not contemplating a Political Science major. Not open to students who are taking or have taken POL S 100. Formerly POL S 203.

POL S 200 Comparative Political Systems

★6 (*fi 12*) (full session, 3-0-0). Comparative analysis of selected major political systems of the present day, with emphasis on the relationships between political functions and social processes. This is the core course in the field of comparative government and politics and a prerequisite for most 400-level courses in the field. Formerly POL S 300.

POL S 210 History of Political Thought

★6 (*fi 12*) (full session, 3-0-0). An historical and critical survey of the development of political and social philosophy from ancient Greece to the present time, with selected readings from major political writers. This is the core course in the field of political philosophy and the prerequisite for 400-level courses in the field. Formerly POL S 310.

S POL S 212 Ethics and Politics

★3 (*fi 6*) (either term, 3-0-0). An examination of some moral issues that arise in the political realm, such as the law regarding abortion and euthanasia, capital punishment, obscenity, and the rights of aboriginal peoples. Note: Not intended for students specializing in political science. Not open to students who are taking or have taken POL S 210. Formerly POL S 312.

POL S 220 Canadian National Government and Politics

★6 (*fi 12*) (full session, 3-0-0). The structure and function of the government of Canada, especially of the Commons, Senate, Cabinet System, Civil Service, and the role of political parties. Note: This is the core course in the field of Canadian government and politics and a prerequisite for most 400-level courses in the field. Formerly POL S 320.

S POL S 221 Canadian Government

★3 (*fi 6*) (either term, 3-0-0). The structure and function of the government of Canada, provincial governments, and local governments. Note: Designed primarily for students who want one senior course in political science. Not intended for students specializing in political science. Not open to students who are taking or have taken POL S 100 or 220. Formerly POL S 321.

S POL S 222 Local Government and Administration

★3 (*fi 6*) (either term, 3-0-0). The structure and functions of local government in Canada with primary emphasis on the Province of Alberta. Note: Designed primarily for students who want one senior course in political science. Not intended for students specializing in political science. Not open to students who are taking or have taken POL S 223. Formerly POL S 322.

S POL S 223 City Government and Politics

★3 (*fi 6*) (either term, 3-0-0).

S POL S 232 American Government and Politics Survey

★3 (*fi 6*) (either term, 3-0-0). An examination of all aspects of the American political system. Political institutions and processes will be dealt with at the national, state and local level. Formerly POL S 332.

S POL S 241 Soviet and Post-Soviet Government

★3 (*fi 6*) (either term, 3-0-0). An introduction to government in the former USSR and its successor states, with an emphasis on sources and origins, state and party structures, and the institutions of communication and information. Formerly POL S 341.

POL S 260 International Relations

★6 (*fi 12*) (full session, 3-0-0). An introduction to contemporary international relations that attempts to develop an understanding of political events at

the international level. The course covers the nature of foreign policy, the dynamics of interactions between states, the causes of war, imperialism and the role of non-state actors. Note: This is the core course in the field of international relations and a prerequisite for most 400-level courses in the field. Formerly POL S 360.

S POL S 263 Issues in International Politics

★3 (*fi 6*) (either term, 3-0-0). Contemporary issues of conflict and cooperation. Note: Not intended for students specializing in political science. Not open to students who are taking or have taken POL S 260. Formerly POL S 363.

S POL S 276 Problems of Political Development

★3 (*fi 6*) (either term, 3-0-0). With its focus on the problems of political integration, political corruption, political stability, elite domination, military and political violence, this course takes a thematic approach and examines the prospects of development and modernization and maintenance of political order in several developing countries. Formerly POL S 376.

POL S 290 Introduction to Political Behavior

★3 (*fi 6*) (either term, 3-0-0). An introduction to the behavioral approach to the study of politics and its application in selected substantive research areas. This is the core course in the field of political behavior. Formerly POL S 390.

POL S 302 Topics in the History of Political Thought

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: POL S 210 or equivalent.

POL S 304 Topics of Modern Political Thought

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: POL S 210 or equivalent.

POL S 306 Introduction to Contemporary Political Philosophy

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: POL S 210 or equivalent.

POL S 315 Analysis of Political Science

★6 (*fi 12*) (full session, 3-0-0). A philosophical investigation of the basic issues involved in the scientific study of politics. Prerequisite: POL S 210 or consent of Department. Formerly POL S 313 and 314.

POL S 316 Mathematical Applications in Political Science

★3 (*fi 6*) (either term, 3-0-0). An introductory examination of current and potential uses of descriptive and inferential statistics in the study of politics. Prerequisite: Mathematics 30 or equivalent.

POL S 324 Topics in Canadian Politics

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: POL S 220 or consent of Department.

S POL S 328 Elements of Public Administration

★3 (*fi 6*) (either term, 3-0-0). Topics include government organization, budgets, policy making, and democratic control and accountability. The focus is on Canada, but other countries are also considered.

S POL S 350 Women and Politics

★3 (*fi 6*) (either term, 3-0-0). An introduction to women's traditional and changing roles in political structures and processes, with particular attention to Canada. Prerequisites: One of POL S 200, 210 or 220 or W ST 200.

POL S 361 Pacific Rim Relations

★3 (*fi 6*) (either term, 3-0-0). An introduction to the politics and economics of the Asia-Pacific region, and of Canada's relations with the area. Prerequisite: POL S 260 or consent of Department. No prerequisite for students in the BA East Asian Studies program specializing in Political Science.

POL S 362 Development and Foreign Policy

★3 (*fi 6*) (either term, 3-0-0). Analysis of developing states' foreign policies. Prerequisite: POL S 260.

POL S 364 International Political Economy

★3 (*fi 6*) (either term, 3-0-0). An introduction to the interactions of markets and states at the international level. Prerequisite: POL S 260.

POL S 365 Canadian Foreign Policy

★3 (*fi 6*) (either term, 3-0-0). Major trends and developments in Canadian foreign policy since 1945. Prerequisite: POL S 260.

POL S 370 The European Community

★3 (*fi 6*) (either term, 3-0-0). An examination of European Community institutions, processes, politics, and policy issues. Prerequisite: POL S 200, or 260, or consent of Instructor.

POL S 371 Government and Politics of Japan

★3 (*fi 6*) (either term, 3-0-0). This is a course on the domestic politics of postwar Japan. It deals mainly with the political structure, political parties and the political economy of the Japanese miracle. Prerequisite: POL S 200 or consent of Department; also open to students of Japanese civilization.

POL S 372 Government and Politics of China

★3 (*fi 6*) (either term, 3-0-0). This course is a comprehensive discussion of the domestic politics of China after 1949. The course deals with revolution

and modernization in Chinese politics, assessing the role of the communist party, and the prospects for reform. Prerequisites: POL S 200, courses related to Chinese history and politics, or consent of Department. Formerly POL S 472.

POL S 373 Asian Politics: India to Indonesia

★3 (*fi 6*) (either term, 3-0-0). Post independence politics in former colonies, development of political structures and norms, search for political legitimacy and stability, fashioning a political community and a nation out of disparate grouping will be discussed with reference to the countries of South and Southeast Asia. Prerequisite: POL S 200 or consent of Department. Not open to students with credit in POL S 374. Formerly POL S 473.

POL S 380 Politics in the Middle East

★3 (*fi 6*) (either term, 3-0-0). The importance of the Middle East in geopolitical terms, societal and political conflicts and the major political upheavals such as the Arab-Israeli conflict, wars and revolutions. Prerequisite: POL S 200 or consent of Department. Formerly POL S 476.

POL S 388 Problems in Soviet and Post-Soviet Government

★3 (*fi 6*) (either term, 3-0-0). Major problems of domestic government in the former USSR and its successor states, with special attention to economic management and change, nationalities, and social issues. Prerequisite: POL S 200 or consent of Department. Formerly POL S 488.

POL S 389 Soviet and Post-Soviet Foreign Policy

★3 (*fi 6*) (either term, 3-0-0). An introduction to foreign policy in the former USSR and its successor states, from 1917 to the present, including the making of foreign policy, objectives, and areas of activity. Prerequisite: POL S 200 or consent of Department. Formerly POL S 489.

POL S 391 Canadian Political Parties

★3 (*fi 6*) (either term, 3-0-0). Topics include party systems; ideologies and programs, members and supporters, organization and resources, and electoral and governmental activities. Prerequisite: POL S 220 or consent of Department.

POL S 392 Interest Groups of Canada and Other Western Democracies

★3 (*fi 6*) (either term, 3-0-0). A study of political interest groups of Canada in comparison with those of other western democracies. Topics include group ideologies and interests, members, organization and resources, and non-governmental and governmental activities.

POL S 395 Political Attitudes and Ideologies

★3 (*fi 6*) (either term, 3-0-0). A study of the cognitive psychology of political attitudes and ideologies and their impact on the individual citizen's involvement in politics. Not to be taken by students with credit in POL S 495. Prerequisite: POL S 290 or consent of Department. Formerly POL S 495.

POL S 397 Elections and Voting Behavior

★3 (*fi 6*) (either term, 3-0-0). Analysis of the aggregate election results and voting behavior of individuals and social groupings. Content will be cross-national in scope and will deal largely with sociological and socio-psychological influences on voting. Note: Not to be taken by students with credit in POL S 497. Prerequisite: POL S 220 or 290 or consent of Department. Formerly POL S 497.

POL S 398 The Mass Media and Democratic Politics

★3 (*fi 6*) (either term, 3-0-0). The course covers the role of the mass media, their effects, and their influence on democratic politics. It draws most heavily on the experience of Canada, the United States, and Britain. Different approaches to, and theories of mass media effects and influence are considered and empirical studies in electoral and non-electoral contexts are examined. Prerequisite: POL S 200, 220, or 290, or consent of Instructor.

POL S 399 Third-Year Honors Seminar

★3 (*fi 6*) (either term, 0-3s-0). Note: Restricted to Honors Students in Third Year.

POL S 404 Topics in Political Philosophy

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: POL S 210 or equivalent.

POL S 406 Topics in the History of Political Thought I

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: POL S 210 or equivalent.

POL S 407 Topics in the History of Political Thought II

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: POL S 210 or equivalent.

POL S 408 Topics in Modern Political Theory I

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: POL S 210 or equivalent.

POL S 409 Topics in Modern Political Theory II

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: POL S 210 or equivalent.

POL S 410 Topics in Contemporary Political Philosophy I

★3 (*fi 6*) (either term, 3-0-0). A critical examination of contemporary trends in political philosophy. Prerequisite: POL S 210 or equivalent.

POL S 411 Topics in Contemporary Political Philosophy II

★3 (fi 6) (either term, 3-0-0). A critical examination of contemporary trends in political philosophy. Prerequisite: POL S 210 or equivalent.

POL S 419 Canadian Constitutional Law

★3 (fi 6) (either term, 3-0-0). The political implications of judicial decisions in the areas of civil liberties, federal-provincial relations and international agreements. Prerequisite: POL S 220, or consent of Department.

POL S 420 Canadian National Government

★3 (fi 6) (either term, 3-0-0). Prerequisite: POL S 220 or consent of Department.

POL S 421 Selected Problems in Canadian Government

★3 (fi 6) (either term, 3-0-0). Prerequisite: POL S 220 or consent of Department.

POL S 422 Canadian Public Policy

★3 (fi 6) (either term, 3-0-0). Analysis of Canadian public policy including policy formation and implementation. Attention will be given to specific policy areas such as health and welfare, the economy, agriculture, and communication. Prerequisite: POL S 220 or consent of Department.

POL S 423 Canadian Federalism

★3 (fi 6) (either term, 3-0-0). The analysis of the development and theories of Canadian Federalism. Attention will be given to current problems of the federal system. Prerequisite: POL S 220 or consent of Department.

POL S 424 Canadian Political Behavior

★3 (fi 6) (either term, 3-0-0). A behavioral approach to the study of legislative, party, and voting activities. Prerequisite: POL S 220 or 290 or consent of Department.

POL S 425 Canadian Public Administration

★3 (fi 6) (either term, 3-0-0). The theory of public administration and its present day application in the government; federal-provincial relations, planning and finance, human relations, and personnel administration in the Canadian Government. The purpose of the course is to provide a broad overview of the administrative organization and its working in contemporary Canada. Prerequisite: POL S 220 or 328 or consent of Department.

POL S 428 Provincial Government and Politics

★3 (fi 6) (either term, 3-0-0). A study of structures, functions and processes of selected provincial governments in Canada. Prerequisite: POL S 220 or consent of Department.

POL S 429 Government and Politics of Alberta

★3 (fi 6) (either term, 3-0-0). The study of selected aspects of Alberta government and politics. Topics may range from political institutions, through political parties, to areas of public policy. Prerequisite: POL S 220 or consent of Department.

POL S 432 Politics of the Canadian North

★3 (fi 6) (either term, 3-0-0). An analysis of the politics of native claims, constitutional change and the non-renewable and renewable resource economics of Canada north of 60°. Prerequisite: POL S 220 or consent of Department.

POL S 433 City Politics

★3 (fi 6) (either term, 3-0-0). The theory and practice of city politics in modern Canada. The course will normally employ as resource persons senior elected and appointed officials from governments. Prerequisite: POL S 223 or permission of the instructor.

POL S 434 Topics in Urban Politics

★3 (fi 6) (either term, 3-0-0). Prerequisite: POL S 223 or consent of Department.

POL S 436 Comparative Urban Political Systems

★3 (fi 6) (either term, 3-0-0). A comparison of centre/periphery and city/neighbourhood relationships in developing and modern political systems. Prerequisite: POL S 223 or POL S 200 or consent of Department.

POL S 440 Topics in Public Policy

★3 (fi 6) (either term, 3-0-0). Selected topics of contemporary interest in public policy. Prerequisite: POL S 200 or 220 or consent of Department.

POL S 448 Political Processes and Political Actors in Comparative Perspective

★3 (fi 6) (either term, 3-0-0). Political elites and participation, political parties and party systems, and pressure groups examined from critical theoretical and empirical perspectives. Focus will be on North America and Western Europe. Prerequisite: POL S 200 or consent of Department.

POL S 450 Topics in Comparative Theory

★3 (fi 6) (either term, 0-3s-0). Seminar in major areas of comparative theory such as political economy and the politics of collective action. Prerequisite: POL S 200 or consent of Department.

POL S 454 Feminism and Social Change

★3 (fi 6) (either term, 3-0-0). This course looks at the interaction between

feminism(s) and a variety of areas of social theory. A background in feminist theory is recommended. Topics may include: psychoanalysis, sociology, political economy, epistemology, social science methodology, cultural theory, and comparative development. Prerequisites: POL S 200 and consent of Instructor.

POL S 457 Foreign Policy Analysis

★3 (fi 6) (either term, 3-0-0). Analysis of those main variables contributing to the formation of the foreign policies of selected nations. Prerequisite: POL S 260 or consent of Department.

POL S 458 United States Foreign Policy

★3 (fi 6) (either term, 3-0-0). The contemporary foreign policies of the United States and their causes. Prerequisite: POL S 260 or consent of Department.

POL S 459 Topics in International Politics

★3 (fi 6) (either term, 3-0-0). Prerequisite: POL S 260.

POL S 461 Selected Problems in International Politics

★3 (fi 6) (either term, 3-0-0). The study of selected contemporary problems and/or methods in international relations. Prerequisite: POL S 260 or consent of Department.

POL S 462 International Political Economy

★3 (fi 6) (either term, 3-0-0). This course examines the relationships between international politics and international economics. The interrelationships of power and wealth are analyzed by studying the economic conflicts between nations and the influence of multinational corporations, and the impact of such commodities as oil on national societies. The course also asks whether economic interdependence gives rise to discord or cooperation among states. Prerequisite: POL S 260 or consent of Department.

POL S 463 Theories of War and Military Strategy

★3 (fi 6) (either term, 3-0-0). A survey covering theorists and theories of war, conventional strategy, and revolutionary strategy. Includes Clausewitz, Mahan, Mao, Liddell Hart, and some national approaches to strategy. Prerequisite: POL S 260.

POL S 464 Selected Problems in Canadian Foreign Policy

★3 (fi 6) (either term, 3-0-0). A discussion of several major topics and problems in Canadian foreign policy since 1945. Prerequisite: POL S 260 or consent of Department.

POL S 465 International Relations and World Law

★6 (fi 12) (full session, 3-0-0). The nature of international law; the function of international law in society; the universal character of international law; the state and other international persons; sovereignty and equality; recognition of governments and states; civil war and intervention; war and neutrality; international institutions; world government. Prerequisite: consent of Department.

POL S 470 Selected Topics in Comparative Politics

★3 (fi 6) (either term, 3-0-0). Selected topics of current interest in comparative politics and government. Prerequisite: POL S 200 or consent of Department.

POL S 472 Political Economy of East Asian International Relations

★3 (fi 6) (either term, 3-0-0). The course presents an overview of political economy of international relations in the East Asian region. It will focus on postwar political and economic relations between Greater China (Mainland, Taiwan, and Hong Kong), Japan, and the two Koreas. Prerequisite: POL S 361, 371, or 372 or consent of Department.

POL S 477 Issues in Islamic Politics

★3 (fi 6) (either term, 3-0-0). Elements underpinning political behavior in Muslim countries that constitute articulated themes, norms and demands such as Islamic law and constitution, Islamic concept of politics and society, Islamic fundamentalism and Islamization will be examined with reference to some selected countries. Prerequisite: POL S 200 or consent of Department.

POL S 478 Topics in Latin American Politics

★3 (fi 6) (either term, 3-0-0). Prerequisite: POL S 200 or consent of Department.

POL S 479 The Politics of Latin America

★3 (fi 6) (either term, 3-0-0). An intensive and general survey of Latin American societies and politics, including competing approaches to the state, development models, political movements, social classes. Prerequisite: POL S 200 or consent of Department.

POL S 484 United States Government and Politics

★3 (fi 6) (either term, 3-0-0). Advanced study of institutions, political processes, and public policy making in the United States. Prerequisite: POL S 200 or consent of Department.

POL S 485 Western European Politics and Government

★3 (fi 6) (either term, 3-0-0). An examination of the political and governmental structures and processes and some aspects of public policy in selected

nations of Western Europe. Prerequisite: POL S 200 or consent of Department.

POL S 492 Psychology of Politics

★3 (fi 6) (either term, 3-0-0). Advanced study of the role of cognitive processes in the psychology of politics. Prerequisites: POL S 290 and POL S 395. Open to Psychology majors who lack POL S 290 and 395.

POL S 496 Representation and Electoral Systems

★3 (fi 6) (either term, 3-0-0). An examination of the institutional framework within which the electoral process operates under representative government, with emphasis on voting as a mechanism of social choice.

POL S 499 Honors Essay: Fourth-Year Honors Political Science

★6 (fi 12) (full session, 3-0-0). Preparation of the Honors essay, required in the fourth year of the Honors program.

211.198.2 Graduate Courses

Notes

- (1) See also INT D 546 and 593 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) Consent of Department is required for all 500- and 600-level courses.

POL S 500 Conference Course

★6 (fi 12) (full session, 0-3s-0).

POL S 501 Comparative Institutions and Processes

★3 (fi 6) (either term, 0-3s-0).

POL S 508 Scientific Study of Politics I

★3 (fi 6) (either term, 3-0-0). Prerequisite: POL S 415.

POL S 509 Scientific Study of Politics II

★3 (fi 6) (either term, 3-0-0). Prerequisites: POL S 416 and 508.

POL S 510 Advanced Study of Political Thought

★6 (fi 12) (full session, 3-0-0).

POL S 511 Topics in Normative Analysis

★3 (fi 6) (either term, 3-0-0).

POL S 516 Problems in Marxist Political Theory

★3 (fi 6) (either term, 3-0-0).

POL S 521 Canadian Government and Politics

★3 (fi 6) (either term, 3-0-0).

POL S 522 Canadian Federalism

★3 (fi 6) (either term, 3-0-0).

POL S 523 Canadian Political Parties

★3 (fi 6) (either term, 0-3s-0).

POL S 524 Canadian Political Culture

★3 (fi 6) (either term, 3-0-0).

POL S 526 Selected Topics in Urban Politics

★3 (fi 6) (either term, 3-0-0).

POL S 528 The Politics of Public Administration

★3 (fi 6) (either term, 3-0-0). Prerequisite: POL S 425, or consent of department or the Associate Dean of the MPM program.

POL S 540 Topics in Public Policy

★3 (fi 6) (either term, 3-0-0).

POL S 550 Comparative Politics: Theory and Analysis

★3 (fi 6) (either term, 0-3s-0).

POL S 551 Comparative Politics: Selected Topics

★3 (fi 6) (either term, 3-0-0).

POL S 553 Comparative Political Activism

★3 (fi 6) (either term, 3-0-0).

POL S 554 Comparative Party and Group Politics

★3 (fi 6) (either term, 3-0-0).

POL S 560 Topics in International Politics

★3 (fi 6) (either term, 3-0-0).

POL S 562 Canadian Foreign Policy

★3 (fi 6) (either term, 3-0-0).

POL S 564 Conflict Resolution and Strategic Studies

★3 (fi 6) (either term, 3-0-0).

POL S 565 Topics in Foreign Policy Analysis

★3 (fi 6) (either term, 3-0-0).

POL S 566 Topics in International Political Economy

★3 (fi 6) (either term, 3-0-0).

POL S 570 Political Development: Theory

★3 (fi 6) (either term, 3-0-0).

POL S 571 Political Development: Selected Topics

★3 (fi 6) (either term, 3-0-0).

POL S 578 Asian Systems

★3 (fi 6) (either term, 3-0-0).

POL S 581 Anglo-American Systems

★3 (fi 6) (either term, 3-0-0).

POL S 592 Political Psychology

★3 (fi 6) (either term, 3-0-0).

POL S 593 Political Behavior

★3 (fi 6) (either term, 3-0-0).

POL S 594 The Comparative Study of Political Mass Movement

★3 (fi 6) (either term, 0-3s-0).

POL S 608 Advanced Study in Comparative Politics

★3 (fi 6) (either term, 3-0-0).

POL S 609 Readings in Comparative Politics

★3 (fi 6) (either term, 0-3s-0).

POL S 612 Topics in Classical Political Philosophy

★3 (fi 6) (either term, 3-0-0).

POL S 619 Readings in Political Philosophy

★3 (fi 6) (either term, 3-0-0).

POL S 620 Topics in Canadian Government and Politics

★3 (fi 6) (either term, 3-0-0).

POL S 625 Readings in Urban Analysis

★3 (fi 6) (either term, 0-3s-0).

POL S 629 Readings in Canadian Government and Politics

★3 (fi 6) (either term, 0-3s-0).

POL S 660 International Politics

★3 (fi 6) (either term, 3-0-0).

POL S 668 Readings in International Studies

★3 (fi 6) (either term, 3-0-0).

POL S 699 Readings in Political Behavior and Psychology

★3 (fi 6) (either term, 3-0-0).

POL S 900 Directed Research Project

★3 (fi 6) (variable).

211.199 Postgraduate Medical Education

Division of Postgraduate Medication Education
Faculty of Medicine and Oral Health Sciences

PGME 901 One Month Medical Traineeship

★0 (fi 0.91) (either term, 1-month period). This represents a contract period of registration with variable start and end dates for MD graduates who are completing training either as a Resident or as a Fellow. The focus of the traineeship is based upon the area of specialization. Prerequisites: MD degree and approval by the Division of Postgraduate Medical Education.

PGME 902 Two Month Medical Traineeship

★0 (fi 1.82) (either term, 2-month period). This represents a contract period of registration with variable start and end dates for MD graduates who are completing training either as a Resident or as a Fellow. The focus of the traineeship is based upon the area of specialization. Prerequisites: MD degree and approval by the Division of Postgraduate Medical Education.

PGME 903 Three Month Medical Traineeship

★0 (fi 2.73) (either term, 3-month period). This represents a contract period of registration with variable start and end dates for MD graduates who are completing training either as a Resident or as a Fellow. The focus of the traineeship is based upon the area of specialization. Prerequisites: MD degree and approval by the Division of Postgraduate Medical Education.

PGME 904 Four Month Medical Traineeship

★0 (fi 3.64) (either term, 4-month period). This represents a contract period of registration with variable start and end dates for MD graduates who are completing training either as a Resident or as a Fellow. The focus of the traineeship is based upon the area of specialization. Prerequisites: MD degree and approval by the Division of Postgraduate Medical Education.

PGME 912 Twelve Month Medical Traineeship

★0 (fi 10.92) (full session, 12-month period). This represents a contract

period of registration with variable start and end dates for MD graduates who are completing training either as a Resident or as a Fellow. The focus of the traineeship is based upon the area of specialization. Prerequisites: MD degree and approval by the Division of Postgraduate Medical Education.

211.200 **Reserved**

211.201 Psychiatry

Department of Psychiatry
Faculty of Medicine and Oral Health Sciences

211.201.1 Undergraduate Courses

PSYCI 421 Introduction to Psychiatry

★2 (*fi 4*) (full session, 34 hours). The course consists of 34 one hour lectures outlining the major syndromes and conditions in clinical psychiatry.

PSYCI 446 Student Internship

★6 (*fi 12*) (full session, 8 weeks). Student internship for students in Phase III, MD program only.

211.201.2 Graduate Courses

PSYCI 511 Biological Aspects of Psychiatry

★3 (*fi 6*) (second term, 3-0-0). Lectures and seminars on: classification, description and measurement of psychiatric disorders; sleep disorders; biochemical theories of psychiatric disorders, and discussions of how the actions of the drugs used to treat these disorders relate to these theories; practical aspects of drug treatment; biological markers; physical methodologies used in studying neurochemical aspects of psychiatry (gas chromatography—mass spectrometry, high pressure liquid chromatography, receptor binding techniques, etc.). Prerequisite: Permission of Department.

PSYCI 688 Graduate Seminar

★0 (*fi 2*) (full session, 0-1s-0). Graduate students in the Department of Psychiatry will be required to attend this weekly seminar series. Each student will be required to present two seminars per full term; one related directly to his/her own research, and one on another topic.

211.202 Psychologie

Faculté Saint-Jean

211.202.1 Domaine des Arts

PSYCE 105 Comportement social et individuel

★3 (*fi 6*) (deuxième semestre, 3-0-1/4). Introduction à l'étude de l'individualité humaine, de la personnalité et des processus sociaux. Le cours peut inclure l'étude de quelques aspects du développement humain normal et anormal, du jugement et du traitement psychologiques. Prerequis: PSYCE 104. Anciennement PSYCE 261.

PSYCE 223 Psychologie de la croissance

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Les aspects biologiques, cognitifs et sociaux du développement psychologique de l'enfant et de l'adolescent. L'accent sera mis sur le développement du langage et de la pensée, et sur la relation qui existe entre eux. Prerequis: PSYCE 104/105 ou l'équivalent. Anciennement PSYCE 353.

PSYCE 233 Psychologie de la personnalité

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Introduction aux différentes approches théoriques et à la recherche dans le domaine de la personnalité. Prerequis: PSYCE 104/105 ou l'équivalent.

PSYCE 241 Psychologie sociale

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Introduction aux théories et à la recherche sur l'individu dans un contexte social. Prerequis: PSYCE 104/105 ou l'équivalent. Note: PSYCE 241 et SOC 241 ne peuvent pas être suivis tous les deux pour crédits. Anciennement PSYCE 341.

PSYCE 498 Etude personnelle II

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Cours destiné à permettre aux étudiants au niveau du baccalauréat d'approfondir personnellement un sujet de leur choix. Sous forme de bibliographie dirigée ou de travaux de laboratoire. Prerequis: l'accord du Vice-doyen aux affaires académiques.

211.202.2 Domaine des Sciences

PSYCE 104 Procédés psychologiques de base

★3 (*fi 6*) (premier semestre, 3-0-1/4). Principes et développement de la perception, motivation, apprentissage et réflexion et leur relation avec le fonctionnement psychologique de l'individu. Ce cours est un prérequis

pour la plupart des cours de psychologie et est normalement suivi de PSYCE 105. Anciennement PSYCE 260.

PSYCE 267 Perception

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Une introduction aux théories et à la recherche dans le domaine de la perception. Prerequis: SCSOC 322. Ce cours n'est pas accessible aux étudiants ayant des crédits en PSYCO 266.

PSYCE 275 Cerveau et comportement

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Introduction à la fonction du cerveau et à son rapport à la sensation, au mouvement, à l'apprentissage, à la motivation et à la pensée. Prerequis: PSYCE 104 et Biologie 30 ou l'équivalent. Anciennement PSYCE 375.

PSYCE 281 Principes du changement de comportement

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Introduction aux techniques de changement de comportement. Le cours examinera l'origine de telles techniques dans l'expérimentation sur les animaux et la théorie de l'apprentissage, et fera une évaluation de leur efficacité quand elles sont appliquées aux populations qui ont des problèmes spécifiques. Prerequis: PSYCE 104. Anciennement PSYCE 361.

PSYCE 354 Fondements de la science cognitive

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Une introduction à l'étude des processus mentaux: la mémoire, l'attention et la cognition. Les principaux sujets abordés sont: le traitement d'information visuelle, l'attention, la mémoire à court et à long terme, l'apprentissage et la compréhension du langage. Prerequis: PSYCE 104 ou 105 et SCSOC 322. Note: ce cours n'est pas accessible aux étudiants ayant des crédits pour PSYCE 353 ou PSYCO 363.

211.203 Psychologie de l'éducation

Faculté Saint-Jean

PS ED 263 Introduction à la psychologie du développement

★1,5 (*fi 3*) (l'un ou l'autre semestre, 1,5-0-0). Etude du comportement humain à travers les différentes étapes de son développement. Les notions de développement physique, intellectuel, social et moral sont abordées en relation avec le comportement en milieu scolaire. Ce cours n'est pas accessible aux étudiants ayant des crédits en PS ED 266, 267, 366, 367 ou leurs équivalents.

PS ED 264 Psychopédagogie de l'apprentissage

★1,5 (*fi 3*) (l'un ou l'autre semestre, 1,5-0-0). Théories générales de l'apprentissage et les différents facteurs qui influencent l'apprentissage en milieu scolaire. Etude de la relation de l'apprentissage avec d'autres phénomènes psychologiques tels que l'intelligence, la motivation, la maturation et leurs applications dans l'enseignement. Ce cours n'est pas accessible aux étudiants ayant des crédits en PS ED 266, 267, 366, 367 ou leurs équivalents.

PS ED 265 Psychologie des relations interpersonnelles

★1,5 (*fi 3*) (l'un ou l'autre semestre, 1,5-0-0). Les techniques de base pour une communication efficace; le développement de groupes de soutien; une évaluation des attitudes et des valeurs qui contribuent à un meilleur enseignement, méthodes pour gérer le stress. Ce cours n'est pas accessible aux étudiants ayant des crédits en PS ED 495.

PS ED 362 L'adaptation scolaire

★1,5 (*fi 3*) (l'un ou l'autre semestre, 1,5-0-0). Introduction aux diverses dimensions de l'adaptation scolaire: aspects cognitif, socio-affectif, culturel, scolaire; dépistage et identification des problèmes de l'adaptation scolaire; modèles d'intervention; politiques d'intégration et guides pédagogiques du ministère de l'Éducation. Prerequis ou corequis: PS ED 263 et PS ED 264 ou l'accord du Vice-doyen (Éducation). Ce cours n'est pas accessible aux étudiants ayant des crédits en PS ED 482.

PS ED 465 Psychologie de la communication

★1,5 (*fi 3*) (l'un ou l'autre semestre, 1,5-0-0). Le contenu du cours est centré sur l'approfondissement des habiletés nécessaires à la bonne communication dans la salle de classe, au mode d'acquisition des comportements; et à l'identification des éléments pour poursuivre son développement personnel et professionnel. Ce cours n'est pas accessible aux étudiants ayant des crédits en PS ED 495.

PS ED 477 Bilinguisme et cognition dans l'éducation de l'enfant

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Théories et recherches relatives au processus d'acquisition du bilinguisme dans les programmes d'immersion et les programmes francophones. L'évaluation du développement du bilinguisme inclut les dimensions socio-linguistiques et socio-culturelles.

PS ED 482 Sensibilisation aux difficultés d'apprentissage chez l'enfant d'âge scolaire

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Concepts d'apprentissage et de difficultés d'apprentissage. Etude des difficultés d'apprentissage les plus fréquentes en milieu scolaire. Impact de ces difficultés sur la vie

émotive de l'enfant, sur sa vie à l'école, sur les parents, et sur la famille en général. Possibilités d'interaction et d'aide de l'enseignant face à ces difficultés. Prérequis: PS ED 263 ou l'accord du Vice-doyen aux affaires académiques.

PS ED 483 Sensibilisation aux élèves doués et talentueux

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Définitions et concepts de douance. Moyens de dépistage. Etude du développement social, affectif et cognitif de l'enfant doué et talentueux. L'étude de la dynamique de l'enfant doué et talentueux dans son milieu. Analyse des modèles d'enrichissement et d'accélération. Prérequis: PS ED 263 ou l'accord du Vice-doyen aux affaires académiques.

PS ED 496 Etude de l'administration des organismes étudiants

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Etude individuelle portant sur l'administration des organismes étudiants et le développement des connaissances dans le domaine des relations interpersonnelles et de la dynamique de groupe. (Crédit/Echec). Prérequis ou corequis: un cours en psychologie, ou en sociologie, ou en psychologie de l'éducation, et l'accord du Vice-doyen aux affaires académiques. Note: Demi-cours qui s'étend sur toute l'année.

PS ED 497 Séminaires "senior"

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Le contenu du cours varie d'une année à l'autre.

211.204 Psychology

Department of Psychology
Faculty of Arts and Faculty of Science

211.204.1 Undergraduate Courses

211.204.1.1 Faculty of Arts Courses

Note: Prerequisites to some Arts courses in the Department may be found in the following Science section of this listing.

PSYCO 105 Individual and Social Behavior

★3 (fi 6) (either term, 3-0-1/4). Introduction to the study of human individuality, personality, and social psychological processes. Some aspects of normal and abnormal human development, psychological assessment and treatment may be reviewed. Prerequisite: PSYCO 104. Formerly PSYCO 261.

PSYCO 212 Introduction to Research Methods in Psychology

★3 (fi 6) (either term, 3-0-0). Experimental and nonexperimental methods in psychology. Topics covered include philosophy of science; measurement; reliability and validity of methods, measures, and effects; experimental, quasi-experimental, and single-subject designs; biases in experimentation; and research ethics. Prerequisites: PSYCO 104, 105, and 211.

PSYCO 223 Developmental Psychology

★3 (fi 6) (either term, 3-0-0). Biological, cognitive and social aspects of psychological development, with special emphasis on infancy, childhood and adolescence. Prerequisites: PSYCO 104 and 105 or equivalent. Note: PSYCO 223 and FAM 343 may not both be taken for credit. Formerly PSYCO 353 (1989-90 or earlier).

PSYCO 233 Personality

★3 (fi 6) (either term, 3-0-0). An introductory survey including representative theoretical points of view and research relevant to the major problems of the study of personality. Prerequisites: PSYCO 104 and 105 or equivalent. Formerly PSYCO 383.

PSYCO 241 Social Psychology

★3 (fi 6) (either term, 3-0-0). A survey of theories and research on the individual in a social context. Prerequisites: PSYCO 104 and 105 or equivalent. Note: PSYCO 241 and SOC 241 may not both be taken for credit. Formerly PSYCO 341.

PSYCO 258 Cognitive Psychology

★3 (fi 6) (either term, 3-0-0). A survey of findings of theoretical issues in the study of cognition. Topics include perception, attention, knowledge representation, memory, learning, language, reasoning, and problem solving. Note: Not open to students with credit in PSYCO 353 (taken in 1990-91 or 1991-92), 358, or 373. Prerequisites: PSYCO 104 and 211. Formerly PSYCO 358.

PSYCO 300 Honors Seminar I

★3 (fi 6) (full session term, 3-0-0). A range of conceptual and methodological issues in psychology are considered, and students receive intensive training and practice in both written and oral communication. The seminar meets once a week for the full Winter Session. Corequisites: PSYCO 211 and 212. Restricted to, and required of, third-year students in the Honors Psychology program.

PSYCO 301 History of Psychology

★3 (fi 6) (either term, 3-0-0). History of psychology, with an emphasis on

19th and early 20th century (i.e. pre-1950) developments. Significant trends in contemporary psychology will also be discussed. Prerequisites: PSYCO 104 and 105; one of PSYCO 223, 233, 241, 258; and one of PSYCO 267, 275, 281.

PSYCO 305 Special Topics in Psychology I

★3 (fi 6) (either term, 3-0-0). Review and discussion of special topics or methods in one or more of the areas of contemporary psychology such as developmental, social, personality, cognitive. Prerequisites: PSYCO 104 and 105 and consent of Department. Note: Students are encouraged to check with the department for the topic for the current year.

PSYCO 323 Perceptual and Cognitive Development

★3 (fi 6) (either term, 3-0-0). The development of the ability to process information from the environment. Attention, memory, and concept formation in infants and young children. Prerequisite: PSYCO 223. Formerly PSYCO 454.

PSYCO 339 Abnormal Psychology

★3 (fi 6) (either term, 3-0-0). A general introduction. Prerequisite: PSYCO 223. Note: Not open to students with credit in PSYCO 489 or 389. Formerly PSYCO 389.

PSYCO 350 Human Memory

★3 (fi 6) (either term, 3-0-0). An introduction to the study of human memory. Topics include verbal learning and interference theory, the short-term/long-term memory distinction, semantic memory, working memory, sensory memory, autobiographical memory, amnesia, and implicit memory. The emphasis will be on developing coherent theoretical accounts of the evidence. Prerequisite: PSYCO 258.

PSYCO 357 Language Processing

★3 (fi 6) (either term, 3-0-0). A survey of theories and research on the production and comprehension of spoken and written language. Topics include speech perception, printed word recognition, sentence production and comprehension, discourse processing, reading, language development, and language pathologies. The focus will be on the processing mechanisms implicated by findings in the area. Prerequisite: PSYCO 258.

PSYCO 390 Honors Thesis I: Research Apprenticeship

★3 (fi 6) (full session, 0-0-6). Under the direction of a faculty member, students pursue a topic of interest leading to the development of a thesis proposal and, during their fourth year, the thesis research. The work normally involves both directed reading and empirical research experience. Corequisites: PSYCO 211 and 212. Restricted to, and required of, third-year students in the Honors Psychology program.

PSYCO 400 Honors Seminar II

★3 (fi 6) (full session, 3-0-0). A continuation of PSYCO 300, with an emphasis on the development of professional skills. Topics include the new information technologies, the publication process, ethical issues, and the application of research findings to real-world problems. The seminar meets once a week for the full Winter Session. Prerequisite: PSYCO 300. Restricted to, and required of, fourth-year students in the Honors Psychology program.

PSYCO 405 Special Topics in Psychology II

★3 (fi 6) (either term, 3-0-0). Review and discussion of special theoretical or methodological topics, or a novel or emerging research areas in contemporary psychology. Prerequisites: PSYCO 104 and 105, 211, and consent of Department. Note: Students are encouraged to check with the department for the topic for the current year.

PSYCO 411 Cooperative Program Practicum

★3 (fi 6) (first term, 0-3s-0). Required by all students who have just completed the on-site portion of the Psychology Cooperative Program. The course will involve completion and defense of the practicum report and discussion of related issues. Prerequisites: WKEXP 961, WKEXP 962, and WKEXP 963.

PSYCO 423 Advanced Topics in Developmental Psychology

★3 (fi 6) (either term, 3-0-0). An in-depth review and analysis of research in an area of developmental psychology. Prerequisites: PSYCO 211 and PSYCO 323 or consent of Department. Note: Students are encouraged to check with the Department for the topic for the current year. Formerly PSYCO 456.

PSYCO 431 Theory and Practice of Psychometrics

★3 (fi 6) (either term, 3-0-3). The nature of psychological tests; survey of the various types of standardized tests; some practical work in administration, scoring and interpretation of tests. Prerequisites: PSYCO 211 and 339.

PSYCO 435 Introduction to Clinical Psychology

★3 (fi 6) (either term, 3-0-0). Application of the theories, principles, and methods of psychology to understand and alleviate human problems. Prerequisite: PSYCO 339.

PSYCO 436 Psychology of Self-Estrangement

★3 (fi 6) (either term, 3-0-0). Basic description of self-deception and

self-estrangement in psychoanalytic and existential humanistic theories. Discussion of basic determinants of self-deception and, alternatively, self-awareness, as well as considerations of the methods of inquiry appropriate to the area. Prerequisite: PSYCO 339. Formerly PSYCO 491.

PSYCO 441 Experimental Social Psychology

★3 (fi 6) (either term, 3-0-3). An intensive study of methods for investigating social behavior. The evaluation of published research, design of experiments, analysis and communication of results will be stressed. Opportunity for supervised research projects. Prerequisites: PSYCO 211, 241, and one of PSYCO 281; 353 (taken in 1990/91 or 1991/92), or 354; 356; or 364.

PSYCO 443 Social Cognition

★3 (fi 6) (either term, 3-0-0). Advanced treatment of topics in the study of how we think about the world of persons and events. Topics may include the role of categories, schemas, theories, and heuristics in social cognition, factors underlying the stereotyping of persons and groups, and the question of motivated bias in social perception. Prerequisites: PSYCO 211 and 241.

PSYCO 450 Topics in Memory and Problem Solving

★3 (fi 6) (either term, 3-0-0). Examines theoretical and empirical issues in human memory and problem solving. Topics include memory representations, "real-world" memory, memory-based decision making, expert-novice differences in memory and problem solving. Prerequisite: PSYCO 350.

PSYCO 490 Honors Thesis II: Thesis Research

★3 (fi 6) (full session, 0-0-6). Students in their final year of the Honors program will pursue a research project under the direction of a member of the Department. Prerequisites: PSYCO 307, 390, and consent of the Department.

PSYCO 493 Phenomenology and Psychological Research

★3 (fi 6) (either term, 3-0-2). An intensive study of methods for investigating variations in self-reported experience. The development, use, and validation of methods for studying self-reported experience in psychological research will be stressed. Supervised research. Prerequisites: PSYCO 211, and either 436 or 495.

PSYCO 495 Psychology of Aesthetics

★3 (fi 6) (either term, 3-0-0). An introduction to the psychological analysis of response to art. Consideration is both theoretical and empirical. Illustrative materials are drawn from several arts, including painting, sculpture and literature. The contribution of aesthetic behavior to personality development is considered. Prerequisites: PSYCO 104 and 105 (or equivalent).

PSYCO 498 Individual Study

★3 (fi 6) (either term, 0-3s-3). A course intended to allow the senior undergraduate student the opportunity to pursue a research topic in greater depth than the classroom structure permits. This pursuit may take the form of directed reading, library research, and/or laboratory experience. A formal paper, research proposal, research report, annotated bibliography, lab notes, and/or essay is required. Prerequisites: A 300-level psychology course and consent of Department.

211.204.1.2 Faculty of Science Courses

S PSYCO 104 Basic Psychological Processes

★3 (fi 6) (either term, 3-0-1/4). Principles and development of perception, motivation, learning, and thinking and their relationship to the psychological functioning of the individual. The course is a prerequisite to most courses in the department and is normally followed by PSYCO 105 (see §211.204.1.1).

PSYCO 267 Perception

★3 (fi 6) (either term, 3-0-0). An introduction to theoretical and experimental issues associated with sensory and perceptual experience. Note: Students cannot receive credit for both PSYCO 266 and PSYCO 267. Prerequisite: PSYCO 211.

PSYCO 275 Brain and Behavior

★3 (fi 6) (either term, 3-0-0). An introduction to brain mechanisms involved in sensation, perception, movement, motivation, learning, and cognition, as studied in both humans and lower animals. Prerequisites: PSYCO 104 and Biology 30 or equivalent.

PSYCO 281 Principles of Behavior

★3 (fi 6) (either term, 3-0-0). An introduction to behavior change techniques. The course will examine how contingencies of the environment affect the behavior of organisms. Prerequisite: PSYCO 104.

PSYCO 300 Honors Seminar I

★3 (fi 6) (full session, 3-0-0). A range of conceptual and methodological issues in psychology are considered, and students receive intensive training and practice in both written and oral communications. The seminar meets once a week for the full Winter Session. Corequisites: STAT 151 and PSYCO 212. Restricted to, and required of, third-year students in the Honors Psychology program.

PSYCO 302 Special Topics in Psychological Research

★3 (fi 6) (either term, 3-0-0). Review and discussion of special topics or methods in one or more of the areas of contemporary psychology such as experimental, perception, physiological, learning, memory, behavior, quantitative. Prerequisites: PSYCO 104, 105, and consent of Department. Note: Students are encouraged to check with the Department for the topic and prerequisites for the current year.

PSYCO 351 Human Information Processing

★3 (fi 6) (either term, 3-0-0). An examination of theories, issues, and published research in the general area of human information processing, with an emphasis on visual information processing. Topics include: attention; visual persistence; pattern, letter, word, and object recognition; scene perception; human performance; visual memory. Prerequisite: PSYCO 258.

PSYCO 354 Foundations of Cognitive Science

★3 (fi 6) (either term, 3-0-0). An introduction to the theories and research practices of cognitive science by examining contributions of cognitive psychology, artificial intelligence, linguistics, and neuroscience to a variety of research areas. Prerequisites: PSYCO 211 and 258. Note: Not open to students with credit in PSYCO 353 (1990/1992) or PSYCO 363 (1989/90 or earlier).

PSYCO 356 Research Methods in Cognition

★3 (fi 6) (either term, 3-0-3). A detailed examination of some of the common methods used for investigating cognitive processes. Topics include response time methods, priming paradigms, tachistoscopic presentation techniques, reading time measurement, and the use of recognition and recall tests. The focus of the course will be on the application of these methods to current theories and issues in cognitive psychology. Laboratories will provide students with first-hand experience at applying these methods to research problems. Prerequisite: PSYCO 258.

PSYCO 364 Methods in Perception

★3 (fi 6) (either term, 0-0-6). Laboratory methods used to study perception. Course emphasizes lab experience, data collection, analysis and interpretation, literature search, and report writing. Prerequisites: PSYCO 211, 267.

PSYCO 365 Advanced Perception

★3 (fi 6) (either term, 3-0-0). Covers the origin and current status of several major problem areas within the study of perception. Provides the historical background and knowledge of recent theoretical and experimental contributions required to understand current conceptual schemes and disputes. Prerequisites: PSYCO 266 or PSYCO 267 and MATH 113 or 114.

PSYCO 371 The Neurobiology of Learning and Memory

★3 (fi 6) (either term, 3-0-0). An advanced level course examining specific physiological accounts of reinforcement, learning and memory phenomena, and the relationship between physiological models and behavioral theory. The use of animal models for the study of memory dysfunction in humans will also be considered. Prerequisites: PSYCO 275 and 281.

PSYCO 372 Behavior in Relation to Genetics

★3 (fi 6) (either term, 3-0-0). An examination of the influence of genetic variations on behavioral differences in infra-human and human populations. Prerequisites: PSYCO 104 and 105 and PSYCO 211 and GENET 197.

PSYCO 377 Human Neuropsychology

★3 (fi 6) (either term, 3-0-0). Changes in mood, motivation, perception, attention, memory and language as revealed by studies of structural alterations in the human brain. Prerequisite: PSYCO 275. Note: Previously offered as PSYCO 277. Students cannot receive credit for PSYCO 377 if they received credit for PSYCO 277.

PSYCO 381 Principles of Learning

★3 (fi 6) (either term, 3-0-0). Principles and processes of learning including a consideration of classical conditioning, instrumental learning, and memory. Research involving non-human animals will be emphasized. Prerequisites: PSYCO 211 and 281.

PSYCO 385 Applications of Learning

★3 (fi 6) (either term, 3-0-0). An examination of the ways in which principles of conditioning and learning have been applied to areas of human concern. Biomedical and behavioral implications of learning principles will be examined in terms of the empirical foundations of the principles, and the successes or problems encountered in applying the principles to the understanding or treatment of human behavior. Prerequisite: PSYCO 381.

PSYCO 390 Honors Thesis I: Apprenticeship

★3 (fi 6) (full session, 0-0-6). Under the direction of a faculty member, students pursue a topic of interest leading to the development of a thesis proposal and, during their fourth year, the thesis research. The work normally involves both directed readings and empirical research experience. Corequisites: STAT 151 and PSYCO 212. Restricted to, and required of, third-year students in Honors Psychology.

PSYCO 400 Honors Seminar II

★3 (fi 6) (full session, 3-0-0). A continuation of PSYCO 300, with an emphasis on the development of professional skills. Topics include the new information technologies, the publication process, ethical issues, and the application of research findings to real-world problems. The seminar meets once a week for the full Winter Session. Prerequisite: PSYCO 300. Restricted to, and required of, fourth-year students in the Honors Psychology program.

PSYCO 402 Recent Advances in Experimental Psychology: Methods and Phenomena

★3 (fi 6) (either term, 3-0-2). Discussion and demonstration of the techniques and discoveries of selected fields within experimental psychology. The course will provide laboratory experience with the empirical findings of these fields. Students are encouraged to check with the Department regarding the topic for the current year. Prerequisites: PSYCO 211, a 300-level Psychology course and consent of Department.

PSYCO 403 Recent Advances in Experimental Psychology: Models and Theories

★3 (fi 6) (either term, 3-0-0). Discussion of advanced concepts and theories developed by selected fields within experimental psychology. The course will examine the relation between theory and data in these fields. Students are encouraged to check with the Department regarding the topic for the current year. Prerequisites: PSYCO 211, a 300-level Psychology course and consent of Department.

PSYCO 410 Industrial Internship Practicum

★3 (fi 6) (first term, 0-3s-0). Required by all students who have just completed a Science Psychology Industrial Internship Program. Must be completed during the first academic term following return to full-time studies. Note: A grade of 1 to 9 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 to learn from the experiences of the Internship as demonstrated in an oral presentation. Prerequisite: WKEXP 933.

PSYCO 451 Visual Cognition and Attention

★3 (fi 6) (either term, 3-0-0). Examines theoretical and empirical issues in visual attention, object and scene perception, and visual imagery and memory. Topics include the representation of visual information, contextual effects in object recognition, and higher-level phenomena such as visual problem solving, navigation and route-learning, and memory for visual events. Prerequisite: PSYCO 351.

PSYCO 452 Minds and Machines

★3 (fi 6) (either term, 3-0-0). Computational models are playing an increasingly important role in cognitive psychology. The purpose of this course is to provide students with the theoretical background for using such models, as well as some hands-on experience. Students will learn about the history of these models in cognitive psychology, how one might characterize "good" and "bad" models, and how cognitive psychologists attempt to experimentally validate their models. Prerequisite: PSYCO 354.

PSYCO 453 Psychology of Language

★3 (fi 6) (either term, 3-0-0). Covers theoretical and empirical issues in language comprehension, production, and acquisition from a cognitive perspective. Topics include the representation of word structure and meaning, the creation of syntactic structures, and discourse-level phenomena such as inferring and the use of metaphors. Prerequisite: PSYCO 353 (1990/91 or 1991/92) or 354.

PSYCO 459 Human Aging: Cognitive Processes

★3 (fi 6) (either term, 3-0-0). A survey of the sensory, perceptual, memory, and cognitive changes in normal aging. Topics include the relationship of psychological, environmental, social and health factors to cognitive processes. Prerequisite: One of PSYCO 353 (1990/91 or 1991/92) or 354.

PSYCO 468 Auditory Perception

★3 (fi 6) (either term, 3-0-0). Nature of basic auditory experience. Includes topics of pitch perception, loudness and masking, perception of complex sounds, auditory pattern perceptions, and localization of sound. Prerequisite: PSYCO 365.

PSYCO 475 Biological Bases of Behavior

★3 (fi 6) (first term, 0-0-6). Basic neuroanatomy and neuropsychology of sensory and motor systems. Prerequisite or corequisite: PSYCO 371 or 377.

PSYCO 476 Physiological Psychology

★3 (fi 6) (second term, 0-0-6). A laboratory course in experimental design and research in physiological psychology. Prerequisite: PSYCO 475.

PSYCO 478 Behavior and Brain Chemistry

★3 (fi 6) (either term, 3-0-0). The influence of environmental and genetic factors on the relationship between chemistry of the brain and the behavior of humans and animals. Prerequisite: PSYCO 371 or 377.

PSYCO 482 Methods of Behavior and Learning

★3 (fi 6) (either term, 0-0-6). Laboratory methods used to study Pavlovian conditioning, instrumental conditioning and decision processes. Prerequisite: PSYCO 381.

PSYCO 485 Theory in Learning and Comparative Cognition

★3 (fi 6) (either term, 3-0-0). A theoretical analysis of topics such as Pavlovian conditioning, instrumental learning, working memory, timing, concept learning, and order and numerical competence. Also discussed will be the purposes and nature of theories and the historical development of theory in learning and comparative cognition. Prerequisite: PSYCO 381.

PSYCO 486 Advanced Topics in Learning

★3 (fi 6) (either term, 3-0-0). An in-depth review and analysis of research and issues on specific advanced topics in the area of learning. Prerequisite: PSYCO 381. Note: Students are encouraged to check with the Department for the topics for the current year.

PSYCO 490 Honors Thesis II: Thesis Research

★3 (fi 6) (full session, 0-0-6). Under the direction of a faculty member, students conduct an empirical research project culminating in the Honors Thesis. Prerequisite: PSYCO 390. Restricted to, and required of fourth-year students in the honors psychology program.

PSYCO 496 Individual Research

★3 (fi 6) (either term, 0-3s-3). A course designed to allow the senior undergraduate student the opportunity to pursue a research topic in greater depth than the classroom structure permits. This pursuit may take the form of directed reading, library research, and/or laboratory experience. A formal paper, research proposal, research report, annotated bibliography, lab notes, and/or essay is required. Prerequisite: A 300-level psychology course and consent of Department.

211.204.2 Graduate Courses

Note: See also INT D 554 and 654 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.

PSYCO 502 Professional and Ethical Issues

★2 (fi 4) (either term, 3-0-0).

PSYCO 505 Conference Course in Psychology

★3 (fi 6) (either term, 3-0-3).

PSYCO 530 Experimental Design

★6 (fi 12) (full session, 3-0-0).

PSYCO 541 Advanced Social Psychology

★3 (fi 6) (either term, 3-0-0).

PSYCO 560 Memory and Cognition

★3 (fi 6) (either term, 3-0-0).

PSYCO 561 Advanced Psychology of Conditioning and Learning

★3 (fi 6) (either term, 3-0-0).

PSYCO 562 Advanced Psychology of Perception

★3 (fi 6) (either term, 3-0-0).

PSYCO 567 Psychology of Development

★3 (fi 6) (either term, 3-0-0).

PSYCO 575 Advanced Physiological Psychology

★3 (fi 6) (either term, 3-0-0).

PSYCO 576 Cognitive Neuroscience

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

PSYCO 587 Advanced Abnormal Psychology

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

PSYCO 600 Individual Studies

★3 (fi 6) (either term, 3-0-0).

PSYCO 604 Topics in Quantitative Methods

★3 (fi 6) (either term, 3-0-0).

PSYCO 606 Topics in Instrumentation

★3 (fi 6) (either term, 3-0-0).

PSYCO 610 Topics in Conditioning and Learning

★3 (fi 6) (either term, 3-0-0).

PSYCO 618 Topics in Clinical Psychology

★3 (fi 6) (either term, 3-0-0).

PSYCO 620 Topics in Cognition

★3 (fi 6) (either term, 3-0-0).

PSYCO 622 Topics in Developmental Psychology

★3 (fi 6) (either term, 3-0-0).

211.205 Public Health Sciences

Department of Public Health Sciences
Faculty of Medicine and Oral Health Sciences

PHS 500 Introduction to Health Systems and Health Policy

★3 (fi 6) (either term, 3-0-0). A review and development of the Canadian health and welfare system and its structure and functions. An analysis of selected issues in the delivery of health and welfare services.

PHS 505 Fundamentals of Public Health

★3 (fi 6) (first term, 3-0-0). This course provides an overview of the various disciplines making up and impacting on public health. Discussions will cover the Canadian health care system, infectious and chronic disease epidemiology and control, environmental health, occupational health, health care evaluation, disease prevention, health promotion, and disease and exposure assessment.

PHS 509 Field Practicum

★6 (fi 12) (Intersession, 16 weeks).

PHS 510 Chemical Principles, Fate, and Behavior of Environmental Contaminants

★3 (fi 6) (either term, 3-0-0). Concepts of chemical speciation, equilibrium, phase distribution, and biodegradation. Application of chemical principles to study speciation, distribution, transformation, biodegradation, and bioaccumulation of environmental contaminants. Introduction to human exposure to contaminants.

PHS 511 Environmental Contaminant Exposure Assessment

★3 (fi 6) (either term, 3-0-0). Principles and practice of monitoring exposure to environmental contaminants, external and internal dose. Biomarkers for environmental contaminant dose estimation. Environmental and biological sampling. Routes of exposure, absorption, and distribution.

PHS 512 Environmental Risk Assessment and Management

★3 (fi 6) (either term, 3-0-0). Concepts of risk to health and environment, assessment, management and communication of risk, hazard identification, links to exposure assessment, toxicology and epidemiology, dose response assessment, risk characterization, regulatory and policy science.

PHS 520 Occupational and Environmental Diseases

★3 (fi 6) (either term, 3-0-0). This course is designed to provide health professionals with an overview of the epidemiology, recognition, diagnosis, treatment, and prevention of occupational and environmental diseases encountered by health care practitioners. This course will include both an organ system and toxin or hazard approach.

PHS 521 Occupational Hygiene

★3 (fi 6) (either term, 3-0-0). This course is an introduction to occupational hygiene theory, principles, and practice. It will cover the recognition, evaluation, and control of common occupational health hazards including chemicals, biological agents, physical agents, and ergonomic issues. The course is not designed to prepare hygienists for practice.

PHS 522 Principles of Toxicology

★3 (fi 6) (either term, 3-0-0). This course is geared to health care professionals who need to understand the basic principles of toxicology, to appreciate the physiological and/or biochemical mechanisms underlying target organ toxicity, and to be able to make initial qualitative risk assessments on the potential toxicity of agents. It will emphasize toxins in the work and home environment.

PHS 530 Data Analysis in Public Health Sciences

★3 (fi 6) (either term, 3-0-1). Introduction to data management and analysis. Statistical software for data capture, editing and management; as a basis for the design of research including sample size and power; as well as data presentation, including graphics; to culminate in intermediate level ability to apply a range of statistical analytical techniques. No previous computer experience is needed. Prerequisite: PHS 591 or consent of Instructor.

PHS 540 Population Health Research Methods: Qualitative and Participatory Approaches

★3 (fi 6) (first term, 3-0-0). This course will provide the student with a theoretical understanding of qualitative research design. A range of techniques will be discussed, and examples of each examined for strengths, weaknesses and appropriateness. The student will become thoroughly familiar with community-based health research methods through a review of reports, articles and research documents.

PHS 541 Population Health I: Determinants of Health

★3 (fi 6) (first term, 3-0-0). This course will introduce the student to the Health Fields Concept and Health Determinants as a conceptual base to describe health and disease in the Canadian population. A broad view is adopted as a framework for consideration of the many aspects of life in Canada which interact to produce health and ill health. The perspectives

of both the public and health professionals will be analysed. Programming needs in relation to the determinants of health will be addressed.

PHS 544 Population Health II: A Multicultural Perspective

★3 (fi 6) (second term, 3-0-0). This course is designed to introduce the student to some of the theoretical approaches that have been taken in the design of health care in Canada, with a special focus on Aboriginal, immigrant and refugee populations. The perspectives of both clients and health care professionals, and models for community-level programming are considered within the framework of ethnic diversity.

PHS 550 Introduction to Health Care Finance

★3 (fi 6) (either term, 3-0-0). Financial structure of the health care system, Introduction to managerial accounting with special emphasis on the management of health care agencies. Principles of costing. Multiproduct and case mix measures. Resource use decisions, budgeting and control, and pricing analysis for health care organizations.

PHS 560 Health Data and Information Management

★3 (fi 6) (either term, 3-0-0). Introduction to data base management systems; source of health data and information. An overview of health information systems, trends and issues. Health indicators and use of administrative health data for quality assurance and outcome oriented analyses; life table and survival analysis, forecasting health services needs. Prerequisite: an introductory statistics and practical skills in using spreadsheets (Lotus) and statistical package (SPSS/W).

PHS 570 Introduction to Health Care Economics

★3 (fi 6) (either term, 3-0-0). A survey of health economic theory and empirical studies, topics and areas covered include: (1) demand, supply, and utilization; (2) production and costs (3) resource allocation in health care labor markets; (4) selected facets of health care planning; (5) benefit cost analysis. The empirical studies examined in the course require an understanding of simple and multiple regression techniques.

PHS 590 Introduction to Epidemiology

★3 (fi 6) (first term, 3-0-0). An introduction to the principles and methods of epidemiology and their application. Topics will include; indices to describe and measure health status, design strategies, statistical association, clinical significance, causation, descriptive studies, case control studies, cohort studies, intervention studies, bias, and confounding screening.

PHS 591 Statistical Methods in Epidemiology

★3 (fi 6) (either term, 3-0-0). An introduction to elementary biostatistical methods used to analyze epidemiologic data. Topics will include person-years, incidence rates, prevalence rates, direct and indirect standardized, standardization mortality ratio, attributable risk, analysis of 2 x 2 tables, Fisher's exact test, odds ratio, Mantel-Haenszel methods, life tables, Kaplan-Meier methods. A knowledge of computers is not required. Prerequisite: Introductory statistics course or permission of Instructor.

PHS 592 Topics in Communicable and Chronic Diseases in Epidemiology

★3 (fi 6) (either term, 3-0-0). Epidemiology is introduced as a science basic to public health, preventive medicine, and clinical evaluation. The course focuses on populations or communities rather than on individual patients. The student will learn that epidemiologic methods: (1) provide the basis for understanding the causes, distribution and dynamics of disease and health in a population; (2) are basic to assessing the impact of prevention programs; and (3) are essential for evaluating interventions and new drugs, devices/technologies, and procedures/therapies in clinical trials. The student will explore trends for the four leading causes of mortality and morbidity in Canada, and three of the leading causes of death internationally. Prerequisite: A course in statistics in any area.

PHS 593 Issues in Injury Control

★3 (fi 6) (either term, 3-0-0). An introductory course that highlights injuries as a major and neglected public health problem. Leading causes of injuries, including motor vehicle, falls, fires, violence, drowning, occupational, and recreational will be addressed in informal lectures and class discussions. The biomechanics of injury and the structure of emergency medical systems will also be covered. Prevention strategies and evaluation of various interventions will be introduced. Prerequisite: consent of Instructor.

PHS 600 Health Policy Development

★3 (fi 6) (either term, 0-3s-0). An analysis of the principles underlying the analysis of health policy. Application of health policy principles to selected issues and problems in health policy.

PHS 603 Nursing Services Administration

★3 (fi 6) (second term, 3-0-0).

PHS 630 Health Care Research Methods

★3 (fi 6) (either term, 3-0-0). An overview of research needs in health and social services research. Advanced level statistical methods in health sciences; reliability and validity; instrument design and scaling; comparative and longitudinal designs; and internal and external validity. Prerequisite: PHS 560.

PHS 631 Seminar in Health Program Evaluation

★3 (*fi 6*) (either term, 3-0-0). An overview of current practice in health and social services program evaluation. Models for health and social program evaluation and issues. Emphasis on a practical but scientific and valid approach to improving the quality and efficiency of health and social programs. Prerequisite: PHS 630.

PHS 650 Health Finance

★3 (*fi 6*) (either term, 3-0-0). The structure of case-mix measures. Case-mix based hospital funding systems. Population-based health care funding. The analysis of management decisions in a case-mix environment.

PHS 660 Health System Planning and Policy Analysis

★3 (*fi 6*) (either term, 3-0-0). An overview of health planning and policy analysis; patient classification, case-mix and relative values in health care; hospital service population model and population based resource allocation; measurement of health needs and surveys; service queue and health system modelling. Prerequisite: PHS 560.

PHS 670 Health Care Economics

★3 (*fi 6*) (either term, 3-0-0). A detailed analysis of the use of economic tools to selected economic issues including health care funding policies, the introduction of user fees, and the introduction of managed care.

PHS 671 The Economic Evaluation of Health Care

★3 (*fi 6*) (either term, 3-0-0). The application of economic principles to the evaluation of health care practices. The use of various outcome measures. Cost effectiveness and cost benefit analysis.

PHS 690 Advanced Methods in Epidemiology

★3 (*fi 6*) (second term, 3-0-0). Epidemiologic methods related to specific study designs and general issues relating to the conduction of epidemiologic studies will be covered at an advanced level. Topics covered include questionnaire design and evaluation, life tables, record linkage, administrative data bases, small area analysis, ethics analysis strategies, survey design, sample size and power, and writing a research proposal. Practical and theoretical aspects will be explored.

PHS 691 Statistical Methods in Epidemiology II

★3 (*fi 6*) (either term, 3-0-0). Advanced methods used to analyze epidemiologic data with an emphasis on regression analysis; for case-control studies; conditional and unconditional logistic regression; for cohort studies; exponential and Weibull survival regression and the Cox proportional model. Students will be required to use statistical software for assignments. Prerequisite: PHS 591 or consent of Instructor.

PHS 693 Critical Appraisal of Health Science Literature in Epidemiology

★3 (*fi 6*) (second term, 0-3s-0).

PHS 694 Research Design and Data Analysis in Clinical Medicine

★3 (*fi 6*) (either term, 3-0-0). This course is intended to increase the skills of investigators in the design of clinical studies and in obtaining funding for these. The course will focus on developing a research proposal. Topics to be discussed include: literature searches, ethical considerations, study design, data collection and analysis, logistics and budgeting, and report writing and publication. This course is designed for physicians and other health professionals at the beginning of their research careers or for those who are changing from laboratory to clinical research. Prerequisite: An introductory statistics course.

PHS 695 Epidemiology of Injuries/Design and Evaluation of Injury Interventions

★3 (*fi 6*) (either term, 3-0-0). An advanced course focusing on the review of current epidemiologic knowledge of injuries relating to the leading causes of injury, morbidity, and mortality. Strategies for data acquisition and use in injury research will be introduced. Tools will be presented that will allow students to develop the practical skills needed to design, implement, and evaluate injury prevention programs. Prerequisite: PHS 593.

PHS 702 Project in Health Policy Development

★3 (*fi 6*) (either term, 0-3s-0).

PHS 709 Individual Directed Reading and Research in Health Services Administration

★3 (*fi 6*) (either term, 0-3s-0).

PHS 719 Individual Directed Reading and Research in Environmental Health

★3 (*fi 6*) (either term, 0-3s-0).

PHS 729 Individual Directed Reading and Research in Occupational Health

★3 (*fi 6*) (either term, 0-3s-0).

PHS 749 Individual Directed Reading and Research in Population Health

★3 (*fi 6*) (either term, (0-3s-0).

PHS 770 Project in Health Care Economics

★3 (*fi 6*) (either term, 0-3s-0).

PHS 791 Applied Data Analysis in Epidemiology

★3 (*fi 6*) (either term, 3-0-0). The objective of this course is to provide students in epidemiology with practical experience in analyzing epidemiologic data. Each course will be arranged between the instructor and student. The student will undertake the analysis of an existing data set after having established a research question, a working hypothesis, and an analytical strategy. The preferred final report will be a completed manuscript suitable for peer reviewed publication. Prerequisites: consent of Instructor, PHS 590, a basic statistics course, and PHS 591.

PHS 799 Individual Directed Reading and Research in Epidemiology

★3 (*fi 6*) (either term, 0-3s-0).

211.206 Radiology and Diagnostic Imaging

Department of Radiology and Diagnostic Imaging
Faculty of Medicine and Oral Health Sciences

Notes

- (1) Undergraduate training in radiology is included in ANAT 411; MED 422, 423, 431; and NEURO 421.
- (2) See also Oncological Radiology listing.

211.206.1 Undergraduate Courses**RADDI 446 Student Internship**

★1.5 (*fi 3*) (full session, 2 weeks). Student Internship for students in Phase III, MD program only.

211.206.2 Graduate Courses**RADDI 511 Physics of Diagnostic Imaging—Fundamentals**

★3 (*fi 6*) (full session, 2-0-1). This course is divided into two main sections:

- (1) Basic Radiation Physics which deals with nuclear and atomic structure using the Bohr model; Radiation Dose, Risk and Safety from low-level ionizing radiation to Diagnostic Radiology, Radiobiology.

- (2) General Radiography: production and clinical use of X-rays; the radiographic image and image parameters; patient radiation/imaging concepts.

There will be also a lab component where the student will spend an average of one hour per week in a diagnostic procedure room completing specified imaging tasks/lessons. These labs will not be held at specific times, but will be arranged individually for each student. This course will be offered in alternate years to RADDI 512. Prerequisite or corequisite: PHYS 475/477 or consent of Department.

RADDI 512 Physics of Diagnostic Imaging—Imaging Modalities

★3 (*fi 6*) (full session, 2-0-0). This course will build on the curriculum presented in RADDI 511 and will discuss in detail the physics involved in the following imaging modalities: Fluoroscopy, Conventional Tomography, Digital Techniques (DSA), Computed Tomography (CT), Mammography, Nuclear Medicine, Ultrasound, Magnetic Resonance Imaging (MRI). This course will be offered in alternate years to RADDI 511. Prerequisites or corequisites: RADDI 511, PHYS 475/477 or consent of Department.

RADDI 600 Special Topics in Radiology Research

★2 (*fi 4*) (second term, 0-2s-0). A seminar course for advanced students covering selected topics from the current literature in the fields of medical imaging, radiological physics, radiation biology and radiation biophysics.

211.207 Recreation and Leisure Studies

Faculty of Physical Education and Recreation

Notes

- (1) See also INT D 451 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.
- (2) Priority will be given to recreation students in all recreation courses that are required for the BA (Recreation Administration) degree program.
- (3) All out-of-Faculty students are recommended to complete RLS 100 in order to take any other recreation course.
- (4) Where an appropriate background can be demonstrated, RLS 100 and other prerequisites may be waived, with the consent of the Faculty.

The following table lists renumbered courses effective 1995/96:

Old	New	Old	New
RLS 120	RLS 100	RLS 330	RLS 230
RLS 320	RLS 220	RLS 332	RLS 232
RLS 321	PERLS 204	RLS 401	RLS 100
RLS 323	RLS 223	RLS 431	RLS 335
RLS 324	RLS 224	RLS 432	PERLS 207
RLS 325	RLS 225	RLS 451	RLS 452

211.207.1 Undergraduate Courses

RLS 100 Leisure in Canadian Life

★3 (fi 6) (either term, 3-0-0). Examination of the nature, characteristics, and functions of leisure in modern Canada. Review of relationships between leisure and time, play, work, family, education, ethnicity, gender, and environment. Discussion of ideas about conventional leisure, serious leisure, and deviant leisure. Overview of the structure of the Canadian recreation and tourism delivery systems.

RLS 121 Methods and Materials for Recreation Instructors

★3 (fi 6) (either term, 3-0-2). Introduction to organizing settings, activities, participants and leadership to produce recreation experiences. Emphasis upon practical skills in organizing and conducting programs.

RLS 220 Introduction to Philosophies of Leisure

★3 (fi 6) (either term, 3-0-0). Examination of the historical evolution of selected philosophies of leisure in Western civilization; their relationships to ideas about work, play, and quality of life; their implications for the recreation profession in Canada; and their impact upon future development of Canadian society.

RLS 223 Leisure and Human Behavior

★3 (fi 6) (either term, 3-0-0). A social psychological examination of leisure experiences and leisure behaviors. Focus is on the individual in dynamic interactions with other individuals, groups or cultures within a leisure context.

RLS 224 The Political Economy of Leisure

★3 (fi 6) (either term, 3-0-0). An examination of the roles of politics and of the economy in structuring the nature and distribution of leisure opportunities in a society such as Canada. The course will analyse relationships between the democratic political process and the dynamics of wealth creation, and will consider the implications of these for leisure provision in a mixed economy.

RLS 225 Principles and Processes in Planning for Leisure

★3 (fi 6) (either term, 3-0-0). Examination of the planning process with particular reference to the roles of recreation professionals, planners, and citizens in planning for leisure opportunities.

RLS 230 Recreation and Community Development

★3 (fi 6) (either term, 3-0-0). Analysis of the social and political processes through which groups and individuals work to mobilize resources and establish relationships to fulfil community needs.

RLS 232 Program Planning, Marketing, and Implementation

★3 (fi 6) (either term, 3-0-0). An examination of the general principles involved in designing, marketing, implementing and evaluating recreation and leisure programs. Emphasis will be placed upon the utilization of systematic program planning and marketing approaches to matching opportunities to client needs and consumer demands. Prerequisite: RLS 225 or consent of Faculty.

RLS 331 Leisure Education

★3 (fi 6) (either term, 3-0-0). A total development process through which individuals develop an understanding of self, leisure, and the relationship of leisure to their own lifestyles and the fabric of society. Examination of determining the place and significance leisure has in one's life.

RLS 335 Volunteers and Voluntary Organizations in Recreation

★3 (fi 6) (either term, 3-0-0). An examination of (1) The nature of volunteer involvement in the delivery of recreation and (2) The structure and processes of the voluntary organizations that make up the recreation delivery system.

RLS 441 Practicum Seminar

★3 (fi 6) (either term, 0-3s-0). A seminar, taken concurrently with RLS 449, which seeks to relate the professional work experience to the academic and professional preparation elements within the BA program.

RLS 444 Issues in Recreation Practice

★3 (fi 6) (either term, 0-3s-0). A seminar for graduating students in Recreation and Leisure Studies centring upon issues relevant to the beginning professional. The seminar seeks to provide a synthesis appropriate to the final-year student. Note: Must be taken in the final term of the student's program.

RLS 449 Professional Practicum

★12 (fi 24) (either term, 14 weeks). Fourteen weeks of professional experience in full-time placement. Must be taken concurrently with RLS 441.

RLS 452 Parks Planning, Management, and Maintenance

★3 (fi 6) (either term, 3-0-1). An examination of parks as recreation environments together with an analysis of the relationship between park planning, design and subsequent management and maintenance in terms of meeting the requirements of the park agency, the park user and the resource base. Attention is focused on both the common themes in park management and the specific problems of parks operation and maintenance associated with particular types of parks contained within a comprehensive

park system. This course requires the payment of additional miscellaneous fees. See §22.2.3 for details. Prerequisites: RLS 100; 225; 462 or PERLS 452.

RLS 462 Outdoor Recreation Resources

★3 (fi 6) (either term, 3-0-1). An examination of the principles of resource allocation and land use in a recreational context together with an analysis of the patterns and trends in outdoor recreation and their impact on the resource base. Particular attention is given to evaluating a variety of environmental settings in terms of their suitability for outdoor recreation and the types of recreational experiences associated with them. Prerequisites: RLS 100; RLS 225.

RLS 463 Leisure and Tourism

★3 (fi 6) (either term, 3-0-1). An examination of the tourism system, its nature, history, and organization with particular emphasis on the Canadian scene. The underlying dynamics of the cultural, social, economic, and psychological aspects of tourism and travel will be discussed. The natural, man made, and cultural environment in which travel occurs, and the resulting impacts of travel are covered. This course requires the payment of additional miscellaneous fees. See §22.2.3 for details.

RLS 464 Commercial Recreation

★3 (fi 6) (either term, 3-0-0). This course will examine the provision of leisure-related products or services by private enterprise. The course is also intended to provide insight into the applicability and implications of entrepreneurial practices in the public and non-profit sectors of the leisure delivery system. Prerequisite: RLS 232 or PERLS 350.

RLS 472 Sport and the Community

★3 (fi 6) (either term, 3-0-0). Emphasis upon the values and policies underlying articulated community, provincial and national sports development programs, with a special concern for extending the playing life span of sports participants. Examination of the social, psychological and cultural roles of sports in society. Prerequisites: RLS 100; RLS 220; PERLS 204. A minimum of two basic sociology courses is recommended.

RLS 473 Principles and Processes in Therapeutic Recreation

★3 (fi 6) (either term, 3-0-0). The therapeutic recreation programming process is emphasized. Primary focus is on specialized programs in therapeutic recreation settings. The relationship between therapeutic recreation services and recreation and special populations is addressed. Therapeutic recreation service methods, such as systems approach programming, activity analysis, leisure assessment techniques and instruments, as well as treatment approaches and facilitation strategies employed in therapeutic recreation settings are presented. Professional issues such as client rights, standards of practice, and credentialing will also be addressed. Prerequisite: PERLS 207 or consent of Instructor for out-of-Faculty students.

RLS 490 Selected Topics

★3 (fi 6) (variable, variable). Topics of current interest in leisure and recreation. Prerequisite: consent of course coordinator. Restricted to third and fourth year Recreation students.

RLS 499 Directed Study

★3 (fi 6) (variable, variable). Individual or group study on a theme or issue in recreation, carried out under the direction of a member of the academic staff. Restricted to fourth year Recreation students.

211.207.2 Graduate Courses

RLS 510 Concepts and Theories of Leisure and Recreation

★3 (fi 6) (first term, 3-0-0).

RLS 531 Socio-Psychological Dimensions of Recreation Involvement

★3 (fi 6) (second term, 3-0-0).

RLS 541 Outdoor Recreation Resources: Planning and Management

★3 (fi 6) (either term, 3-0-0).

RLS 551 Public Recreation Services Policy and Planning

★3 (fi 6) (second term, 3-0-0).

211.208 Rehabilitation Medicine

Faculty of Rehabilitation Medicine

Note: Normally all REHAB courses are restricted to students in Rehabilitation Medicine. Students from other faculties require consent of the instructor offering the course.

211.208.1 Undergraduate Courses

REHAB 282 Gross Anatomy I

★3 (fi 6) (either term, 3-0-4). Lectures and dissections on the upper limb, supplemented by classes in functional anatomy in the area.

REHAB 283 Gross Anatomy II

★3 (*fi 6*) (either term, 3-0-4). Lectures and dissections on the lower limb and trunk, supplemented by classes in functional anatomy of the area. Prerequisite: REHAB 282.

REHAB 285 Histopathology

★3 (*fi 6*) (either term, 2-1L-0). Structure and function of normal body tissues and their responses to pathological change. Prerequisite: PHYSL 161.

REHAB 290 Communication in Rehabilitation

★3 (*fi 6*) (either term, 0-4s-0). Theory and practice in communication and learning for the rehabilitation practitioner. Prerequisite: OCCTH 335.

REHAB 295 Rehabilitation Principles

★3 (*fi 6*) (either term, 2-0-4). The therapeutic process including basic assessment and treatment skills common to the rehabilitation practitioner. Prerequisites: REHAB 282, 283.

REHAB 351 Neuroanatomy

★3 (*fi 6*) (either term, 3-0-0). A detailed study of the structure and function of the human nervous system. Prerequisite: REHAB 283. Corequisite: PHYSL 161.

REHAB 352 Work Physiology for Rehabilitation Therapists

★3 (*fi 6*) (either term, 3-0-2/2). The acute and chronic physiological response to pathology and levels of physical activity in individuals seen by the rehabilitation team and their treatment. Prerequisite: PHSYL 161 or equivalent. Note: Labs of two hours each will be offered to two groups of students on alternate weeks. All Occupational Therapy students obtaining Advance Standing or Advance Placement must attend lab section.

REHAB 353 Neuroscience for Rehabilitation

★3 (*fi 6*) (either term, 3-0-0). The mechanisms of neural activity and signalling, the functional aspects and integrative actions of sensory and motor systems and the neuroscience of higher cognitive functions will be covered. Emphasis will be on integration and function. Corequisite: REHAB 351.

REHAB 354 Clinical Neurology

★3 (*fi 6*) (either term, 3-0-0). An overview of neurological conditions which are referred to rehabilitation therapists for treatment. Corequisite: REHAB 353.

REHAB 462 Research in Rehabilitation

★3 (*fi 6*) (either term, 3-0-0). The theory and principles of scientific method and research design procedures, and their application to rehabilitation in laboratory and clinical settings.

REHAB 463 Aging and Rehabilitation

★3 (*fi 6*) (either term, 0-3s-0). A seminar course addressing topics on age-related changes, pathology, health promotion, and the continuum of health and social services as they relate to rehabilitation of older adults.

REHAB 476 Ergonomics

★3 (*fi 6*) (either term, 2-0-1). Ergonomics from an industrial and health care perspective.

211.208.2 Graduate Courses**REHAB 500 Research Seminar**

★3 (*fi 6*) (either term, 0-3s-0). The examination, evaluation and preparation of the research report. Students will discuss critically various aspects including the selection of the problem, the review of the literature, the research hypothesis, the collection and analysis of the data, and the significance of the research.

REHAB 510 Assistive Technologies in Rehabilitation

★3 (*fi 6*) (either term, 0-2S-1). A study of assistive technologies used to ameliorate the problems of persons who have disabilities. The integration of assistive technologies into rehabilitation practice is discussed. Assistive technologies for augmentative communication, computer access, sensory (auditory, visual and tactile) assistance, seating and positioning, mobility and manipulation are included. Case studies, interactive demonstrations and review of current literature are included. Prerequisites: A background in assistive technologies such as provided by OCCTH 312, PHER 486 or 490, or SPA 523 or equivalent is recommended. For students without this background, a set of self-study competency modules must be completed during the first few weeks of the term.

REHAB 599 Directed Individual Reading and Research

★3 (*fi 6*) (either term, 0-3s-0). May be repeated. Open to graduate students in Master's and PhD degree programs in the Faculty of Rehabilitation Medicine or any of the other health sciences Faculties who wish to pursue individual reading and research studies with an academic staff member within the Faculty of Rehabilitation Medicine. Prerequisites: consent of student's graduate supervisor and instructor of record.

REHAB 600 Theory and Issues in Rehabilitation Science

★3 (*fi 6*) (either term, 0-3s-0). The course will provide an orientation to the theoretical base of rehabilitation science and its historical development.

Students will critically examine existing theory and compare the theoretical base of rehabilitation science to other health related fields. Methods of theory development will be addressed, as well as a variety of ways of testing theoretical approaches. Students will study the field of rehabilitation science through selected readings, discussion, and research seminars.

REHAB 601 Research Design in Rehabilitation Science

★3 (*fi 6*) (either term, 0-3s-0). An orientation to the unique features of rehabilitation science that impact on research methodology, design, ethical issues, measurement, and statistical analyses. Issues such as chronicity of disease, low incidence of specific conditions resulting in small sample sizes, small increments of change over long periods of time, ordinal data, wide variability in patient characteristics, group data versus single subject data, etc. will be studied in terms of appropriate research design, measurement, and analyses.

REHAB 602 Advanced Seminars in Theory Based Interventions

★3 (*fi 6*) (either term, 0-3s-0). A seminar course providing an in-depth discussion of the critical role of theory and hypothesis testing in the development of intervention techniques in rehabilitation. New, innovative intervention strategies will be developed based on rehabilitation science theory.

REHAB 899 Directed Individual Research

★3 (*fi 6*) (either term, 0-3s-0). May be repeated once. Restricted to students in the PhD program in Rehabilitation Science who did not write a master's thesis and for whom an in-lieu-of-thesis experience is required in the plan of study. Prerequisite: Recommendation of PhD supervisor.

211.209 Religious Studies

(Division of Comparative Studies in Literature, Film, and Religion)
Department of Modern Languages and Comparative Studies
Faculty of Arts

Note: Students who have completed RELIG 100 may substitute that course for RELIG 101 for prerequisite purposes.

§ RELIG 101 Introduction to the Religions of the World

★6 (*fi 12*) (full session, 3-0-0). An introduction to the major religious traditions of the past and present.

§ RELIG 106 Introduction to the Study of Religion

★3 (*fi 6*) (either term, 3-0-0). An introduction to the discipline of Religious Studies.

§ RELIG 200 The Study of Religion

★3 (*fi 6*) (either term, 3-0-0). An introduction to the discipline of Religious Studies. Not open to students who have successfully completed RELIG 106.

§ RELIG 201 Introduction to Biblical Hebrew

★6 (*fi 12*) (full session, 3-0-2). This is an introduction to Hebrew alphabet, grammar, vocabulary, and syntax. The goal is to enable the student to read parts of the Hebrew Bible/Old Testament. The course serves also as foundation for the study of Mishnaic, Medieval, and Modern Hebrew. Designed for students with no previous knowledge of Hebrew. Formerly HEB 100.

§ RELIG 202 Introduction to Old Testament/Hebrew Bible

★3 (*fi 6*) (either term, 3-0-0). An introduction to the critical study of the Old Testament/Hebrew Bible. Note: Not open to students with credit in RELIG 231.

§ RELIG 205 Introduction to Judaism

★3 (*fi 6*) (either term, 3-0-0). An introduction to the varied world of Judaism: its ways of life, beliefs, history and thought. Note: Not open to students with credit in RELIG 235.

§ RELIG 210 Introduction to the Traditions of Christianity

★3 (*fi 6*) (either term, 3-0-0). An exploration of the various strands of Christian thought, development of the churches, and religious experience throughout history.

§ RELIG 211 Introduction to the New Testament

★3 (*fi 6*) (either term, 3-0-0). An introduction to the social setting and critical study of the New Testament, the shaping of the traditions concerning the life and teaching of Jesus of Nazareth, and the formation of the early church.

§ RELIG 220 Introducing Islam, From Prophetic Origins to World Tradition

★3 (*fi 6*) (either term, 3-0-0). A survey of the main elements of the Muslim tradition and their role in the formation of Islamic culture. Note: Not open to students with credit in RELIG 221.

§ RELIG 230 Introduction to Hinduism

★3 (*fi 6*) (either term, 3-0-0). A study of the major traditions of classical

Hinduism, and of the religious thinking and experience formed through these traditions. Note: Not open to students with credit in RELIG 208 or 301.

S RELIG 240 Introduction to Buddhism

★3 (fi 6) (either term, 3-0-0). A study of the emergence of Buddhism as a religion, its basic ideas, spirituality, and literature.

S RELIG 244 Buddhism and the Modern World

★3 (fi 6) (either term, 3-0-0). An examination of such issues as Buddhism in the West, the transformation of Buddhism under the challenge of colonialism and of modernity; contemporary Buddhist thinkers. Prerequisite: RELIG 101, or 106, or 240, or consent of Department.

S RELIG 252 Introduction to Confucianism

★3 (fi 6) (either term, 3-0-0). An historical and thematic study of the Confucian tradition in China, Korea, and Japan. Closer attention will be given to the Confucian texts in translation.

S RELIG 254 Introduction to Taoism

★3 (fi 6) (either term, 3-0-0). A study of the history and structure of Taoism, and of this influence on the life, thought, and culture of the Chinese people.

S RELIG 270 Contemporary Issues in Religion

★3 (fi 6) (either term, 3-0-0).

S RELIG 272 Concepts of the Divine

★3 (fi 6) (either term, 3-0-0). A discussion of the diverse images and concepts of the divine, and their critical and comparative analysis. Note: Not open to students with credit in RELIG 260.

S RELIG 273 Foundational Texts

★3 (fi 6) (either term, 3-0-0). Introduction to religious and literary texts which are the foundation of different cultures. The syllabus of the course will vary from year to year and reflect religious, literary, and cultural perspectives; the modular teaching units will include selected texts in translation. Prerequisites: C LIT 100 or ENGL 101 and RELIG 101 or 106, or consent of the Department.

S RELIG 274 Witchcraft and the Occult

★3 (fi 6) (either term, 3-0-0). A survey of the occult traditions of the past, and of their role in the formation of modern paganism; the witch craze and its modern adaptation.

S RELIG 277 Women and World Religions

★3 (fi 6) (either term, 3-0-0). Attitudes towards women in selected world religious traditions, specifically with respect to their participation in ritual and religious leadership.

S RELIG 279 Religion and Literature

★3 (fi 6) (either term, 3-0-0). A discussion of selected works of literature that express and articulate religious experiences. The range of selected works, varying from year to year, may contain specimens from the classical ages to the present, and from Asian to North American cultures (e.g. Dostojewski, H Hesse, U Le Guin).

S RELIG 285 Religions of Western Canada

★3 (fi 6) (either term, 3-0-0). A survey of the history, structure, and socio-cultural impact of religious groups in Western Canada.

S RELIG 301 Readings in Hebrew Literature

★3 (fi 6) (full session, 3-0-0). Readings in Hebrew literature of religious character. Prerequisite: RELIG 201 or consent of Department. Note: Only one of RELIG 301 or C LIT 490 can be taken for credit.

S RELIG 302 Studies in the Old Testament/Hebrew Bible

★3 (fi 6) (either term, 3-0-0). An intermediate level study of the Old Testament/Hebrew Bible, focusing on a variety of genres and critical approaches.

S RELIG 307 Jewish Mystical Tradition

★3 (fi 6) (either term, 3-0-0). Studies in Jewish mysticism from the earliest period to modern times. Note: Not open to students with credit in RELIG 340.

S RELIG 312 Introduction to Eastern Orthodox Christianity

★3 (fi 6) (either term, 3-0-0). Development of the Orthodox churches, their history and thought, responses to the challenge of the presence.

S RELIG 313 The Early Christian Community

★3 (fi 6) (either term, 3-0-0). A study of the communities that created the New Testament in their social and literary context. Not open to students who have successfully completed RELIG 310 or 311.

S RELIG 315 Christianity in the Age of the Reformation

★3 (fi 6) (either term, 3-0-0). A study of the main thinkers of the Reformation. Prerequisite: RELIG 101, or 106, or 210, or consent of Department.

S RELIG 320 Qur'anic Studies

★3 (fi 6) (either term, 3-0-0). An examination of the style, structure, and doctrine of the Qur'an in the light of the Western critical evaluation of the text. Note: Not open to students with credit in RELIG 327.

S RELIG 322 Contemporary Movements in Islam

★3 (fi 6) (either term, 3-0-0). Recent developments in the philosophical, social, and religious life of Islam throughout the world. Note: Not open to students with credit in RELIG 328.

S RELIG 331 Devotional Hinduism (bhakti)

★3 (fi 6) (either term, 3-0-0). A study of the various strands of devotional and mystical Hinduism (such as Vishnuism, Shivaism, Shaktism). Prerequisite: RELIG 101, or 106, or 230, or consent of Department.

S RELIG 337 Contemporary Hinduism

★3 (fi 6) (either term, 3-0-0). A critical examination of the responses of Hinduism to the challenges of colonialism, modernity, and religious pluralism, and of its ensuant transformation. Prerequisite: RELIG 101, or 106, or 230, or consent of Department.

S RELIG 343 Zen Buddhism

★3 (fi 6) (either term, 3-0-0). A study of the history, nature, and meaning of Zen Buddhism, and its influences on various religious-aesthetic expressions of Japanese culture. Note: Not open to students with credit in RELIG 313.

S RELIG 344 Buddhism in Tibet and in the Himalayas

★3 (fi 6) (either term, 3-0-0). A study of the dissemination of Buddhism in the Himalayas and in Tibet, its incorporation of local beliefs, the formation of monasticism, religious thought and literature. Prerequisite: RELIG 101, or 106, or 240, or 342, or consent of Department.

S RELIG 350 Japanese Religion

★3 (fi 6) (either term, 3-0-0). An historical and thematic analysis of the Japanese religious experience from prehistoric times down to the present. The course is designed to deal with Japanese religion in a unified whole comprising folk religion, Shinto, Buddhism, and Confucianism.

S RELIG 375 Thanatology

★3 (fi 6) (either term, 3-0-0). A consideration of death and dying in the great religious traditions, with particular emphasis on the recent literature.

S RELIG 376 Comparative Studies in Religious Mythology

★3 (fi 6) (either term, 3-0-0). An introduction to the modern study of religious mythology in several cultures. Focus on some major mythic themes such as creation, origin of death, etc. Note: Not open to students with credit in RELIG 365.

S RELIG 377 Images of the Feminine in the Religious Traditions

★3 (fi 6) (either term, 3-0-0). An examination of the patterns and paradigms that formed and informed the image of the feminine in the religious traditions of the East and the West, both past and present (i.e. the goddess, the ultimate, and the roles of saintly women). Prerequisite: RELIG 101, or 106, or 277, or consent of Department.

S RELIG 378 Shamanism

★3 (fi 6) (either term, 3-0-0). A study of shamanism in the history of religions with special attention to myths, rituals, symbols, and the ecstatic experience. Note: Not open to students with credit in RELIG 366.

S RELIG 379 The Religions of Aboriginal North-Americans

★3 (fi 6) (either term, 3-0-0). A critical analysis of native North-American beliefs of the past and present. Note: Not open to students with credit in RELIG 280.

S RELIG 380 Identity and Selfhood in World Religions

★3 (fi 6) (either term, 3-0-0). A critical and comparative analysis of the expressions of self-consciousness as developed in the major religions, and a review of various theories used to explain them. Prerequisite: RELIG 101, or 106, or 270, or 272, or consent of Department.

S RELIG 402 Textual Studies in the Old Testament/Hebrew Bible

★3 (fi 6) (either term, 3-0-0). Detailed studies of the individual books of the Old Testament/Hebrew Bible and related themes. Prerequisite: One course in the Old Testament/Hebrew Bible or consent of Department. Note: Not open to students with credit in RELIG 430 and only one of RELIG 402/404 or C LIT 518 can be taken for credit.

S RELIG 404 Advanced Studies in Hebrew Bible

★3 (fi 6) (either term, 3-0-0). Prerequisite: One course in Old Testament/Hebrew Bible or consent of Department. Note: Only one of RELIG 402/404 or C LIT 518 can be taken for credit.

S RELIG 405 Advanced Studies in Judaism

★3 (fi 6) (either term, 3-0-0). Prerequisite: One course in Old Testament/Hebrew Bible or consent of Department.

S RELIG 413 Contemporary Issues of Christianity

★3 (fi 6) (either term, 3-0-0). A discussion of the Christian responses to such issues as atheism, scepticism, changing morals, abortion, bio-ethics, celibacy, ordination of women, etc. Prerequisite: RELIG 101, or 106, or 210, or consent of Department.

S RELIG 415 Advanced Studies in Christianity

★3 (fi 6) (either term, 3-0-0). Prerequisite: RELIG 101, or 106, or 210, or consent of Department.

S RELIG 422 Advanced Studies in Islam

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: RELIG 101, or 220, or consent of Department.

S RELIG 437 Advanced Studies in Hinduism

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: RELIG 101, or 106, or 230, or consent of Department.

S RELIG 440 Tantric Buddhism

★3 (*fi 6*) (either term, 3-0-0). An historical and thematic examination of the various traditions of tantric Buddhism in India and Tibet; a reading of some of the tantric texts in English translation. Prerequisite: RELIG 101, or 106, or 240, or 342, or 344, or consent of Department.

S RELIG 442 Advanced Studies in Buddhism

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: RELIG 101, or 106, or 240, or 342, or 344, or consent of Department.

S RELIG 450 Advanced Studies in East Asian Religions

★3 (*fi 6*) (either term, 3-0-0). Prerequisite: RELIG 252, or 254, or 342, or 343, or 350, or consent of Department.

S RELIG 470 Scriptures and Oral Texts

★3 (*fi 6*) (either term, 3-0-0). A study of the religious phenomenon of scripture (written and oral), its use in structuring religious communities, and an examination of some of the scriptures themselves. Prerequisite: RELIG 101, or 106, or consent of Department.

S RELIG 472 Mysticism: East and West

★3 (*fi 6*) (either term, 3-0-0). An examination of the expressions of mystical experiences in various religions, and an exploration of what constitutes these experiences to develop an informed and critical sensitivity towards the claims of the mystics.

S RELIG 474 Religion and Psychoanalysis

★3 (*fi 6*) (either term, 3-0-0). A study of the impact of psychoanalysis on religious studies, with special reference to feminist psychoanalysis (e.g. Kristeva, Irigaray, Cixous) and the Kleinian school. Material to be studied would include both the classic texts of religious traditions and the phenomenology of actual religious communities. Prerequisite: ★6 at the 300-level in any relevant program, as approved by Department.

S RELIG 475 Methodology in Religious Studies

★3 (*fi 6*) (either term, 3-0-0). The study of works by Malinowski, Eliade, Jung, WC Smith, etc. representing different approaches to the study of human religiousness. Prerequisite: Open to Religious Studies Major and Honor students who have completed at least one 300-level course, or consent of Department.

S RELIG 477 Feminist Theory and the Study of Religions

★3 (*fi 6*) (either term, 3-0-0). An inquiry into the various theoretical frameworks developed by women and feminist scholars to examine the impact of gender role definitions on the individual religions. At the centre of such an inquiry is the question of the presence/absence of woman. Scholars who contributed to this discourse in a significant way will be studied through a representative selection of their writings. Prerequisite: RELIG 106, or 277, or 476, or consent of Department.

RELIG 480 Directed Reading in Religious Studies

★3 (*fi 6*) (either term, 3-0-0) or ★6 (*fi 12*) (full session, 3-0-0). Prerequisite: consent of Department.

RELIG 501 Honors Essay in Religious Studies

★6 (*fi 12*) (full session, 0-3s-0). Preparation of the Honors essay.

S RELIG 510 Selected Topics in Religious Studies

★3 (*fi 6*) (either term, 3-0-0).

211.210 Reserved

211.211 Renewable Resources

Department of Renewal Resources
Faculty of Agriculture, Forestry and Home Economics

Note: See also Agricultural Economics, Animal Science, Environmental and Conservation Sciences, Forest Economics, Forest Engineering, Forest Science, Plant Science, Soil Science, and Interdisciplinary Undergraduate Course listings for related courses.

The following tables lists renumbered courses effective 1996/97:

Old	New	Old	New
ENCS 485	REN R 485	FOR 490	REN R 490
FOR 110	REN R 110	FOR 601	REN R 601
FOR 120	REN R 120	FOR 602	REN R 602
FOR 321	REN R 321	LDRES 410	REN R 410
FOR 420	REN R 420	LDRES 510	REN R 510
FOR 421	REN R 421	LDRES 590	REN R 590
FOR 430	REN R 430	SOILS 425	REN R 425

Old	New	Old	New
FOR 439	REN R 439	SOILS 545	REN R 545
FOR 475	REN R 475		

211.211.1 Undergraduate Courses**S REN R 110 Natural Resource Measurement**

★3 (*fi 6*) (second term, 3-0-3). Designed to introduce students to the principles and practices of measuring a variety of wildland resources including: timber, water, range, wildlife, and recreation.

S REN R 120 Woody Plants I

★3 (*fi 6*) (first term, 3-0-4). Identification, classification, distribution, habitat, and basic ecology of trees and important shrubs of Alberta and Canada; brief consideration of values and management, dendrochronology; field trips. This course requires the payment of additional miscellaneous fees. See §22.2.3 for details.

S REN R 220 Woody Plants II

★3 (*fi 6*) (first term, 3-0-3). Developmental morphology and anatomy of woody plants; cell and tissue structure; biology of reproduction with the elements of genetics; relationship between form, function, and environment.

S REN R 321 Tree Physiology

★3 (*fi 6*) (second term, 3-0-3). Study of physiological processes in trees. Emphasis on primary and secondary metabolism, gas exchange, transport processes, growth, and environmental effects. Prerequisites: BOT 199 or REN R 220; or BIOL 107 and BIOL 108.

S REN R 401 Special Topics in Renewable Resources

★3 (*fi 6*) (either term, 3-0-0). Studies in the multiple aspects of renewable resources, for example wildlife, recreation, watershed and range. Prerequisite: consent of Instructor.

S REN R 410 Principles of Remote Sensing

★3 (*fi 6*) (first term, 3-0-3). Basic principles of spectral reflectance and emittance, and atmospheric effects as they apply to the acquisition and analysis of imagery; application to renewable resource inventory and management and environmental impact assessment. Prerequisite: A 300-level course in at least one of the natural sciences.

S REN R 420 Advanced Dendrology

★3 (*fi 6*) (second term, 3-0-0). Studies of woody plant vegetation of the world, especially temperate and boreal regions; evolution of, and genetic relationships among, tree and shrub genera and species; historical development of woody plant vegetation; optional field trip. Prerequisite: consent of Instructor. Offered alternate years.

S REN R 421 Advanced Tree Physiology

★3 (*fi 6*) (first term, 3-0-0). Stress physiology of trees and tree seedlings; mechanisms of stress action and stress resistance; effects of silvicultural practices on growth and physiology; planting stress. Prerequisite: consent of Instructor. Offered in alternate years.

S REN R 425 Land Evaluation

★3 (*fi 6*) (second term, 3-0-3). Principles and techniques of land evaluation including land classification based on inherent characteristics, (soils, landform, ecological units), present land use/land cover, and land capabilities for alternate land use; assessment of land quality based on specific landscape characteristics using spatial and land information systems; sources of digital and hard copy land information. Prerequisites: A 300-level earth science course and consent of Instructor.

S REN R 426 Geographical Information Systems Applications in Renewable Resources

★3 (*fi 6*) (second term, 0-0-3) A combination of computer lab instruction and directed studies in applied GIS. The focus of the course is an individual project of the student's choosing. Prerequisite: GEOG 328 or REN R 425.

S REN R 430 Forest Resources Management

★3 (*fi 6*) (either term, 3-0-3). Analytical techniques used by renewable resource managers for management of wildland areas for single or multiple outputs; problems of defining optimality when confronted with competing uses and multiple outputs. Prerequisites: FOREC 345 required; FOR 210 strongly recommended.

S REN R 439 Forest Management Planning

★3 (*fi 6*) (first term, 0-3s-0). Seminar presentations and discussions by students of contemporary forest management planning. Prerequisite: FOR 430.

S REN R 468 Management and Conservation of Genetic Resources

★3 (*fi 6*) (second term, 3-0-0). Principles and issues in conserving and managing plant and animal genetic resources from the global perspective. Lectures will be supplemented with case studies. Students are assigned tasks, individually and in groups. Prerequisite: consent of Instructor.

REN R 475 Vegetative Reclamation, Revegetation and Restoration

★3 (*fi 6*) (second term, 3-0-3). Principles and practices of vegetative

reclamation; revegetation and restoration of disturbed lands; ecology and plant succession of these lands; native vs introduced plant communities in reclamation. Prerequisites: ★60 at the university level, with an 'introductory course' in plant ecology; knowledge of plant taxonomy desirable.

D REN R 477 Wildlife-Human Activities: Conflicts, Assessment and Mitigation

★3 (*fi 6*) (second term, 3-0-0). Behavioral and ecological responses of wildlife species to human activities, including forestry operations, oil and gas exploration, recreational developments and agriculture-related activities. Topics include harassment and disturbance, habitat loss, habituation, assessment of impacts and mitigation, and cumulative impacts. Identification of ecological and social issues associated with human activities. Prerequisite: third- or fourth-year standing.

S REN R 485 Land Reclamation

★3 (*fi 6*) (first term, 3-3s-0). The principles and practices of land reclamation; types of land disturbances and regulations governing them; illustrated with case studies. Prerequisite: ★60 at the university level with at least ★6 in biophysical courses. [Renewable Resources]

S REN R 490 Forest Tree Improvement

★3 (*fi 6*) (second term, 3-0-3). Application of principles of inheritance as related to trees and in the management of forested lands; natural variation and ecological differentiation of woody plant populations; reproductive biology; methods of tree improvement. Prerequisite: consent of Instructor.

211.211.2 Graduate Courses

S REN R 510 Advanced Remote Sensing

★3 (*fi 6*) (second term, 3-0-3). A quantitative approach to remote sensing for land resource studies; specialized techniques for hard copy and digital image analyses; remote sensing and soil-vegetation-landscape models; literature review and laboratory project on a selected problem. Prerequisite: REN R 410.

S REN R 545 Small Watershed Hydrology

★3 (*fi 6*) (second term, 0-3s-0). An examination of land use and management practices affecting water quantity and quality in rural watersheds. Consideration of snowmelt hydrology. Current hydrologic models and their treatment of infiltration, runoff, and evapotranspiration. Model calibration and validation with field data. Prerequisite: A course in hydrology or water resources. Facility with computers an asset. Offered in alternate years.

S REN R 575 Advanced Vegetative Reclamation

★3 (*fi 6*) (first term, 0-3s-0). A lecture/seminar course addressing current topics in vegetative reclamation, including plant response to disturbed ecosystems, succession in disturbed ecosystems, reclamation properties of vegetation, use of vegetation in bioengineering practices. Prerequisite: consent of Instructor. Offered in alternate years.

S REN R 590 Research Methods for Land Resource Science

★3 (*fi 6*) (first term, 3-0-3). Fundamentals of experimental design, data analysis, and sampling techniques for natural and disturbed soils. Lectures emphasize classical- and geo-statistical methods. Labs provide opportunity to learn statistical software packages. Prerequisite: Graduate students or consent of Instructor.

S REN R 600 Graduate Research Seminar

★2 (*fi 4*) (full session, 0.5-0.5s-0). Prepares graduate students to function in a research environment. Formal lectures during the first two months of first term. Student presentations and student evaluations of them take place during the remainder of first term and all of second term. All graduate students in the Department of Renewable Resources who are on campus are expected to attend and provide evaluations of student presentations on alternate weeks; attendance at the formal lectures is required only once, and should be during the first year of graduate study. Registration is normally in the last year of the program; the grade is credit/no credit.

S REN R 601 Forest Biology

★3 (*fi 6*) (second term, 0-3s-0). Seminar presentations and discussions by students on the biology and environment of forest ecosystems. The objective of this course is to develop a broader and greater holistic understanding of the biota and physical environments of forest ecosystems. Course team taught by Department of Renewable Resources staff. Prerequisite: consent of Department.

S REN R 602 Forest Resources Management

★3 (*fi 6*) (first term, 0-3s-0). Seminar presentations and discussions by students on the management of forest ecosystems for traditional and non-traditional values. The objective is to examine human, resource, economic, and policy problems of integrated forest management. Course team taught by Department of Renewable Resources staff. Prerequisite: consent of Department.

211.212 Romance Literatures

(Division of Romance Languages, Literatures, and Linguistics)
Department of Modern Languages and Comparative Studies
Faculty of Arts

R LIT 500 Bibliography and Thesis Style

★1 (*fi 2*) (first term, 0-1s-0). Prerequisite: consent of Department.

211.213 Rural Sociology

Department of Rural Economy
Faculty of Agriculture, Forestry and Home Economics

Note: See also INT D 356 and 456 for courses which are offered jointly with the Department of Sociology and which may be taken as options or as courses in this discipline.

211.213.1 Undergraduate Courses

S R SOC 310 Women in Development

★3 (*fi 6*) (either term, 3-0-0). This course deals with development issues, such as work, health, environment, and human rights among women in developing countries. Prerequisite: consent of Department. Not available to students with credit in W ST 310.

S R SOC 355 Principles of Rural Sociology

★3 (*fi 6*) (either term, 3-0-0). The basic principles and concepts of sociology as they apply to the study of rural life; concepts of culture, social organization, population and ecology, and social institutions are taught with rural examples. Prerequisite: Second year standing or higher. Note: Not open for students with credit in SOC 100. R SOC 355 is acceptable in lieu of SOC 100 as a prerequisite for senior level sociology courses for Faculty of Agriculture, Forestry and Home Economics students only.

S R SOC 391 Principles of Rural Extension

★3 (*fi 6*) (either term, 3-0-0). Introduction to concepts involved in organizing and implementing effective programs for social change in rural communities. The processes by which farm and rural people learn about, try out and adopt or reject new ideas and innovations. Development of an appreciation for the multidisciplinary nature of the rural extension function. Prerequisite: Third-year standing or higher.

S R SOC 400 Special Topics

★3 (*fi 6*) (either term, 0-3s-0). Individual study. Study of selected topic or problem requiring both written and oral reports. Prerequisite: consent of the Department Chair.

211.213.2 Graduate Courses

Note: The following undergraduate courses may be taken for credit by graduate students: R SOC 415, 491.

R SOC 500 Research Projects in Rural Sociology

★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. Note: May be repeated for credit one time. Prerequisite: consent of the Department Chair.

S R SOC 556 Human Resources Development

★3 (*fi 6*) (either term, 3-0-0). The role of human resources in social and economic development. Strategies for development of knowledge; skills and attitudes desirable in the development process. Training of change agents and lay leaders for community development and continuing education process. Prerequisite: consent of Instructor.

S R SOC 557 Comparative Rural Societies

★3 (*fi 6*) (either term, 3-0-0). The structure and characteristics of rural societies in various countries, with emphasis upon adjustment to change in social and economic institutions. Prerequisite: consent of Instructor; INT D 456 recommended.

R SOC 900 Directed Research Project

★3 (*fi 6*) (variable).

211.214 Russian

(Division of Slavic and East European Studies)
Department of Modern Languages and Comparative Studies
Faculty of Arts

Notes

- Students requiring information about program planning and course selections for the Dalhousie University—University of Alberta Russian Studies Program in the USSR (see Arts section) should consult an

undergraduate advisor in the Department of Slavic and East European Studies.

- (2) RUSS 100 and 160 are not open to students with credit in matriculation-level Russian.

211.214.1 Undergraduate Courses

S RUSS 100 Beginners' Russian

★6 (*fi 12*) (full session, 3-0-2). Essentials of grammar, reading, and pronunciation. Designed to give a working knowledge of the Russian language.

S RUSS 170 Business Russian for Beginners

★6 (*fi 12*) (full session, 3-0-1). An introduction to the grammar, vocabulary, conversational, and comprehension skills needed to conduct business in Russian. Note: Not open to students with credit in RUSS 100 or 160.

S RUSS 201 Second-Year Russian I

★3 (*fi 6*) (first term, 3-0-1). Russian grammar, composition, oral practice, and reading of selected texts of Russian classical and contemporary literature. Prerequisite: RUSS 100 or consent of Department. Formerly RUSS 303.

S RUSS 202 Second-Year Russian II

★3 (*fi 6*) (second term, 3-0-1). This course is a continuation of RUSS 201. Prerequisite: RUSS 201. Formerly RUSS 304.

S RUSS 215 Assisted Readings I

★3 (*fi 6*) (first term, 3-0-0). Introduction to the study of Russian literature in the original. Assisted reading and analysis of selected texts from pre-20th century Russian literature. Prerequisite or corequisite: RUSS 201 or consent of Department. Formerly RUSS 315.

S RUSS 216 Assisted Readings II

★3 (*fi 6*) (second term, 3-0-0). Assisted reading and analysis of selected texts from 20th-century Russian literature. Prerequisites or corequisites: RUSS 202 and RUSS 215 or consent of Department. Formerly RUSS 316.

S RUSS 253 Russian Phonetics

★3 (*fi 6*) (either term, 3-0-0). An introduction to Russian phonetics, inflection, and derivation. Prerequisite: RUSS 100.

S RUSS 271 Business Russian I: Informal Business Relations

★3 (*fi 6*) (first term, 3-0-0). Theoretical and practical study of the more complex areas of Russian grammar. Readings and exercises in various styles of business and technical Russian: finances, marketing, legal documents. Practice in communication skills, vocabulary development. Prerequisite: RUSS 100 or 170.

S RUSS 272 Business Russian II: Formal Business Relations

★3 (*fi 6*) (second term, 3-0-0). Reading, writing, and conversing in a variety of business settings. Course will cover modules in: Business negotiations, correspondence, finances, contracts and legal documents, advertising, and business culture. Prerequisite: RUSS 100 or 170.

S RUSS 320 Russian Literary Classics

★3 (*fi 6*) (either term, 3-0-0). A study of selected works by the prominent Russian authors from Gogol to Solzhenitsyn. This course will not fulfil the Language other than English requirement of the BA degree.

S RUSS 323 Tolstoy and Dostoevsky in Translation

★3 (*fi 6*) (second term, 3-0-0). An in-depth study of Russian literature's foremost novelists of the 19th century. This course will not fulfil the Language other than English requirement of the BA degree.

S RUSS 401 Third-Year Russian I

★3 (*fi 6*) (either term, 3-0-0). Discussion of difficult grammatical points in Russian, vocabulary building, development of comprehension of spoken Russian. Prerequisite: RUSS 202 or consent of Department.

S RUSS 402 Third-Year Russian II

★3 (*fi 6*) (either term, 3-0-0). This course is a continuation of RUSS 401, with greater emphasis on composition. Prerequisite: RUSS 401 or consent of Department.

S RUSS 406 Intensive Oral Russian

★3 (*fi 6*) (either term, 3-0-0). Intensive conversation course. Prerequisite: RUSS 202 or consent of Department.

S RUSS 415 19th-Century Russian Literature

★3 (*fi 6*) (either term, 3-0-0). Representative works of the 19th century, from Pushkin to Chekhov. Taught in English. Russian majors will do a significant part of the readings and assignments in Russian. Prerequisite for SEES majors only: RUSS 215, or 216, or consent of Department.

S RUSS 416 20th-Century Russian Literature

★3 (*fi 6*) (either term, 3-0-0). Representative works from 1917 to the present from Gorky to 'glasnost.' Taught in English. Russian majors will do a significant part of the readings and assignments in Russian. Prerequisite for SEES majors only: RUSS 215, or 216, or consent of Department.

S RUSS 422 Russian Literature and the Arts

★3 (*fi 6*) (either term, 3-0-0). A study of the interrelationship between literature and other media: theatre, cinema, and the visual arts. The emphasis will vary from year to year. Prerequisite or corequisite: RUSS 401 or consent of Department.

S RUSS 443 Russian-English Translation

★3 (*fi 6*) (either term, 3-0-0). Exercises in translation with emphasis on both literary and non-literary texts. Prerequisite: RUSS 202, or consent of Department. Not open to students with credit in RUSS 441 or 442.

S RUSS 444 English-Russian Translation

★3 (*fi 6*) (either term, 3-0-0). Exercises in translation with emphasis on both literary and non-literary texts. Prerequisite: RUSS 202, or consent of Department. Not open to students with credit in RUSS 441 or 442. Not recommended for students with native knowledge of Russian.

S RUSS 454 Russian Morphology

★3 (*fi 6*) (either term, 3-0-0). Study of the morphological system of Russian. Prerequisite: RUSS 253 (formerly RUSS 453) or consent of Department.

S RUSS 456 Russian Syntax

★3 (*fi 6*) (either term, 3-0-0). Linguistic study of the syntactic system of Russian. Prerequisite: RUSS 202 or consent of Department.

S RUSS 479 Honors Thesis

★3 (*fi 6*) (variable, 3-0-0). Directed Honors thesis research. Note: Required of all BA (Honors) students majoring in Russian who are in their final year of study.

S RUSS 482 Contemporary Soviet Russian Literature

★3 (*fi 6*) (either term, 3-0-0). A continuation of RUSS 481, this course will emphasize the thirties and the post-Stalinist period. Prerequisite: RUSS 481 or Corequisites: RUSS 401 and 402, or consent of Department.

S RUSS 498 Conference Course (Linguistics)

★3 (*fi 6*) (either term, 3-0-0) or ★6 (*fi 12*) (full session, 3-0-0). Students as well as staff may initiate proposals in any given year for the content of this course. Please consult the Department Chair for the procedure for student-initiated proposals.

S RUSS 499 Conference Course (Literature)

★3 (*fi 6*) (either term, 3-0-0) or ★6 (*fi 12*) (full session, 3-0-0). Students as well as staff may initiate proposals in any given year for the content of this course. Please consult the Department Chair for the procedure for student-initiated proposals.

211.214.2 Graduate Courses

S RUSS 500 Reading Course

★6 (*fi 12*) (full session, 3-0-0). This course is for graduate students who wish to satisfy the language requirement of their Department. An intensive study of essential grammar, reading of graded texts, and translation of texts from the student's own field. Note: Not open to undergraduates.

S RUSS 501 Composition and Conversation I

★3 (*fi 6*) (either term, 3-0-0).

S RUSS 502 Composition and Conversation II

★3 (*fi 6*) (either term, 3-0-0).

S RUSS 511 The Structure of Russian I: Syntax

★3 (*fi 6*) (either term, 3-0-0).

S RUSS 512 The Structure of Russian II: Phonology

★3 (*fi 6*) (either term, 3-0-0).

S RUSS 516 Medieval Muscovite Literature

★3 (*fi 6*) (either term, 3-0-0). Russian literature from the fourteenth century through the seventeenth.

S RUSS 551 18th-Century Russian Literature and Culture

★3 (*fi 6*) (either term, 3-0-0). Russian literature during the century of Russia's Europeanization.

S RUSS 555 Theory and Practice of Teaching Russian

★3 (*fi 6*) (either term, 2-1S-0). Designed to help graduate teaching assistants develop both theoretical knowledge and practical expertise in the instruction of Russian at the college and university levels.

S RUSS 571 History of Russian Criticism

★3 (*fi 6*) (either term, 3-0-0). A detailed study with emphasis on the 19th and 20th centuries.

S RUSS 572 Russian Literary Theory

★3 (*fi 6*) (either term, 3-0-0). A detailed study with emphasis on formalism and realism.

S RUSS 641 Studies in Russian Poetry

★3 (*fi 6*) (either term, 3-0-0).

S RUSS 643 Studies in Russian Realism

★3 (*fi 6*) (either term, 3-0-0).

S RUSS 645 Studies in Soviet Russian Literature★3 (*fi 6*) (either term, 3-0-0).**S RUSS 647 Aspects of Modernism in Russian Literature**★3 (*fi 6*) (either term, 3-0-0). This course is designed to deal with the various aspects of the literary movements generally known as "Symbolism" and "Decadence."**S RUSS 697 Conference Course (Folklore)**★3 (*fi 6*) (either term, 3-0-0) or ★6 (*fi 12*) (either term, 3-0-0). A detailed study of a folklore problem or genre not dealt with in the other courses. Designed to meet the needs of individual graduate students.**S RUSS 698 Conference Course (Linguistics)**★3 (*fi 6*) (either term, 3-0-0) or ★6 (*fi 12*) (full session, 3-0-0). A detailed study of an area of Russian linguistics not dealt with in the other Honors or Graduate courses. May be initiated by either staff or students as need arises.**S RUSS 699 Conference Course (Literature)**★3 (*fi 6*) (either term, 3-0-0) or ★6 (*fi 12*) (full session, 3-0-0). A detailed study of a literary problem, period or genre not dealt with in the other Honors or Graduate courses. Designed to meet the needs of individual Honors or Graduate students.**211.215 Scandinavian**

(Division of Germanic Languages, Literatures, and Linguistics)
 Department of Modern Languages and Comparative Studies
 Faculty of Arts

Note: See also Norwegian and Swedish listings.

The following table lists renumbered courses effective 1990/91:

Old	New	Old	New
SCAND 100	NORW 100	SCAND 300	NORW 200
SCAND 101	SWED 100	SCAND 301	SWED 200

211.215.1 Undergraduate Courses**S SCAND 340 Old Norse Sagas and Mythology**★6 (*fi 12*) (full session, 3-0-0). The cultural and historical background of the period. Selections in English from the Eddas and Sagas, followed by a brief survey of skaldic poetry and folk literature. This course will not fulfil the Language other than English requirement of the BA degree.**S SCAND 345 Literature, Culture, and Civilization from the Reformation to the 20th Century**★3 (*fi 6*) (either term, 3-0-0). Selections in English of representative authors from each of the major literary periods, with special attention to the cultural and historical background. This course will not fulfil the Language other than English requirement of the BA degree.**S SCAND 353 Henrik Ibsen**★3 (*fi 6*) (either term, 3-0-0). A selection of the dramas of Henrik Ibsen in English translation with background material on the life of the author and his times. Special emphasis on his social and symbolist plays, including their staging and presentation. This course will not fulfil the Language other than English requirement of the BA degree.**S SCAND 354 August Strindberg**★3 (*fi 6*) (either term, 3-0-0). A selection of the works of August Strindberg in English translation with background material on the life of the author and his times. Special emphasis on his dramas, including their staging and presentation. This course will not fulfil the Language other than English requirement of the BA degree.**S SCAND 355 The Tales of Hans Christian Andersen**★3 (*fi 6*) (either term, 3-0-0). This course takes a life-and-letters approach to the author and his times, with special emphasis on his tales (in English translation) and their relationship to the theory and practice of the genre. This course will not fulfil the Language other than English requirement of the BA degree.**SCAND 410 Comparative Scandinavian Grammar and Stylistics**★6 (*fi 12*) (full session, 3-0-0). A comparative analysis of modern Norwegian, Swedish and Danish, with special concentration on advanced composition and stylistics in the student's target language. Prerequisite: NORW 200, or SWED 200, or consent of Department.**SCAND 420 The Scandinavian Immigrant Experience in Canada**★3 (*fi 6*) (either term, 3-0-0). A survey of the history of Scandinavian immigration to Canada and its causes. The immigrant experience will be discussed as it is portrayed in works by authors such as Aksel Sandemose, Sven Delblanc, and Stephan G Stephansson. Prerequisite: NORW 200, or SWED 200, or consent of Department.**SCAND 450 History of the Scandinavian Languages**★6 (*fi 12*) (full session, 3-0-0). After a brief survey of Old Norse, runic inscriptions will be examined, and then the development of the modern Scandinavian languages and their main dialects will be traced from the beginnings to the present. Note: Not to be taken by students with credit in SCAND 405. Prerequisite: NORW 200, or SWED 200, or consent of Department.**SCAND 498 Special Topics in Scandinavian Languages and Literatures**★3 (*fi 6*) (either term, 3-0-0) or ★6 (*fi 12*) (full session, 3-0-0).**SCAND 499 Conference Course**★3 (*fi 6*) (either term, 3-0-0) or ★6 (*fi 12*) (full session, 3-0-0).**211.215.2 Graduate Course****SCAND 550 Old Norse**★6 (*fi 12*) (full session, 3-0-0).**211.216 Science**

Faculty of Science

SCI 300 Communications★3 (*fi 6*) (either term, 3-0-3). This course is designed to provide science students with the skills necessary to perform well and be successful in the workforce. Prerequisite: Year 3 standing in the BSc General program.**SCI 400 Science for High School Science Teachers**★3 (*fi 6*) (Intersession, 3-0-3). A general, multidisciplinary science course designed to enable Senior High School teachers to upgrade their science background in Biology, Earth Science, Chemistry, and Physics in preparation for teaching the Science 10, 20, and 30 programs presently being introduced by Alberta Education. Prerequisite: consent of the Faculty of Science. May not be taken by Science students. This course will be graded on a credit/no credit basis.**211.217 Science politique**

Faculté Saint-Jean

SC PO 101 Introduction au Gouvernement★3 (*fi 6*) (premier semestre, 3-0-0). Une introduction aux institutions gouvernementales du Canada et d'ailleurs. Sujets étudiés: constitutions, assemblées législatives, organes exécutifs, fonction publique, cours de justice, gouvernement fédéral et d'autres sujets choisis. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour POL S 100 à la Faculté des Arts. Anciennement SC PO 201.**SC PO 102 Introduction à la politique**★3 (*fi 6*) (deuxième semestre, 3-0-0). Une introduction au développement de la tradition démocratique. Sujets étudiés: pouvoir ou influence, démocratie, droits et libertés, idéologie politique, opinion publique, élections, partis politiques, groupes de pression et autres sujets choisis. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour POL S 100 à la Faculté des Arts. Anciennement SC PO 202.**SC PO 220 Gouvernement et politique du Canada en tant que nation**★6 (*fi 12*) (sur deux semestres, 3-0-0). Structures et fonctions du Gouvernement du Canada et en particulier les Communes, le Sénat, le Cabinet, la Fonction publique, les partis politiques. Note: ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour POL S 221.**SC PO 261 Relations internationales I**★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Introduction au rôle de l'Etat au sein du système international ayant pour but de développer une connaissance des événements contemporains internationaux. Ce cours couvre la nature de la politique étrangère et la dynamique d'interaction entre les Etats.**SC PO 262 Relations internationales II**★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Introduction aux problèmes contemporains de relations internationales ayant pour but de développer une connaissance du système international. Ce cours couvre les causes de la guerre, l'impérialisme, et le rôle des acteurs non-étatiques.**SC PO 270 Politique comparée**★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Introduction à des thèmes de politique comparée.**SC PO 290 Comportement politique**★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Introduction à l'approche behavioriste en science politique et à son application dans certains domaines de recherches.

SC PO 391 Partis politiques au Canada

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Sujets étudiés: systèmes de partis, idéologies et programmes, adhérents et sympathisants, organisation et ressources, activités électorales et gouvernementales. Prérequis: SC PO 220 ou l'accord du Vice-doyen aux affaires académiques.

SC PO 421 Problèmes relatifs au gouvernement canadien

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Discussion de certains problèmes relatifs au gouvernement au Canada, notamment ceux qui découlent du bilinguisme officiel. Prérequis: SC PO 220 ou l'accord du Doyen. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits en ETCAN 421.

SC PO 423 Fédéralisme canadien

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Analyse du développement et des théories du fédéralisme canadien. On étudiera en particulier les problèmes actuels du système fédéral. Prérequis: SC PO 220 ou l'accord du Doyen.

SC PO 424 Comportement politique au Canada

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Une approche behavioriste à l'étude des activités législatives, partisanes et électorales au Canada. Prérequis: SC PO 220 ou 290 ou l'accord du Vice-doyen aux affaires académiques.

SC PO 425 Administration publique au Canada

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). La théorie de l'administration publique et son application actuelle dans divers domaines de gouvernement au Canada: relations fédérale-provinciale, planification et finances, relations humaines et gestion du personnel. Prérequis: SC PO 220 ou l'accord du Vice-doyen aux affaires académiques.

SC PO 428 Gouvernement et politique des provinces

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Etude des structures, des fonctions et des processus de certains gouvernements provinciaux au Canada. Prérequis: SC PO 220 ou POL S 221, ou l'accord du Doyen.

211.218 Sciences sociales

Faculté Saint-Jean

SCSOC 311 Histoire de la pensée politique et sociale I

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Survol historique et critique du développement de la pensée politique et sociale, de l'Antiquité à la Renaissance, en utilisant des textes choisis de quelques philosophes présocratiques (Héraclite, Parménide), Platon, Aristote, Boèce, Abélard, Thomas d'Aquin, Rousseau, Machiavel, Erasme. Note: Ce cours faisait partie de SCSOC 310. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour PHIL 333 ou POL S 310.

SCSOC 312 Histoire de la pensée politique et sociale II

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Etude des principaux aspects de la pensée politique et sociale du XVIII^e siècle à nos jours, centrée sur l'évolution du libéralisme, de ses différentes tendances et des réactions d'opposition qu'il a suscitées. Seront abordées les oeuvres de Hobbes, Locke, Montesquieu, Rousseau, Voltaire, Payne, Adam Smith, Tocqueville, Marx, Weber, Durkheim et Louis Hartz. Note: Ce cours faisait partie de SCSOC 310. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour PHIL 334, POL S 310 ou SOC 332.

SCSOC 321 Méthodes de recherche en sciences sociales

★3 (fi 6) (l'un ou l'autre semestre, 3-0-2). Initiation à quelques notions d'épistémologie concernant les sciences sociales et à quelques méthodes de recherche: principaux critères de la méthode scientifique et distinction avec les sciences exactes; construction des hypothèses et analyse conceptuelle; planification de la recherche et utilisation des documents; techniques de l'entrevue participante, de l'échantillonnage et de l'analyse de contenu. Note: Ce cours faisait partie de SCSOC 320. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour PSYCE 208, SOC 315 ou POL S 317.

SCSOC 322 Statistiques pour les sciences sociales

★3 (fi 6) (l'un ou l'autre semestre, 3-0-2). Application des méthodes statistiques à certains problèmes en sciences sociales. Interprétation des données en termes de moyennes, de mesures de variabilité et de mesures de relation: études de la théorie de l'échantillonnage et des tests d'hypothèses statistiques. Note: Ce cours faisait partie de SCSOC 320. Prérequis: Mathématiques 30 et SCSOC 321 ou l'accord du Vice-doyen aux affaires académiques. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour POL S 316, PSYCE 211, SOC 210, STATQ 141, STAT 155, 235, 236, 237 ou 255.

SCSOC 401 Concepts en sciences sociales

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Analyse interdisciplinaire de concepts fondamentaux utilisés pour étudier la personne et les sociétés

humaines, comme la culture, le langage, l'ethnie, l'autorité, l'idéologie, la classe, l'organisation, l'espace, la cognition, la production et la pénurie.

SCSOC 431 Modèles d'interprétation des révolutions

★3 (fi 6) (l'un ou l'autre semestre, 0-3s-0). Etude de modèles interprétatifs des révolutions de 1642-49 et 1688, 1789 et 1917. L'approche est multidisciplinaire et s'inspire de la sociologie historique contemporaine. Les oeuvres de Laurence Stone, Theda Skocpol, Barrington Moore, Robert Merton, Robert Nisbet et Talcott Parsons serviront de références essentielles pour établir des modèles structurels d'interprétation d'événements qui ont bouleversé le monde occidental.

SCSOC 590 Sujets spéciaux en sciences sociales

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

211.219 Slavic and East European Studies

(Division of Slavic and East European Studies)
Department of Modern Languages and
Comparative Studies
Faculty of Arts

Notes

- (1) None of these courses will fulfil the Language other than English requirement of the BA degree.
- (2) For related courses see East European and Soviet Studies listing.
- (3) For additional courses relating to the Soviet Union and its successor states, and Eastern Europe, see also entries under Comparative Literature, Earth and Atmospheric Sciences, Economics, History, Political Science, and Sociology.
- (4) See also INT D 101, 102, 346, 347, 439, 443, 444, 445, 447, 479, 487, and 499 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.

211.219.1 Undergraduate Courses**SLAV 403 The Modern Slavic Languages in Their Historical Setting**

★3 (fi 6) (either term, 3-0-0). An investigation of the development of Proto-Slavic from its Indo-European origin until its disintegration into those dialects which form the basis of the modern Slavic literary languages. Prerequisite: At least one year of a Slavic language.

SLAV 420 Old Church Slavonic I

★3 (fi 6) (either term, 3-0-0). An introduction to the grammar of the oldest Slavic texts, with selected readings. Prerequisite: RUSS 202 or UKR 150 or UKR 202 or POLSH 202 or consent of Department.

SLAV 421 Old Church Slavonic II

★3 (fi 6) (either term, 3-0-0). A continuation of SLAV 420. Prerequisite: SLAV 420.

SLAV 498 Conference Course (Linguistics)

★3 (fi 6) (either term, 3-0-0) or ★6 (fi 12) (full session, 3-0-0). Students as well as staff may initiate proposals in any given year for the content of this course. Please consult the Department Chair for the procedure for student-initiated proposals.

SLAV 499 Conference Course (Literature/Folklore)

★3 (fi 6) (either term, 3-0-0) or ★6 (fi 12) (full session, 3-0-0). Students as well as staff may initiate proposals in any given year for the content of this course. Please consult the Department Chair for the procedure for student-initiated proposals.

211.219.2 Graduate Courses

Note: See also INT D 546 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.

SLAV 515 Old East Slavic Literature

★3 (fi 6) (either term, 3-0-0). Survey of Old East Slavic literature up to the fourteenth century, with emphasis on literary documents from Kiev and Novgorod.

SLAV 518 Comparative Slavic Linguistics

★3 (fi 6) (either term, 3-0-0).

SLAV 522 Historical Grammar of East Slavic

★3 (fi 6) (either term, 3-0-0). Detailed discussion of some specific problems in the historical development of Russian, Ukrainian, and Byelorussian.

SLAV 561 History of the West Slavic Languages

★3 (fi 6) (either term, 3-0-0).

SLAV 562 History of the South Slavic Languages

★3 (fi 6) (either term, 3-0-0).

S SLAV 698 Conference Course (Linguistics)

★3 (*fi 6*) (either term, 3-0-0) or ★6 (*fi 12*) (full session, 3-0-0). A detailed study of an area of Slavic studies not dealt with in the other Honors or graduate courses. May be initiated by either staff or students as need arises.

S SLAV 699 Conference Course (Literature)

★3 (*fi 6*) (either term, 3-0-0) or ★6 (*fi 12*) (full session, 3-0-0). A detailed study of a literary problem, period, or genre not dealt with in the other honors or graduate courses. Designed to meet the needs of individual Honors or Graduate students.

211.220 **Reserved**

211.221 Sociologie

Faculté Saint-Jean

SOCIE 100 Introduction à la sociologie

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Examen de la théorie, des méthodes et de la substance de la sociologie. Étude de la façon dont les sociétés comprennent la culture, la socialisation, la déviance, la stratification et les groupes. Le procès de transformation sociale par les mouvements sociaux, l'industrialisation, etc. Note: Les étudiants en 3e année ou plus avancés devraient prendre SOC 300 plutôt que SOCIE 100. Anciennement SOCIE 200.

SOCIE 101 La société canadienne

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Le développement de la société canadienne: comprenant des sujets comme les rapports franco-anglais, le régionalisme, les rapports avec les États-Unis, les droits des autochtones, la mosaïque canadienne, les inégalités et les conflits. Prérequis: SOCIE 100 ou SOC 300. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour SOCIE 322. Anciennement SOCIE 201.

SOCIE 260 Inégalité et stratification sociales

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Introduction à l'étude des inégalités sociales structurées et de la pauvreté; approches théoriques majeures; conclusions des études empiriques clés, en mettant l'accent sur le Canada. Prérequis: SOCIE 100 ou SOC 300. Anciennement SOCIE 360.

SOCIE 301 Sociologie des rapports de sexes

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Etude comparée des rapports entre les femmes et les hommes dans certaines sociétés, en mettant l'accent sur le Canada contemporain; étude des rôles spécifiques à chaque sexe, et des théories relatives à leurs origines; recherche sociologique récente sur l'importance de la division sexuelle de la société.

SOCIE 348 Sociologie des média et de l'information

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). La place des média et des nouvelles technologies de l'information dans la société contemporaine. Etude des théories qui s'y rattachent, avec l'accent sur les débats entourant la question de la postmodernité. Prérequis: SOCIE 100. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits en SOCIE 367.

SOCIE 367 La connaissance et la société humaine

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Nature et évaluation de la connaissance (ex. valeurs et systèmes de croyances manifestes dans l'art, les sciences, la technologie) dans le contexte de régimes sociaux; le lien entre les systèmes rivaux de connaissance et l'évolution sociale. Prérequis: SOCIE 100 ou SOC 300.

SOCIE 368 Etude des minorités et des groupes ethniques

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Analyse de processus sociaux qui permettent le développement et la compréhension du statut des minorités. Etude de cas des relations entre les groupes ethniques et minoritaires fondée sur les travaux réalisés à l'échelle nationale. Prérequis: SOCIE 100 ou SOC 300.

SOCIE 371 La famille

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Le système familial vu dans le contexte de l'histoire et de la rencontre des cultures. Etude du système familial dans les sociétés contemporaines, soulignant les aspects caractéristiques de l'institution et ses tendances actuelles. Prérequis: SOCIE 100, 101, ou SCSOC 401

SOCIE 402 Choix de sujets en sociologie

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Le contenu varie d'une année à l'autre. Les sujets sont annoncés avant la période d'inscription. Prérequis: SOCIE 101 ou SOC 300.

SOCIE 472 Choix de sujets—la société canadienne

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Prérequis: SOCIE 260 ou 372.

SOCIE 480 Changement social

★3 (*fi 6*) (l'un ou l'autre semestre, 3-0-0). Signification du changement dans les systèmes sociaux et culturels; théories du changement social; problèmes des changements introduits dans certaines cultures. Prérequis: SOCIE 260 ou 261 ou SOC 332 ou 333.

211.222 Sociology

Department of Sociology
Faculty of Arts

Note: See also INT D 356, 393, 394, 456, and 475 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.

211.222.1 Undergraduate Courses**S SOC 100 Introductory Sociology**

★3 (*fi 6*) (either term, 3-0-0). An examination of the theory, methods, and substance of Sociology. The study of how societies are shaped including economy, culture, socialization, deviance, stratification, and groups. The process of social change through social movements, industrialization, etc. Prerequisite: First or second year standing. Note: Not to be taken by students with credit in SOC 202 or 300. Third-year or more advanced students must take SOC 300. Formerly SOC 200.

S SOC 101 Canadian Society

★3 (*fi 6*) (either term, 3-0-0). Development of Canadian society: including such topics as French-English relations, regionalism, relations with the USA, native rights, Canadian mosaic, inequalities, and conflicts. Prerequisite: One of SOC 100 or 300. Note: Not to be taken by students with credit in SOC 322. Formerly SOC 201.

S SOC 102 Social Problems

★3 (*fi 6*) (either term, 3-0-0). The definition/development of social problems and an examination of selected structural issues in various societies, including inequality, population growth, environment, and human rights. Prerequisite: One of SOC 100 or 300. Formerly SOC 202.

D SOC 205 Selected Topics in Sociology

★3 (*fi 6*) (either term, 3-0-0). Content varies from year to year. Topics announced prior to registration period.

D SOC 210 Introduction to Social Statistics

★3 (*fi 6*) (either term, 3-0-2). Statistical reasoning and techniques used by sociologists to summarize data and test hypotheses. Topics include describing distributions, cross-tabulations, scaling, probability, correlation/regression and non-parametric tests. Prerequisite: One of SOC 100 or 300. Note: This course is intended primarily for students concentrating in Sociology.

S SOC 224 Sociology of Deviance and Conformity

★3 (*fi 6*) (either term, 3-0-0). Processes involved in defining behavior patterns as deviant; factors which influence conformity and change; examination of such behavior patterns as sexuality, alcoholism, drug use, and selected mental and physical disabilities; public reaction to such behavior. Prerequisite: One of SOC 100 or 300. Formerly SOC 324.

S SOC 225 Criminology

★3 (*fi 6*) (either term, 3-0-0). Examination and attempted explanation of crime and juvenile delinquency, with an analysis of the social processes leading to criminal behavior. Prerequisite: One of SOC 100 or 300. Formerly SOC 325.

S SOC 231 Introduction to Theories of Society

★3 (*fi 6*) (either term, 3-0-0). Classical and contemporary perspectives on society and human nature. Problems of comparing and assessing social theories, e.g. issues such as the individual versus society, idealism versus materialism, conflict versus consensus. Prerequisite: One of SOC 100 or 300. Note: Not to be taken by students with credit in SOC 332 or 333. Formerly SOC 331.

D SOC 241 Social Psychology

★3 (*fi 6*) (either term, 3-0-0). An introduction to the study of individual and group behavior observed in social processes. Prerequisites: One of SOC 100 or 300, or PSYCO 104 or 105, EDPSY 163 or 371. Note: SOC 241 and PSYCO 241 may not both be taken for credit. Formerly SOC 341.

S SOC 251 Population and Society

★3 (*fi 6*) (either term, 3-0-0). Population trends and problems in Canada and the rest of the world; social and cultural factors underlying fertility, mortality, and migration patterns; urbanization; "population explosion," population theory, and policy concerns. Formerly SOC 351.

S SOC 260 Inequality and Social Stratification

★3 (*fi 6*) (either term, 3-0-0). Introduction to the study of structured social inequalities and poverty; major theoretical approaches; findings from key empirical studies, with emphasis on Canada. Prerequisite: One of SOC 100 or 300. Formerly SOC 360.

D SOC 261 Social Organization

★3 (*fi 6*) (either term, 3-0-0). Social systems, their components, interrelations, and the bases of social differentiation and integration. Prerequisite: One of SOC 100 or 300. Formerly SOC 361.

S SOC 271 Introduction to the Family

★3 (fi 6) (either term, 3-0-0). An introduction to the study of family relationships and their variant forms with focus on mate selection, couple, kin, age, and gender dynamics, family dissolution or reconstitution and change. A comparative approach with emphasis on families in Canada. Prerequisite: One of SOC 100 or 300. Note: Not available for credit for students with credit in FAM 110 or 215. Formerly SOC 371.

S SOC 300 Principles of Sociology

★3 (fi 6) (either term, 3-0-0). Basic concepts and principles of Sociology for students with advanced standing. Prerequisite: Third-year or more advanced standing. Notes: May not be taken for credit by students with credit in SOC 100 or 202. First or second-year students must take SOC 100. Formerly SOC 403.

S SOC 301 Sociology of Gender

★3 (fi 6) (either term, 3-0-0). Comparative study of sex roles in selected societies with an emphasis upon contemporary Canada; sex-specific role behaviors and theories regarding their origin; recent sociological research on the social effects of sex roles. Prerequisite: One of SOC 100 or 300.

D SOC 302 Selected Topics in Sociology

★3 (fi 6) (either term, 3-0-0). Content varies from year to year. Topics announced prior to registration period. Prerequisite: One of SOC 100 or SOC 300.

SOC 308 Honors Seminar

★3 (fi 6) (either term, 0-3s-0). Introduction to specialization areas in Sociology and Department members involved in teaching and research in these areas. Prerequisite: consent of the Honors Advisor. Note: Restricted to Sociology Honors students. Required first term after entering Sociology Honors Program.

D SOC 315 Introduction to Social Methodology

★3 (fi 6) (either term, 3-0-2). Research design, data collection, and data processing strategies used by sociologists. Topics include research values and ethics, reliability and validity, experimentation, survey research techniques, historical methods, field research, and content analysis. Prerequisite: SOC 210. Note: Not to be taken by students with credit in SOC 311.

S SOC 321 Juvenile Delinquency

★3 (fi 6) (either term, 3-0-0). Juvenile delinquency and its relation to adult crime; the social processes involved in the genesis and perceptions of styles of delinquency and their relationship to the community, and to various current theories of prevention and control, including the role of institutions and law. Prerequisite: SOC 225. Formerly SOC 427.

S SOC 327 Criminal Justice Administration in Canada

★3 (fi 6) (either term, 3-0-0). The evolution and evaluation of the theories of punishment; the law, the police and the courts; penal and reformatory institutions; probation and parole; experiments in reform and rehabilitation. Prerequisite: SOC 225.

D SOC 332 The Development of Sociology I

★3 (fi 6) (either term, 3-0-0). A survey of the origin and the development of classical sociological theory, with particular emphasis on Comte, Spencer, Marx, Durkheim and Toennies. Prerequisite: One of SOC 100 or 300. Note: Not to be taken by students with credit in SOC 231.

D SOC 333 The Development of Sociology II

★3 (fi 6) (either term, 3-0-0). A survey of the contributions of modern and contemporary sociological theorists, particularly Weber, Pareto, Parsons, Mead, and others. Prerequisite: SOC 332. Note: Not to be taken by students with credit in SOC 231.

S SOC 342 Socialization

★3 (fi 6) (either term, 3-0-0). The processes of social development and how socio-cultural influences affect the individual from infancy to old age. Prerequisite: SOC 241 or PSYCO 241.

S SOC 343 Collective Behavior

★3 (fi 6) (either term, 3-0-0). Analysis of various forms of collective behavior, including crowds, mobs, social movements, and fugitive behavior patterns. Prerequisite: One of SOC 100 or 300 or 241, or PSYCO 241.

S SOC 344 Public Opinion and Mass Communication

★3 (fi 6) (either term, 3-0-0). Factors involved in the formulation and assessment of public opinion; the role of the media in mass communication. Emphasis on Canadian society.

S SOC 352 Population, Social, and Economic Development

★3 (fi 6) (either term, 3-0-0). Principles of growth and development in their historical context with regard to developed countries, such as Canada, and in their contemporary context with regard to underdeveloped countries. The interrelationships of economic, social and demographic variables in the process of development. Problems of urbanization and industrialization; factors influencing social change in the modern West or Asia or Latin America or Africa. Prerequisite: One of SOC 100 or 300.

S SOC 353 Urban Sociology

★3 (fi 6) (either term, 3-0-0). Social implications of urban life with respect to such topics as patterns of city growth; urban social organization (family, neighbourhood, community); urban social issues (housing, crime); urban policy and urban planning (sociology of planning, citizen participation). Prerequisite: One of SOC 100 or 300.

S SOC 363 Sociology of Work and Industry

★3 (fi 6) (either term, 3-0-0). Sociological analysis of the changing nature and content of work, its diversity of industrial contexts and organizational forms, and its consequences for individuals and society, from Canadian and comparative perspectives. Prerequisite: One of SOC 100 or 300.

S SOC 366 People in Industry

★3 (fi 6) (either term, 3-0-0). Introduction to the sociological analysis of the attitudes and behavior of employees in work organizations, with emphasis on the contemporary Canadian situation. Note: Restricted to Engineering students only.

S SOC 367 Knowledge and Human Society

★3 (fi 6) (either term, 3-0-0). The nature and assessment of knowledge (e.g. values and belief systems manifest in art, science, technology) in the context of social systems; the connection between competing systems of knowledge and social change. Prerequisite: One of SOC 100 or 300.

S SOC 368 Canadian Ethnic and Minority Relations

★3 (fi 6) (either term, 3-0-0). Analysis of social processes leading to the development and understanding of minority status: case studies of ethnic and minority-group relations, with reference to cross-national studies. Prerequisite: One of SOC 100 or 300.

S SOC 375 Sociology of Aging

★3 (fi 6) (either term, 3-0-0). Aging as a socio-cultural phenomenon. Includes aging in relation to the self-concept, family, religion, politics, health, retirement and leisure, housing, attitudes toward death, with particular emphasis on Canadian society. Prerequisite: One of SOC 100 or 300.

S SOC 376 Sociology of Religion

★3 (fi 6) (either term, 3-0-0). Religion as a social phenomenon; theories of religious behavior; religious authority and leadership; the individual's religion and the interplay with other spheres of social life; the role of religion in relation to social change and social integration. Prerequisite: One of SOC 100 or 300.

S SOC 377 Sociology of Youth

★3 (fi 6) (either term, 3-0-0). The comparative analysis of youth in various types of societies, with special emphasis on Canada including investigation of social structures and processes influencing behavior of young people. Note: Not available for credit for students with credit in FAM 321.

S SOC 382 Sociology of Health and Illness

★3 (fi 6) (either term, 3-0-0). The distribution of health and illness in human populations, the social psychology of health and illness, and the social organization of health care. Prerequisite: One of SOC 100, 202, or 300.

SOC 399 Field Placement in Criminology

★6 (fi 12) (either term, 0-16s-0). Supervised work experience and seminar sessions. Note: Restricted to BA (Criminology) students.

SOC 401 Honors Individual Study

★3 (fi 6) (either term, 3-0-0). Individual study opportunity on topics for which no specific course is currently offered by the Department. Course may be taken once only. Prerequisites: consent of instructor and Honors Advisor. Note: Restricted to Sociology Honors students. Closed to telephone registration.

D SOC 402 Selected Topics in Sociology

★3 (fi 6) (either term, 3-0-0). Content varies from year to year. Topics announced prior to registration period. Prerequisite: One of SOC 100 or 300. Note: Not an acceptable 400-level course when Sociology is taken as a second subject.

D SOC 403 Individual Study

★3 (fi 6) (either term, 3-0-0). Individual study opportunity on topics for which no specific course is currently offered by the Department. Prerequisite: Consent of Instructor and the Undergraduate Advisor.

SOC 407 Honors Essay I

★3 (fi 6) (either term, 3-0-0). Literature review and proposal stage of Honors Essay completed in SOC 408. Prerequisites: consent of instructor and Honors Advisor. Note: Restricted to Sociology Honors students. Closed to telephone registration.

SOC 408 Honors Essay II

★3 (fi 6) (either term, 3-0-0). Prerequisites: SOC 407 and consent of instructor and Honors Advisor. Note: Restricted to Sociology Honors students. Closed to telephone registration.

D SOC 410 Multi-Variable Sociological Analysis

★3 (fi 6) (either term, 3-0-2). Further study of the use of multi-variable tabular analysis and multiple correlation/regression in social research.

Special emphasis on different types of regression analysis and the causal analysis of social data. Prerequisites: SOC 311, or 210 and 315, or 313 and 315.

D SOC 418 Qualitative Methods in Social Research

★3 (fi 6) (either term, 3-0-2). Further study of the design and evaluation of qualitative research strategies. Topics include participant observation, ethnomethodology, unobtrusive measures, and document analysis. Prerequisites: SOC 311, or 210 and 315, or 313 and 315.

SOC 420 Selected Topics in Criminal Justice

★3 (fi 6) (either term, 3-0-0). Topics may vary annually. Consult Department or instructor prior to registration. Prerequisites: SOC 225 and a 400-level Sociology course in Criminology.

SOC 421 Correctional Theory and Research

★3 (fi 6) (either term, 3-0-0). Critical analysis of correctional treatment and rehabilitation efforts in institutional settings and the community. Prerequisites: SOC 225 and a 400-level Sociology course in Criminology.

D SOC 422 Native People and the Canadian Criminal Justice System

★3 (fi 6) (either term, 3-0-0). Involvement of Native people as offenders and service-providers in the Canadian criminal justice system. Topics include antecedent conditions, policing, courts, corrections, victimization, crime prevention, and special offender groups. Prerequisite: SOC 327. Note: Not to be taken by students with credit in SOC 402 when dealing with native people and the Canadian criminal justice system.

D SOC 423 Crime and Public Policy

★3 (fi 6) (either term, 3-0-0). Social responses to criminal behavior, including general public attitudes and government legislation. Topics include police strategies; sentencing options; prediction research, and social prevention. Prerequisites: SOC 225 and 327.

D SOC 424 Social Structure and Crime

★3 (fi 6) (either term, 3-0-0). The effects of urbanization, industrialization, social change, and ecological factors on crime and deviance, with particular emphasis on comparative research. Prerequisite: SOC 225.

D SOC 425 Research Problems in Criminology

★3 (fi 6) (either term, 3-0-0). Examination of selected research issues in criminology, such as measurement of crime, research design, causal analysis and data interpretation. Prerequisite: SOC 225.

D SOC 426 Agencies of Social Control

★3 (fi 6) (either term, 3-0-0). The study of the way agencies of social control carry out their tasks, including the dynamics within and the interaction among the agencies themselves. Prerequisite: SOC 225.

D SOC 428 Types of Crime

★3 (fi 6) (either term, 3-0-0). Analysis of selected types of criminal behavior and typologies; social processes affecting criminal careers. Prerequisite: SOC 225.

D SOC 429 Sociology of Law

★3 (fi 6) (either term, 3-0-0). Conceptual and practical points of convergence between legal and social theory; processes by which legal rules are created, maintained and changed; law as an instrument of social control and change. Prerequisite: SOC 225.

D SOC 434 Contemporary Sociological Theory

★3 (fi 6) (either term, 3-0-0). Current developments in sociological theory: concepts, recent contributions, and theoretical issues and controversies. Prerequisite: SOC 333.

D SOC 437 The Sociology of Knowledge

★3 (fi 6) (either term, 3-0-0). Study of the hypothesis that the forms of social life condition knowledge. Analysis of the versions of this thesis offered by such scholars as: Vico, Marx-Engels, Nietzsche, Scheler, Pareto, Durkheim, Mannheim, and more recent writers. Assessment of their proposed solutions to the social limitations imposed on knowing. Prerequisite: One of SOC 231, 332, 333, 367 or equivalent.

D SOC 440 Theories in Social Psychology

★3 (fi 6) (either term, 3-0-0). Current theories and related research in social psychology. Prerequisite: SOC 241 or PSYCO 241.

D SOC 441 Sociology of Religious Sects

★3 (fi 6) (either term, 3-0-0). Examination of conversion, membership maintenance, member disaffiliation, and resource acquisition strategies among religious sects. Emphasis on Canadian examples. Prerequisites: SOC 224 and SOC 376.

D SOC 442 Reinforcement and Social Behavior

★3 (fi 6) (either term, 3-0-1). Operant principles applied to the fundamental processes of social behavior. An examination of critical studies utilizing a reinforcement perspective. Prerequisite: SOC 241 or PSYCO 241.

D SOC 443 Ethnomethodology

★3 (fi 6) (either term, 3-0-0). Study of everyday life emphasizing the

methods people use to construct a sense of order and meaning. Prerequisite: SOC 241.

D SOC 444 Advanced Mass Communications

★3 (fi 6) (either term, 3-0-0). Empirical review of relationships between mass media, especially television, and public perception/behavior. Prerequisite: SOC 344. Note: Not to be taken by students with credit in SOC 402 when dealing with advanced mass communications.

D SOC 446 Social Psychology and Human Factors Research

★3 (fi 6) (either term, 3-0-0). Application of social psychological theories and methods to the investigation of sociological issues in human factors research. Topics include environmental, health care, legal, and organizational analysis. Prerequisites: SOC 241 and 315.

D SOC 447 Leadership

★3 (fi 6) (either term, 3-0-0). Group interaction and the differentiation of leaders; various social systems. Prerequisite: SOC 241 or 261 or PSYCO 241.

S SOC 450 Techniques of Demographic Analysis

★3 (fi 6) (either term, 3-0-0). Conventional techniques of population analysis as applied to census and vital statistics. Prerequisite: SOC 251 or consent of Instructor.

S SOC 451 Sociology of Human Fertility

★3 (fi 6) (either term, 3-0-0). Emphasis on the social, social-psychological, and cultural correlates of human fertility in historical and contemporary contexts; reproductive health programs; prediction and control. Prerequisite: SOC 251 or consent of Instructor.

S SOC 452 Mortality and Population Health

★3 (fi 6) (either term, 3-0-0). Analysis of variations, trends and patterns of human mortality and morbidity in historical and contemporary contexts; comparisons of the experiences of Canada, other industrialized nations and developing countries with respect to causes of death and illness; demographic aspects of aging and its relationship to morbidity and mortality health surveys and policies. Prerequisite: One of SOC 251, GEOG 354, or GEOG 355.

S SOC 453 The Urban Community

★3 (fi 6) (either term, 3-0-0). An examination of the urban community in Canada and other countries from the ecological, social psychological, and social organizational perspectives. Appraisal of community studies. Introduction to community research priorities and methodologies. Prerequisite: SOC 353.

S SOC 455 Sociology of Human Migration

★3 (fi 6) (either term, 3-0-0). Internal and international migration and its relationship to resources, economic opportunities, societal organization, and urbanization in Canada and other countries; determinants and consequences of migration; adjustment of migrants and policy issues. Prerequisite: SOC 251 or consent of Instructor.

S SOC 459 The Demography of Marriage and Family

★3 (fi 6) (either term, 3-0-0). Review and analysis of the demographic interrelationships of fertility, mortality, and migration with marriage and the family; a cross-cultural review of historical trends, contemporary patterns and future implications; emphasis on statistical measurement, family planning and policy in the Canadian setting. Prerequisite: SOC 271.

S SOC 460 Social Organization—Organizational Theory

★3 (fi 6) (either term, 3-0-0). Models of social organization; the units of social structure; the bases of social integration, social control, and social change. Prerequisite: SOC 261.

S SOC 461 Sociology of Art

★3 (fi 6) (either term, 3-0-0). A sociological study of art forms including painting, literature, music, and architecture; cross-cultural analysis of the roles of the artist; the relationship of art forms and movements to different social conditions and social change. Prerequisite: One of SOC 100, or 300.

S SOC 462 Science and Society

★3 (fi 6) (either term, 3-0-0). Factors in the development of the cognitive and organizational domain of science; interrelations between science and major societal institutions and culture; the future of science and the future of society. Prerequisite: One of SOC 231, 332, 333 or 367.

S SOC 463 Sociology of Professions

★3 (fi 6) (either term, 3-0-0). The process of professionalization, including the development of professional ethics, ideologies, and associations. The role of bureaucracy in professionalization and professional career patterns. Prerequisite: One of SOC 260, 261, or 363.

D SOC 464 Selected Topics in the Sociology of Work and Industry

★3 (fi 6) (either term, 3-0-0). Topics may vary annually. Consult Department or instructor prior to registration. Prerequisite: SOC 363.

S SOC 465 Sociology of Complex Organizations

★3 (fi 6) (either term, 3-0-0). Approaches to formal organization and management; division of labor and its organizational implications, deviance

and conflict within organization, problem solving, and organizational authority. Prerequisite: SOC 261.

D SOC 466 Selected Topics in Comparative Societies

★3 (fi 6) (either term, 3-0-0). Comparative studies of various regions, cultures and societies. Topics may vary annually. Prerequisite: One of SOC 100, SOC 300, or CANST 200. Not to be taken by students who have successfully completed SOC 362.

D SOC 467 Social Class in Modern Society

★3 (fi 6) (either term, 3-0-0). Development of class structures in Western societies; recent theories and empirical findings concerning issues such as social mobility, class boundaries, class consciousness and class conflict. Prerequisite: SOC 260.

D SOC 471 Comparative Family Systems

★3 (fi 6) (either term, 3-0-0). An examination of concepts, theories, methodologies and evidence regarding similarities and differences across a range of subcultural and cross-cultural family systems, focusing on contemporary, complex societies. Prerequisite: SOC 271 (or FAM 110 for Home Economics students only.)

D SOC 472 Selected Topics in Canadian Society

★3 (fi 6) (either term, 3-0-0). Prerequisite: SOC 260 or 372 or ★9 of Canadian Content Courses (see §43.1.1 (II)(3)) including SOC 101.

D SOC 473 Sociology of Death and Dying

★3 (fi 6) (either term, 3-0-0). Comparative examination of death and dying in socio-cultural contexts, including theoretical and methodological issues. Prerequisite: SOC 241, or 261, or 375.

D SOC 475 Advanced Sociology of Aging

★3 (fi 6) (either term, 3-0-0). In-depth examination of selected theoretical approaches, methodological issues, and topics of substantive concern in the study of aging and the aged. Prerequisite: SOC 375.

D SOC 476 Religion and Societies

★3 (fi 6) (either term, 3-0-0). A comparative survey of the major world religions in interaction with the socioeconomic and political structures of various societies. Prerequisite: SOC 376.

S SOC 477 Social Psychology of Marriage

★3 (fi 6) (either term, 3-0-0). Examines research on interaction in marriage relationships including effects of gender, work roles, and intimacy over the life span. Research project on a relevant, current dimension of the marital relationship required. Prerequisites: Two of SOC 241, 271, or 373 (or FAM 110 and 215 for Home Economics students only).

S SOC 478 Social Psychology of Family Relationships

★3 (fi 6) (either term, 3-0-0). Current research on parent-child interaction in families of differing structures and processes. Focus is on creative, ambivalent and destructive family relationships. Resource project required on a current family issue. Prerequisites: Two of SOC 241, 271, or 374 (or FAM 110 and 320 for Home Economics students only).

D SOC 479 Selected Topics in the Family

★3 (fi 6) (either term, 3-0-0). Topics may vary annually. Consult Department or instructor prior to registration. Prerequisite: SOC 271 (or FAM 110 for Home Economics students only).

S SOC 483 Social Psychology of Health and Illness

★3 (fi 6) (either term, 3-0-0). Social psychological factors in health and illness and medical care, including attitudes, beliefs, roles, socialization, and interpersonal processes. Prerequisite: SOC 382.

SOC 484 Social Organization of Health Care

★3 (fi 6) (either term, 3-0-0). The social structure and dynamics of health care organization, including hospitals, professional-bureaucratic relations in health care organizations, professional socialization, and governmental functions. Prerequisite: SOC 382.

SOC 485 Social Epidemiology

★3 (fi 6) (either term, 3-0-0). The social distribution and social determinants of health, illness, disability and death with a focus on sociological variables including age, gender, occupation, social class, ethnicity, religion, attitudes and lifestyles. Prerequisite: SOC 251 or 382. Note: Not to be taken by students with credit in SOC 456.

S SOC 486 Sociology of Mental Illness

★3 (fi 6) (either term, 3-0-0). Sociological aspects of mental health and illness. Includes historical perspectives, diagnostic issues, and perspectives on causation and treatment. Prerequisite: SOC 224 or 382. Note: Not to be taken by students with credit in SOC 474.

S SOC 490 Sociology and Public Policy

★3 (fi 6) (either term, 3-0-0). Past and present relationship among sociology, social research and social needs, including the impact of sociological research on public policy formation, program development and implementation and program assessment. Prerequisite: ★12 in Sociology.

D SOC 491 Gender Studies

★3 (fi 6) (either term, 3-0-0). Advanced study of theoretical and

methodological issues in the social stratification of gender roles and statuses. Prerequisite: SOC 301.

SOC 499 Advanced Field Placement in Criminology

★6 (fi 12) (either term, 0-16s-0). Supervised work experience and seminar sessions. Prerequisite: SOC 399. Note: Restricted to BA (Criminology) students.

211.222.2 Graduate Courses

Note: See also INT D 593 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.

SOC 503 Conference Course in Sociology for Graduate Students

★3 (fi 6) (first term, 3-0-0).

SOC 504 Conference Course in Sociology for Graduate Students

★3 (fi 6) (second term, 3-0-0).

SOC 509 Multi-Variable Sociological Analysis

★3 (fi 6) (either term, 3-0-2). Prerequisites: SOC 210 and 315. Note: Not to be taken by students with credit in SOC 411 or 410.

SOC 514 Evaluation Research

★3 (fi 6) (either term, 3-0-0). Prerequisite: SOC 410.

SOC 515 Quantitative Methods in Social Research

★3 (fi 6) (either term, 3-0-2). Prerequisites: SOC 210 and 315 or equivalent. Note: Not to be taken by students with credit in SOC 412 or 417. Not available for credit for students with credit in R SOC 415.

SOC 518 Qualitative Methods in Social Research

★3 (fi 6) (either term, 3-0-2). Prerequisite: SOC 418 or equivalent or permission of Instructor.

SOC 519 Comparative and Historical Methods in Sociological Research

★3 (fi 6) (either term, 3-0-2). Prerequisites: SOC 210 and 315 or equivalent. Note: Not to be taken by students with credit in SOC 419.

SOC 525 Seminar in Criminal Justice

★3 (fi 6) (either term, 0-3s-0).

SOC 526 Seminar in Criminological Theory

★3 (fi 6) (either term, 0-3s-0).

SOC 527 Seminar in Correctional Theory

★3 (fi 6) (either term, 0-3s-0).

SOC 528 Seminar in Crime and Public Policy

★3 (fi 6) (either term, 0-3s-0).

SOC 531 Seminar in the History of Sociological Thought

★3 (fi 6) (either term, 0-3s-0).

SOC 532 Seminar in Theory Construction

★3 (fi 6) (either term, 0-3s-0).

SOC 535 Seminar in Contemporary Sociological Theory

★3 (fi 6) (either term, 0-3s-0). Prerequisite: SOC 333.

SOC 540 Seminar in Social Psychology

★3 (fi 6) (either term, 0-3s-0). Prerequisite: SOC 241.

SOC 541 Seminar in Symbolic Behavior

★3 (fi 6) (either term, 0-3s-0).

SOC 542 Experimental Social Psychology

★3 (fi 6) (either term, 3-0-2).

SOC 543 Seminar in Mass Phenomena

★3 (fi 6) (either term, 0-3s-0).

SOC 551 Seminar in Population Studies

★3 (fi 6) (either term, 0-3s-0).

SOC 552 Mortality and Population Health

★3 (fi 6) (either term, 3-0-0). Prerequisite: SOC 251. Note: Not to be taken by students with credit in SOC 452.

SOC 554 Sociology of Human Migration

★3 (fi 6) (either term, 3-0-0). Prerequisite: SOC 251. Note: Not to be taken by students with credit in SOC 455.

SOC 556 Selected Topics in Environmental Sociology

★3 (fi 6) (either term, 3-0-0).

SOC 557 Sociology of Human Fertility

★3 (fi 6) (either term, 3-0-0). Prerequisite: SOC 251. Note: Not to be taken by students with credit in SOC 451.

SOC 558 Techniques of Demographic Analysis

★3 (fi 6) (either term, 3-0-0). Prerequisite: SOC 251. Note: Not to be taken by students with credit in SOC 450.

SOC 559 Seminar in Demography of Marriage and the Family

★3 (fi 6) (either term, 0-3s-0).

SOC 560 Seminar in Social Organization

★3 (fi 6) (either term, 0-3s-0). Prerequisite: SOC 251. Note: Formerly SOC 561. Not to be taken by students with credit in SOC 561.

SOC 562 Seminar in Social Class

★3 (fi 6) (either term, 0-3s-0).

SOC 565 Seminar in Work

★3 (fi 6) (either term, 0-3s-0).

SOC 568 Seminar in Ethnic and Minority Relations

★3 (fi 6) (either term, 0-3s-0).

SOC 571 Seminar in Comparative Family Systems

★3 (fi 6) (either term, 0-3s-0).

SOC 575 Seminar in Aging and Age Differentiation

★3 (fi 6) (either term, 0-3s-0).

SOC 576 Seminar in Sociology of Religion

★3 (fi 6) (either term, 0-3s-0).

SOC 577 Seminar in Gender

★3 (fi 6) (either term, 0-3s-0).

SOC 578 Seminar in Marital and Family Interaction

★3 (fi 6) (either term, 0-3s-0).

SOC 580 Sociology of Development and Underdevelopment

★3 (fi 6) (either term, 0-3s-0).

SOC 583 Advanced Social Psychology of Health and Illness

★3 (fi 6) (either term, 3-0-0).

SOC 603 Conference Course

★3 (fi 6) (first term, 3-0-0).

SOC 604 Conference Course

★3 (fi 6) (second term, 3-0-0).

SOC 605 Seminar in Teaching and Professional Skills

★0 (fi 1) (either term, unassigned).

SOC 609 Multivariate Analysis

★3 (fi 6) (first term, 3-0-0). Prerequisites: SOC 509 and 515 or 410 and 417 or equivalent. Note: Formerly SOC 510. Not to be taken by students with credit in SOC 511 or 510.

SOC 615 Advanced Methods of Sociological Inquiry

★3 (fi 6) (either term, 0-3s-0). Prerequisites: SOC 410 and 417 or 509 and 515 or equivalent. Note: Formerly SOC 517. Not to be taken by students with credit in SOC 512 or 517.

SOC 616 Structural Equation Modeling with LISREL

★3 (fi 6) (either term, 3-0-0). Prerequisite: SOC 609.

SOC 624 Advanced Field Placement in Criminal Justice

★6 (fi 12) (either term, 0-40c-0). Prerequisite: consent of Department. Note: Restricted to MA (Criminal Justice) students.

SOC 631 Seminar in Advanced Sociological Theory

★3 (fi 6) (either term, 0-3s-0).

SOC 641 Selected Topics in Social Psychology

★3 (fi 6) (either term, 0-3s-0).

SOC 658 Advanced Techniques of Demographic Analysis

★3 (fi 6) (either term, 3-0-0).

SOC 670 Sociology of Gender and Family

★3 (fi 6) (either term, 0-3s-0).

SOC 900 Directed Research Project

★3 (fi 6) (variable).

211.223 Soil ScienceDepartment of Renewable Resources
Faculty of Agriculture, Forestry and Home Economics

Note: See also Environmental and Conservation Sciences, Forest Science, Plant Science, Renewable Resources, and Interdisciplinary Undergraduate Courses listings for related courses.

The following table lists renumbered courses effective 1996/97:

Old	New	Old	New
SOILS 425	REN R 425	SOILS 545	REN R 545

211.223.1 Undergraduate Courses**SOILS 210 Introduction to Soil Science and Soil Resources**

★3 (fi 6) (first term, 3-0-3). Elementary aspects of soil formation, soil occurrence in natural landscapes, soil classification, soil resource inventory;

basic morphological, biological, chemical, and physical characteristics employed in the identification of soils and predictions of their performance in both managed and natural landscapes. Prerequisite: Must have completed a university-level course in life or natural sciences. A university-level chemistry course is strongly recommended. Credit cannot be obtained for both SOILS 210 and ENCS 202.

SOILS 316 Soils and People

★3 (fi 6) (second term, 3-0-0). How people have changed world soil resources, with reference to deforestation, desertification, erosion, salinization, pollution, and global climate change. How soil resources influence human activities with examples from North America, Europe and the Tropics. Not a suitable prerequisite for other soil science courses. Prerequisite: Must have completed ★30 at the university level.

SOILS 330 The Soil Ecosystem

★3 (fi 6) (first term, 3-0-1.5). The study of ecological and pedological significance of several groups of organisms and their adaptation to the physical, chemical, and biological environment in soil. Students will discover the interactions between plant, microbial, and faunal interactions in soil and their qualitative and quantitative impact on biochemical processes in soil. The laboratory involves the use of a computer simulation package to quantify activity of microbial and faunal populations on various soil processes. Prerequisite: SOILS 210 or ENCS 202 or a 200-level course in biological sciences.

SOILS 401 Research Project

★3 (fi 6) (either term, 0-3s-0). Individual study. Study under staff supervision of a specialized topic, requiring the preparation of a comprehensive report; primarily for fourth-year students. Prerequisite: consent of the Department Chair.

SOILS 402 Research Project

★6 (fi 12) (full session, 0-3s-0). Individual study. Study under staff supervision of a specialized topic, requiring the preparation of a comprehensive report; primarily for fourth-year students. Prerequisite: consent of the Department Chair.

SOILS 414 Advanced Forest Soils

★3 (fi 6) (second term, 3-0-0). Readings and discussions on topics important to sustained productivity of forest soils; soil compaction; soil organic matter; nutrient availability; landslides and water erosion. Alterations to soil properties through forest removal and forest renewal practices. Prerequisite: FOR 314 or consent of Instructor.

SOILS 420 Soil Formation and Landscape Processes

★3 (fi 6) (first term, 3-0-3). Soil formation with emphasis on landscape processes as factors in soil development; pedogenic processes and their relation to environmental issues; soils; vegetation, and geological associations; kinds and distribution of soils in Canada; soil classification; field examination and computer assisted learning of soils and their landscape. Prerequisite: SOILS 210 or ENCS 202, or any 200-level earth science course.

SOILS 430 Soil Environmental Microbiology and Biochemistry

★3 (fi 6) (second term, 3-0-3). Students discover: (1) distinguishing characteristics and environmental, industrial or biotechnological implications of specific soil microorganisms; (2) principles governing methods to study soil organisms and biochemical processes; (3) mechanisms controlling organic matter cycling and stabilization with reference to C, N, S and P; (4) microbial interactions with metals and xenobiotics; and (5) criteria for assessing influence of soil microbiology and biochemistry at the landscape level. The laboratory prepares students to study soil microorganisms and biochemical processes using the scientific method and modern techniques. Prerequisite: SOILS 210 or ENCS 202, or any 300-level course in the biological sciences.

SOILS 440 Soil Physics★3 (fi 6) (first term, 3-0-3). Quantitative characterization of soil physical properties. Description and measurement of soil physical properties that determine retention and movement of water in soils, soil temperature, soil aeration, soil strength, soil compaction, and consolidation. Particular emphasis will be placed on current *in situ* techniques and their applications. Examples from areas of land resource management, soil remediation, agriculture, and forestry will be used to illustrate the principles. Prerequisite: SOILS 210 or ENCS 202, or completion of ★60 of university science courses.**SOILS 450 Soil Environmental Chemistry**

★3 (fi 6) (second term, 3-0-3). Chemical processes in soil and related terrestrial environments and the consequences of these processes as they relate to environmental quality and pollution of soil and water, nutrient levels, and mechanical stability or dispersion of clays and soils. The course describes fundamental chemical concepts such as soil solution speciation, precipitation/dissolution, and adsorption exchange and then uses the concepts in the examination and computer modelling of some current environmental, agricultural and engineering problems. The leachate chemistry of certain large volume industrial wastes is also examined in

the course. Prerequisite: A chemistry course plus completion of two full years of university.

S SOILS 460 Soil Fertility

★3 (*fi 6*) (second term, 3-0-3). Essential plant nutrients; factors influencing nutrient availability; methods of evaluating soil fertility; correction of soil fertility problems; manufacture, composition, and use of fertilizers. Prerequisite: SOILS 210 or ENCS 202.

211.223.2 Graduate Studies

Notes

- (1) The following undergraduate courses may be taken for credit by graduate students: SOILS 401, 402, 420, 430, 440, 450, 460; ENCS 475, 485; REN R 410, 425, 545.
- (2) SOILS 520 to 620 are offered only when justified by enrolment, normally in alternate years.

S SOILS 501 Individual Research Project

★3 (*fi 6*) (either term, 0-3s-0). A topic of interest to the student and instructor(s) is selected for detailed study. The project may involve library research, field or laboratory work, computer studies of soil data, map work, etc. Prerequisite: consent of the Department Chair.

S SOILS 502 Individual Research Project

★6 (*fi 12*) (full session, 0-3s-0). A topic of interest to the student and instructor(s) is selected for detailed study. The project may involve library research, field or laboratory work, computer studies of soil data, map work, etc. Prerequisite: consent of the Department Chair.

S SOILS 515 Clay Mineralogy

★3 (*fi 6*) (second term, 3-0-3). Structure and composition of clay minerals. Properties of clay minerals and methods of identification with emphasis on x-ray diffraction techniques. Nature and properties of other secondary soil minerals. Prerequisites: Three undergraduate level courses in the geological, engineering, or soil sciences.

S SOILS 520 Advanced Soil Classification

★3 (*fi 6*) (second term, 3-0-3). Systematics of soil classification throughout the world with special emphasis on pedogenesis, classification, distribution and use of soils outside of Canada. Laboratory consists of a minimum 10-day field trip normally scheduled immediately following the final examination period and conducted regionally in North America. Costs of lodging, meals, and transportation to be borne by students. Prerequisite: SOILS 420.

S SOILS 530 Advanced Soil Ecology

★3 (*fi 6*) (first term, 3-0-3). Ecological approach to studying plant, microbial and faunal interactions in soil. Assessment and integration of the qualitative and quantitative impact of soil microorganisms, fauna and plants on decomposition, element cycling and soil structure dynamics in terrestrial ecosystems. The acquired information will be linked to current global environmental issues. Students will develop simulation models and practise writing grant applications. Prerequisite: SOILS 430 or SOILS 330 or a 300-level course in biological sciences.

S SOILS 535 Advanced Soil Biochemistry

★3 (*fi 6*) (second term, 1-2s-3). A lecture and seminar course on special topics from the recent literature in soil biochemistry; intensive literature review and laboratory project on some aspect of the topics discussed. Prerequisite: SOILS 430.

S SOILS 540 Advanced Soil Physics

★3 (*fi 6*) (second term, 3-0-3). Physical principles of water, solutes, and heat transport in the soil-plant-atmosphere continuum; formulation and solution of mathematical equations describing the dynamic interactions among water, solutes, heat, soil matrix and plants; application of physical theories at the field scale, including effects of the soil spatial variability and preferential flow. Prerequisites: A course in calculus and a course in one of the following: soil physics, soil mechanics, hydrogeology, physics or thermodynamics.

S SOILS 550 Advanced Soil Chemistry

★3 (*fi 6*) (second term, 3-2s-0). Principles of thermodynamics and complex chemical reactions as applied to soil systems. Topics will include: electrical "double layer theory" thermodynamics of soil water (total and component potentials); soil solutes (Electropotentiometric measurements, chemical equilibria, solubility, activity ratio diagrams, complex formation, speciation using computer modelling); ion exchange/adsorption; (isotherms, selectivity, solid phase activity coefficients, exchange equilibria constants, specific adsorption, molecular models). Prerequisite: consent of Instructor.

S SOILS 555 Advanced Soil Mineralogy and Micromorphology

★3 (*fi 6*) (second term, 3-0-3). Concepts and methods in the study of soil mineral reactions including application of thermodynamics to mineral weathering and secondary mineral formation, principles of fabric analysis, and instrumental methods in mineralogical research. Prerequisites: SOILS 415 and 420.

S SOILS 561 Agroecosystem Simulation

★3 (*fi 6*) (second term, 3-0-3). The student will learn the rationale for integrating scientific findings at lower levels of physical and biological organization into mathematical models. The student will learn to simulate basic processes in the physics, chemistry, and biology of soils and plants, and to integrate these processes into higher-level agroecosystem models. Prerequisites: A course in earth sciences and a course in plant sciences plus completion of three full years of university.

S SOILS 900 Research Project

★3 (*fi 6*) (variable). Required of all Soils MAg candidates in their final year. It does not usually involve collection of original data but makes use of published or unpublished data from other sources. The report is to be defended before a committee of three staff members, one member being from outside the Department of Soil Science.

211.224 Spanish

(Division of Romance Languages, Literatures, and Linguistics)
Department of Modern Languages and Comparative Studies
Faculty of Arts

211.224.1 Undergraduate Courses

SPAN 100 Beginners' Spanish

★6 (*fi 12*) (full session, 5-0-0). A basic course, intended for students with no previous knowledge of the language, emphasizing spoken and written Spanish. Note: Not open to students with matriculation in Spanish, i.e. SPAN 35. Normally students will proceed from SPAN 100 to SPAN 200.

SPAN 200 Intermediate Spanish

★3 (*fi 6*) (either term, 3-0-0). A course intended to consolidate a basic understanding of Spanish through a systematic grammar review and practice in the various language skills. Prerequisite: SPAN 100 or equivalent. Not open to students with credit in SPAN 250.

SPAN 215 Speaking and Reading Spanish

★3 (*fi 6*) (either term, 3-0-0). A course in conversational Spanish. Readings and other exercises assigned in this course are intended to facilitate participation in classroom conversation, increase active vocabulary, and improve oral proficiency. Pre- or corequisite: SPAN 200 or consent of Department.

SPAN 216 Writing and Reading Spanish

★3 (*fi 6*) (either term, 3-0-0). Written exercises and analysis of materials read for discussion in class will be used to develop an ability to produce different types of written texts in Spanish, including letters, summaries, essays, newspaper articles, fiction, and some business applications. Pre- or corequisite: SPAN 200 or consent of Department.

SPAN 220 Spanish in Context

★3 (*fi 6*) (either term, 3-0-0). An introduction to the different uses of Spanish. Through audio-visual materials and different kinds of written texts, students will be introduced to the cultural forms of Spain and Latin America. This course is intended as a synthesis of other courses at the 200-level and as preparation for study of the cultural dimensions of Spanish at the 300-level. Prerequisite: SPAN 215 or 216 or consent of Department.

S SPAN 307 Civilization and Culture in Spain before 1900

★3 (*fi 6*) (either term, 3-0-0). Aspects of Spanish civilization and culture in the Iberian Peninsula from the Middle Ages to the end of the nineteenth century. Designed to complement the study of Spanish and to provide an introduction to the major trends in thought and cultural forms in Spain. Prerequisite: SPAN 220 or consent of Department.

S SPAN 308 Civilization and Culture in Spanish America before 1900

★3 (*fi 6*) (either term, 3-0-0). Aspects of civilization and culture in Spanish America to the end of the nineteenth century. Designed to complement the study of Spanish and to provide an introduction to the major trends in thought and cultural forms in Spanish America. Prerequisite: SPAN 220 or consent of Department.

S SPAN 309 Civilization and Culture in Spain since 1900

★3 (*fi 6*) (either term, 3-0-0). Civilization and culture in Spain since the beginning of the twentieth century. Designed to complement the study of Spanish and to provide an introduction to the major trends in thought and cultural forms, with particular emphasis on the contemporary period. Prerequisite: SPAN 220 or consent of Department.

SPAN 310 Civilization and Culture in Spanish America since 1900

★3 (fi 6) (either term, 3-0-0). Civilization and culture in Spanish America since the beginning of the twentieth century. Designed to complement the study of Spanish and to provide an introduction to the major trends in thought and cultural forms in Spanish America, with particular emphasis on the contemporary period. Prerequisite: SPAN 220 or consent of Department.

SPAN 360 Literature in Spanish in English Translation

★3 (fi 6) (either term, 3-0-0). Study of selected works of literature from Spain and/or Spanish America. Note: This course will not fulfil the Language other than English requirement of the BA degree. Students wishing to have this course credited towards programs in Spanish will be expected to complete written assignments in Spanish.

SPAN 405 Exercises in Translation: Spanish into English

★3 (fi 6) (either term, 3-0-0). Prerequisite: SPAN 215 or 216 or consent of Department.

SPAN 406 Exercises in Translation: English into Spanish

★3 (fi 6) (either term, 3-0-0). Prerequisite: SPAN 215 or 216 or consent of Department.

SPAN 407 Advanced Grammar and Composition

★3 (fi 6) (either term, 3-0-0). Prerequisites: 215 or 216 or consent of Department.

SPAN 409 Topics in Spanish Language

★3 (fi 6) (either term, 3-0-0). Prerequisite: SPAN 215 or 216 or consent of Department.

SPAN 412 Topics in Hispanic Culture

★3 (fi 6) (either term, 3-0-0). Prerequisite: SPAN 307, 308, 309, or 310.

SPAN 440 Topics in Spanish Peninsular Literature

★3 (fi 6) (either term, 3-0-0). Prerequisite: SPAN 307, 308, 309, or 310.

SPAN 450 Topics in Spanish-American Literature

★3 (fi 6) (either term, 3-0-0). Prerequisite: SPAN 307, 308, 309, or 310.

SPAN 499 Directed Reading

★3 (fi 6) (either term, 3-0-0) or ★6 (fi 12) (full session, 3-0-0). A course designed to meet the needs of individual students in relation to some topic of study not covered in the other available courses at the same level. Prerequisite: consent of Department.

211.224.2 Graduate Courses

SPAN 501 Teaching Strategies for the Instruction of Spanish

★0 (fi 3) (first term, 1-1s-0). Note: Restricted to Graduate Assistants in Spanish. A single-term course offered over the full session.

SPAN 520 Honors Tutorial

★3 (fi 6) (full session, 3-0-0). This course is for students in the final year of an honors program in Spanish and Spanish American studies. It will consist of individual study of a special topic, pursued under the direction of a member of staff and leading to the writing of an honors essay.

SPAN 525 Approaches to Literary Criticism

★3 (fi 6) (either term, 3-0-0) or ★6 (fi 12) (full session, 3-0-0). Prerequisite: consent of Department.

SPAN 535 Topics in Hispanic Culture

★3 (fi 6) (either term, 3-0-0) or ★6 (fi 12) (full session, 3-0-0).

SPAN 545 Topics in the History of the Hispanic Literatures

★3 (fi 6) (either term, 3-0-0) or ★6 (fi 12) (full session, 3-0-0).

SPAN 565 Topics in the Forms and Genres of Hispanic Literature

★3 (fi 6) (either term, 3-0-0) or ★6 (fi 12) (full session, 3-0-0).

SPAN 599 Directed Reading

★3 (fi 6) (either term, 3-0-0) or ★6 (fi 12) (full session, 3-0-0). Study of a topic not dealt with in other Honors or Graduate courses. Designed to meet the needs of individual students. Prerequisite: consent of Department.

SPAN 635 Seminar in Hispanic Culture

★3 (fi 6) (either term, 0-3s-0) or ★6 (fi 12) (full session, 0-3s-0). Not open to students with credit in SPAN 690 or to MA students.

SPAN 662 Seminar in Prose Fiction in Spanish

★3 (fi 6) (either term, 0-3s-0) or ★6 (fi 12) (full session, 0-3s-0).

SPAN 664 Seminar in Theatre in Spanish

★3 (fi 6) (either term, 0-3s-0) or ★6 (fi 12) (full session, 0-3s-0).

SPAN 691 Seminar in Hispanic Literatures

★3 (fi 6) (either term, 0-3s-0) or ★6 (fi 12) (full session, 0-3s-0).

SPAN 696 Master's Comprehensive Examinations

★3 (fi 6) (either term, 0-3s-0). This course is required of students registered in the course-based MA program in Spanish and consists of examinations written in accordance with regulations approved for the program.

SPAN 699 Conference Course

★3 (fi 6) (either term, 3-0-0) or ★6 (fi 12) (full session, 3-0-0).

SPAN 900 Directed Research Project

★3 (fi 6) (variable). This course is required of students registered in the course-based MA program in Hispanic Literatures and consists of any essay written in accordance with regulations for the program. Formerly SPAN 695.

211.225 **Speech Pathology and Audiology**

Department of Speech Pathology and Audiology
Faculty of Rehabilitation Medicine

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

SPA 500 Introduction to Graduate Research

★3 (fi 6) (first term, 3-0-0). Investigation of research strategies in speech pathology and audiology, analyses of completed and proposed research, initial thesis planning. Normally taken during student's first term. (MSc)

SPA 501 Clinical Research Methods

★3 (fi 6) (first term, 3-0-0). Investigation of strategies for demonstrating scientifically the impact of clinical intervention programs, both for accountability and for contributing to the knowledge base regarding effective treatment. Students will be advised to approach staff members as resources for development of specific projects in anticipation of SPA 900. (Restricted to MSLP-B students only.)

SPA 502 Anatomy and Physiology of the Speech Mechanism

★3 (fi 6) (first term, 4-0-2). Lectures and demonstrations provide a systematic study of the gross anatomy and neuroanatomy of the respiratory, phonatory, resonatory, and articulatory subsystems and the physiology of respiration, phonation, resonance, and articulation in speech production. The embryological and post-natal development of these systems is considered. Review of the neural substrates underlying speech and language processing is included. Laboratories provide observational and simulated dissection experiences using computer software video, anatomical models, and projected materials. (Restricted to MSLP-B students only.)

SPA 503 Speech and Hearing Science

★3 (fi 6) (either term, 3-0-2). Hearing Science Section: Study of the anatomy and physiology of the auditory and vestibular systems and the principles and measurement of sound, including psychophysical methods and psychoacoustics. Speech Science Section: Study of speech perception, acoustical theories of vowel and consonant production, and the aeromechanical principles of speech production. Laboratories provide interactive demonstrations of instrumentation for recording and measuring acoustic and aeromechanical aspects of speech production. Prerequisite or corequisite: SPA 502 or equivalent. (Restricted to MSLP-B students only.)

SPA 507 Phonological Disorders

★3 (fi 6) (either term, 3-0-2). In-depth study of the nature, assessment and remediation of articulatory/phonological disorders according to various theoretical models. Emphasis will be placed on phonologically based clinical approaches including phonological process analysis and generative phonology. Practical experience in assessment and remediation will be provided through clinical observation and laboratory experiences. (Restricted to MSLP-B students only.)

SPA 509 Motor Speech Disorders

★3 (fi 6) (either term, 3-0-2). Study of dysarthria and dyspraxia (congenital and acquired) including the nature of their underlying neuropathologies, methods of instrumental and perceptual assessment, and systematic instrumental and behavioral management strategies. Students will develop their understanding of the course material via a series of clinical problem solving and treatment planning exercises. Prerequisites: SPA 502 or equivalent and SPA 503. (Restricted to MSLP-B students only.)

SPA 511 Child Language Development and Assessment

★3 (fi 6) (first term, 3-0-2). A review of normal language development provides the basis for a comprehensive study of the assessment and identification of children with language disorders. Assessment procedures involve language test administration and interpretation. Discussion of research findings highlights disordered language behaviors associated with such problems as mental retardation, emotional problems, and learning disabilities. The laboratory provides experience in administering a variety of language tests. (Restricted to MSLP-B students only.)

SPA 514 Diagnostic Audiology

★3 (fi 6) (either term, 3-0-0.5). Study of assessment procedures and instrumentation used in diagnostic audiology. Emphasis is on calibration, evaluation, and test result interpretation. Laboratory experience in test administration is provided. Prerequisites or corequisites: SPA 502 and 503 or equivalent.

SPA 516 Diagnosis and Appraisal of Communication Disorders

★3 (*fi 6*) (either term, 3-0-1). A study of the principles underlying the evaluative and management procedures in communication disorders. History taking, report writing, recording observations, analysis of tests relevant to the clinical process and test procedure administration will be covered. (Restricted to MSLP-B students only.)

SPA 518 Remediation of Child Language Disorders

★3 (*fi 6*) (second term, 3-0-2). A study of the theoretical models of intervention and clinical application in remediating children's disordered language patterns. Specific attention focused toward commercial and clinician-generated programs that serve these various theoretical frameworks. Discussion of language goals, intervention strategies and accountability measures that serve to guide the therapeutic process and determine treatment effectiveness. The laboratory provides opportunity to observe therapy and design sample language therapy units. Prerequisite: SPA 511. (Restricted to MSLP-B students only.)

SPA 520 Clinical Aphasiology

★3 (*fi 6*) (either term, 0-4L-0). Study of acquired aphasia including the nature of the underlying neuropathologies, methods of differential diagnosis and comprehensive assessment, and clinically-pertinent behavioral management strategies. Students will develop their understanding of the course material via a series of clinical problem solving and treatment planning exercises. (Restricted to MSLP-B students only.)

SPA 521 Dysphagia

★1.5 (*fi 3*) (Intersession, 0-2L-0). This course will provide an overview of the anatomical and neurophysiological bases of normal and abnormal feeding and swallowing in adults and children. Structural and neurological conditions commonly associated with dysphagia will be reviewed. A framework of interdisciplinary assessment and management of dysphagia will be provided. (Restricted to MSLP-B students.)

SPA 523 Augmentative/Alternative Communication Systems

★1.5 (*fi 3*) (first term, 0-2L-0). This course will provide a description of various augmentative/alternative communication systems, including microcomputers. It will address assessment questions and the intervention process for individual users with communication disorders. (Restricted to MSLP-B students only.)

SPA 524 Introduction to Clinical Practicum I

★7.5 (*fi 15*) (full session, 0-8c-2). Credit. Practical application of clinical procedures under direct supervision. Normally, students will possess an academic background enabling them to assume direct treatment responsibilities with children and adults having disorders of articulation and/or language. A minimum of 48 direct contact hours as well as simulated and indirect contact hours will be accrued. Seminar content will include topics of clinical and/or professional significance such as ethics, health law, private practice, goal setting and data collection. Flexibility in seminar topics will accommodate new topics as they arise. Prerequisite: SPA 525. (Restricted to MSLP-B students only.)

SPA 525 Introduction to Clinical Practicum II

★2 (*fi 4*) (first term, 0-2c-0). Credit. Continued practical application of clinical procedures under direct supervision. Normally students will acquire experience with alternative service delivery models such as group treatment. A minimum of 25 direct contact hours as well as simulated and indirect contact hours will be accrued. Seminar content will include topics of clinical and/or professional significance such as ethics, health law, private practice, goal setting and data collection. Flexibility in seminar topics will accommodate new issues as they arise. (Restricted to MSLP-B students only.)

SPA 526 Voice and Resonance Disorders

★4 (*fi 8*) (either term, 4-0-2). A study of the causes, nature, clinical assessment, and management of voice and resonance disorders. Prerequisites: SPA 502 and SPA 503. (Restricted to MSLP-B students only.)

SPA 527 Language and Literacy

★3 (*fi 6*) (either term, 3-0-1). Study of language development in school-age children and adolescents, with focus on the relationships among oral language, reading, and writing; linguistic tasks faced by these age groups in school and elsewhere; and implications for language assessment and intervention. Prerequisites: SPA 511 and SPA 518. (Restricted to MSLP-B students only.)

SPA 528 Stuttering

★3 (*fi 6*) (either term, 3-0-1). A study of the development, nature and treatment of stuttering with particular emphasis on management strategies. (Restricted to MSLP-B students only.)

SPA 531 Geriatric Communication Disorders

★3 (*fi 6*) (either term, 3-0-1). Study of the nature and clinical management of speech, hearing, and language problems associated with the physiological, psychological, and sociological aspects of aging. (Restricted to MSLP-B students only.)

SPA 532 Advanced Clinical Practicum

★4.5 (*fi 9*) (either term, 0-12c-0). Credit. Full-time supervised clinical practice normally for a period of six weeks in an approved clinical service facility. Students will have completed all academic course work and will be prepared to work with a broad range of communication disorders under reduced supervision. A minimum of 75 direct contact hours as well as simulated and indirect contact hours will be accrued. Prerequisite: SPA 525. (Restricted to MSLP-B students only.)

SPA 533 Advanced Clinical Practicum

★4.5 (*fi 9*) (either term, 0-12c-0). Credit. Full-time supervised clinical practice normally for a period of six weeks in an approved clinical service facility. Students will have completed all academic course work and will be prepared to work with a broad range of communication disorders under reduced supervision. A minimum of 75 direct contact hours as well as simulated and indirect contact hours will be accrued. Prerequisite: SPA 525. (Restricted to MSLP-B students only.)

SPA 534 Aural (Re)habilitation

★3 (*fi 6*) (either term, 3-0-0). Study of the diagnostic and treatment strategies for communication problems associated with childhood and adult onset hearing loss. (Restricted to MSLP-B students only.)

SPA 540 Advanced Clinical Practicum

★4.5 (*fi 9*) (either term, 0-12c-0). Credit. Full-time supervised clinical practice normally for a period of six weeks in an approved clinical service facility. Students will have completed all academic course work and will be prepared to work with a broad range of communication disorders under reduced supervision. A minimum of 75 direct contact hours as well as simulated and indirect contact hours will be accrued. Prerequisite: SPA 525. (Restricted to MSLP-B students only.)

SPA 541 Advanced Clinical Practicum

★4.5 (*fi 9*) (either term, 0-12c-0). Credit. Full-time supervised clinical practice normally for a period of six weeks in an approved clinical service facility. Students will have completed all academic course work and will be prepared to work with a broad range of communication disorders under reduced supervision. A minimum of 75 direct contact hours as well as simulated and indirect contact hours will be accrued. Prerequisite: SPA 525. (Restricted to MSLP-B students only.)

SPA 542 Counselling in Speech-Language Pathology

★3 (*fi 6*) (either term, 3-0-0). A study of counselling issues, principles, and strategies applied to clinical processes in speech-language pathology. (MSLP-A) Offered in Intersession only.

SPA 543 Administration in Speech-Language Pathology

★3 (*fi 39*) (either term, 3-0-0). A consideration of administrative topics relevant to program management, human resources management, and service delivery models for school, hospital, community health, and private practice settings. (MSLP-A) Offered in Intersession only.

SPA 544 Clinical Supervision in Speech-Language Pathology

★3 (*fi 6*) (Intersession, 3-0-0). A study of clinical supervision models for students, support personnel, and professionals. (MSLP-A)

SPA 545 Audiology for Educators of the Hearing Impaired

★3 (*fi 6*) (first 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 rehabilitative procedures used by the classroom teacher. The course is restricted to students enrolled in the Faculty of Education Program for training Teachers of the Hearing Impaired. Prerequisite: consent of Department.

SPA 546 Dysphagia

★3 (*fi 6*) (either term, 3-0-0). A study of assessment and management of feeding and swallowing disorders in children and adults. (MSLP-A) Offered in Intersession only.

SPA 547 Motor Speech Disorders in Adults

★3 (*fi 6*) (either term, 3-0-0). A study of recent advances in assessment and treatment of acquired dysarthria and dyspraxia in adult populations. (MSLP-A) Offered in Intersession only.

SPA 548 Motor Speech Disorders in Children

★3 (*fi 6*) (either term, 3-0-0). A study of recent advances in assessment and treatment of motor speech disorders in paediatric populations. (MSLP-A) Offered in Intersession only.

SPA 549 Phonological Disorders in Children

★3 (*fi 6*) (either term, 3-0-0). Advanced study of recent developments in assessment and treatment approaches for children with phonological/articulatory disorders. (MSLP-A) Offered in Intersession only.

SPA 550 Child Language Disorders

★3 (*fi 39*) (either term, 3-0-0). Advanced study of assessment and remediation of language disorders in children. (MSLP-A) Offered in Intersession only.

SPA 551 Literacy and Language-Disordered Children

★3 (fi 6) (either term, 3-0-0). A consideration of language-learning disabled children relative to the relationships between oral and written language and their assessment and treatment. (MSLP-A) Offered in Intersession only.

SPA 552 Traumatic Brain Injury

★3 (fi 6) (either term, 3-0-0). A study of the nature of traumatic brain injury in children and adults and approaches to assessment and remediation of consequent communication disorders. (MSLP-A) Offered in Intersession only.

SPA 553 Acquired Language Disorders in Adults

★3 (fi 6) (either term, 3-0-0). Advanced study of recent developments in assessment and remediation of acquired and age-related language disorders in adult populations. (MSLP-A) Offered in Intersession only.

SPA 554 Augmentative and Alternative Communication

★3 (fi 6) (either term, 3-0-0). A study of augmentative and alternative communication technology and strategies relevant to management of non-speaking children and adults. (MSLP-A) Offered in Intersession only.

SPA 555 Current Trends in Audiology for the Speech-Language Pathologist

★3 (fi 6) (either term, 3-0-0). A study of recent developments in technology, amplification systems, and strategies relevant to diagnosis and management of children and adults with hearing impairments. (MSLP-A) Offered in Intersession only.

SPA 556 Fluency Disorders

★3 (fi 6) (either term 3-0-0). A study of recent developments relevant to assessment and remediation of stuttering in children and adults. (MSLP-A) Offered in Intersession only.

SPA 557 Instrumental Measurement of Disordered Speech Production

★3 (fi 6) (either term, 0-3L-0). Application of recent technology to assessment and management of disorders of respiration, voice, resonance, and articulation. (MSLP-A) Offered in Intersession only.

SPA 558 Assessment and Outcome Measurement in Speech-Language Pathology

★3 (fi 6) (either term, 3-0-0). A study of outcome measurement strategies and evaluation processes applicable in determining treatment efficacy and accountability. (MSLP-A) Offered in Intersession only.

SPA 559 Instrumental Measurement and Analysis

★4 (fi 8) (either term, 3-0-3). Advanced study of laboratory methods in speech acoustics and physiology. Prerequisite: SPA 503 or consent of Department. Formerly SPA 506. (MSc)

SPA 561 Methods of Data Analysis

★3 (fi 6) (either term, 0-3s-0). The role of statistics in speech pathology and audiology research, including study of basic concepts related to selection of analysis methods for particular data sets and interpretation of results. Prerequisites: Introductory statistics course and consent of Department. Formerly SPA 502. (MSc)

SPA 565 Supervision of Speech-Language Pathology

★3 (fi 6) (either term, 0-3s-0). An introduction to the supervisory process as a quantifiable, goal-oriented component of the clinical process: including relevant information from the literature in speech-language pathology, education and counselling. Prerequisite: consent of Department. Formerly SPA 508. (MSc)

SPA 567 Aging and Communication

★3 (fi 6) (either term, 0-3s-0). Advanced interdisciplinary study of the research literature on physiological, psychological and sociological aspects of aging and their impact on speech, hearing, and language. Topical focus may vary. Prerequisite: consent of Department. Formerly SPA 513. (MSc)

SPA 569 Research in Fluency Disorders

★3 (fi 6) (either term, 0-3s-0). A study of current research in fluency disorders. Students will research theoretical issues in assessment or therapy. Prerequisite: consent of Department. Formerly SPA 515. (MSc)

SPA 571 Issues on Phonology and Phonological Disorders

★3 (fi 6) (either term, 0-3s-0). Advanced study of current literature on phonological development and disorders. Topical focus may vary. Prerequisite: consent of Department. Formerly SPA 523. (MSc)

SPA 573 Issues in Child Language

★3 (fi 6) (either term, 0-3s-0). Advanced study of selected topics in normal language acquisition. Topical focus may vary. Prerequisite: consent of Department. Formerly SPA 523. (MSc)

SPA 575 Language Disorders: Children

★3 (fi 6) (either term, 0-3s-0). Advanced study of current literature on specific topic areas in the evaluation and management of children with

acquired language disorders. Topical focus may vary. Prerequisite: consent of Department. Formerly SPA 525. (MSc)

SPA 577 Language Disorders: Adults

★3 (fi 6) (either term, 0-3s-0). Advanced study of research literature on acquired aphasia and related language disorders. Topical focus may vary. Prerequisite: consent of Department. (MSc)

SPA 579 Dyspraxia and Dysarthria

★3 (fi 6) (either term, 0-3s-0). Advanced study of the research literature on congenital and acquired disorders of motor speech programming and execution. Topical focus may vary. Prerequisite: SPA 509 or consent of Department. Formerly SPA 531. (MSc)

SPA 581 Craniofacial Anomalies

★3 (fi 6) (either term, 0-3s-0). Advanced study of recent research on the evaluation and management of communication disorders associated with craniofacial anomalies. Prerequisite or corequisite: SPA 559 or consent of Department. Formerly SPA 533. (MSc)

SPA 583 Disorders of Phonation

★3 (fi 6) (either term, 0-3s-0). Advanced study of current evaluation and management techniques for disorders of phonation and resonance. Prerequisite or corequisite: SPA 559 or consent of Department. Formerly SPA 535. (MSc)

SPA 591 Special Topics

★3 (fi 6) (either term, 0-3s-0). Special seminars. Content will vary from year to year. Topics will be announced prior to registration period. The student's transcript will carry a title descriptive of the content. May be repeated. Prerequisite: consent of Department. Formerly SPA 570. (MSc)

SPA 597 Advanced Clinical Practicum

★4.5 (fi 9) (either term, 0-12c-0). May be repeated. Credit. Full-time supervised clinical practice normally for a period of six weeks in an approved clinical service facility. Students will have completed all academic course work and will be prepared to work with a broad range of communication disorders under reduced supervision. A minimum of 75 direct contact hours as well as simulated and indirect contact hours will be accrued. Prerequisite: SPA 525. (Restricted to MSLP-B students only.)

SPA 598 Directed Individual Reading and Research

★3 (fi 6) (either term, 0-3s-0). May be repeated. Prerequisite: consent of Department. (MSc/MSLP)

SPA 900 Directed Research Project

★3 (fi 6) (either term, 0-3s-0). The projects will normally be of a clinical research nature. This is in keeping with the philosophy that clinical speech-language pathologists should be able to demonstrate scientifically the impacts of their intervention programs, both for accountability and for contributing to the knowledge base regarding effective clinical treatment. (Restricted to MSLP-B students only.)

211.226 Statistics and Applied Probability

Department of Mathematical Sciences
Faculty of Science

Note: Statistical software packages will normally be used in courses that contain data analysis.

211.226.1 Undergraduate Courses**STAT 141 Introduction to Statistics**

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

STAT 151 Introduction to Applied Statistics I

★3 (fi 6) (either term, 3-0-2). Data collection and presentation, descriptive statistics. Probability distributions, sampling distributions and the central limit theorem. Point estimation and hypothesis testing. Correlation and regression analysis. Goodness of fit and contingency table. Prerequisite: MATH 30. This course may not be taken for credit if credit has been obtained in any STAT course, or in PSYCO 211 or SOC 210.

STAT 221 Applied Probability

★3 (fi 6) (either term, 3-0-2). Probability models; distribution of one and two random variables; moment generating functions; specific distributions; uniform, binomial, geometric, Poisson, exponential, normal, etc. Analysis of decision problems; decision conditions and criteria; information and utility in decision making. Various applications are considered with emphasis on the analysis of computer systems; simulation techniques are used

and the algorithmic approach is used throughout the course. Pascal is used in laboratory periods. This course is restricted to Honors and Specialization students in Computing Science. Prerequisites: MATH 115 and MATH 120 or equivalents. Corequisite: MATH 214 or 217. Credit may not be obtained for both STAT 221 and STAT 265.

STAT 222 Applied Statistics

★3 (*fi 6*) (either term, 3-0-2). Sampling distributions; estimation; hypothesis testing; linear regression of two or more variables; simulation of samples; cost analyses; applications which are primarily of interest to computing scientists. Prerequisite: STAT 221. Note: Credit may not be obtained for both STAT 222 and 266.

STAT 235 Introductory Statistics for Engineering

★3 (*fi 6*) (either term, 3-0-2). Descriptive data analysis. Calculus of Probability. Binomial, multinomial, poisson, normal, beta, exponential, gamma, hypergeometric, and weibull distributions. Sampling distributions. Estimation, testing hypotheses, goodness-of-fit tests, and one-way analysis of variance. Linear correlation and regression. Sampling. Quality control. Use of a microcomputer software package for statistical analyses in engineering applications. Prerequisites: ENCMP 100, MATH 101. Credit may not be obtained in STAT 235 if credit has already been obtained in STAT 141, 151, 222, 255, 266; PSYCO 211 or SOC 210.

STAT 252 Introduction to Applied Statistics II

★3 (*fi 6*) (either term, 3-0-2). Methods in applied statistics including regression techniques, analysis of variance and covariance, and methods of data analysis. Applications are taken from Biological, Physical and Social Sciences, and Business. Credit may be received in at most one of STAT 252, 319, or 341. Prerequisite: STAT 141 or 151 or equivalent.

STAT 255 Introductory Statistics for Economics

★6 (*fi 12*) (full session, 3-0-3). Frequency distributions and graphs. Sample statistics. Basic probability. Probability distributions and the expectation operator. Sampling. Significance tests and sampling distributions. Contingency tables. Regression and correlation. Analysis of variance. Times series. Index numbers. Nonparametric inference. Prerequisite or corequisite: MATH 113. This course may not be taken for credit if credit has been obtained in any STAT course, or in PSYCO 211 or SOC 210.

STAT 265 Elements of Probability Theory

★3 (*fi 6*) (either term, 3-0-0). Probability spaces; random variables, random vectors and probability distributions. Expectation, moments and conditional probability. Prerequisite: MATH 115 or equivalent. Corequisite: MATH 214. Credit may not be obtained for both STAT 265 and STAT 221.

STAT 266 Elements of Statistical Inference

★3 (*fi 6*) (either term, 3-0-0). Principles of parametric and nonparametric inference; hypothesis testing; one-, two- and multisample problems; confidence intervals. Prerequisite: STAT 265. Note: Credit may not be obtained for both STAT 222 and 266.

STAT 331 Risk Theory

★3 (*fi 6*) (either term, 3-0-0). Economics of insurance, risk models, independent increment processes, Markov processes, premium calculation, retentions and reserves, stability, dividend policy, utility, applications of risk theory. Prerequisite or corequisite: MATH 354. Prerequisite: STAT 265. This course may be offered in alternate years.

STAT 332 Survival Analysis

★3 (*fi 6*) (either term, 3-0-0). Survival models, model estimation from complete and incomplete data samples, parametric survival models with concomitant variables, estimation of life tables from general population data. Prerequisite: STAT 266. This course may be offered in alternate years.

STAT 337 Biostatistics

★3 (*fi 6*) (first term, 3-0-2). Methods of data analysis useful in Biostatistics including analysis of variance and covariance and nested designs, multiple regression, logistic regression and log-linear models. The concepts will be motivated by problems in the life sciences. Applications to real data will be emphasized through the use of a computer package. Prerequisite: STAT 151 and a 200-level Biological Science course. Note: This course may not be taken for credit if credit has already been obtained in STAT 252, 368 or 378.

STAT 341 Applied Statistical Methods

★3 (*fi 6*) (either term, 3-0-2). Applications of multivariable techniques designed to assess relationships among sets of variables. Multivariate analysis, design of experiments and analysis of variance, multiple regression. Applications are taken from the Biological, Physical, and Social Sciences, and from Commerce. Prerequisites: STAT 141, 151, or equivalent. Note: This course is not available to students in the Honors or Specialization program in Statistics, and may not be taken if credit has already been obtained in STAT 368, 378, or 475.

STAT 361 Sampling Techniques

★3 (*fi 6*) (either term, 3-0-0). Simple random sampling from finite populations,

stratified sampling, regression estimators, cluster sampling. Note: This course may only be offered in alternate years. Prerequisites: STAT 265 and one other Statistics course.

STAT 368 Introduction to Design and Analysis of Experiments

★3 (*fi 6*) (either term, 3-0-0). Basic principles of experimental design, completely randomized design-one way ANOVA and ANCOVA, randomized block design, Latin square design, Multiple comparisons. Nested designs. Factorial experiments. Prerequisites: A course in Linear Algebra and STAT 265 or equivalent and one other statistics course.

STAT 377 Non-Parametric Inference

★3 (*fi 6*) (either term, 3-0-0). Tests for randomness, goodness of fit, tests for location and scale, non-parametric estimators. Robust statistics. Introduction to computer packages for non-parametric statistics. Note: This course may be offered only in alternate years. Prerequisites: STAT 265 and one other statistics course.

STAT 378 Applied Regression Analysis

★3 (*fi 6*) (either term, 3-0-0). Simple linear regression analysis, inference on regression parameters, residual analysis, prediction intervals, weighted least squares. Multiple regression analysis, inference about regression parameters, multicollinearity and its effects, indicator variables, selection of independent variables. Non-linear regression. Prerequisites: A course in Linear Algebra and STAT 265 or equivalent and one other statistics course.

STAT 400 Industrial Internship Practicum

★3 (*fi 6*) (first term 0-3s-0). Required by all students who have just completed a Mathematical Sciences Industrial Internship Program and who are in an Honors or Specialization degree in Statistics. Must be completed during the first academic term following return to full-time studies. Note: A grade of 1 to 9 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 to learn from the experiences of the Internship as demonstrated in an oral presentation. Prerequisite: WKEXP 953.

STAT 466 Statistical Inference

★3 (*fi 6*) (second term, 3-0-0). Foundations of statistical inference. Point estimation, properties of estimates. Multivariate normal distribution. Testing statistical hypotheses, likelihood ratio test, Chi-square t- and F-test. Confidence intervals. Prerequisites: STAT 266 and 471.

STAT 471 Probability I

★3 (*fi 6*) (first term, 3-0-0). Probability spaces, algebra of events. Elements of combinatorial analysis. Conditional probability, stochastic independence. Special discrete and continuous distributions. Random variables, moments, transformations. Basic limit theorems. Prerequisites: STAT 265, MATH 214, 215, and a 300-level Statistics or Mathematics course.

STAT 472 Probability II

★3 (*fi 6*) (second term, 3-0-0). Sequences of Bernoulli trials, laws of large numbers, normal approximations. Generating functions, recurrent events, random walks. Introduction to Markov chains. Special topics. Prerequisite: STAT 471.

STAT 475 Applied Multivariate Analysis

★3 (*fi 6*) (either term, 3-0-2). The multivariate normal distribution, multivariate regression and regression and analysis of variance, classification, canonical correlation, principal components, factor analysis, introduction to multivariate computer packages. Prerequisites: Two single-term courses in linear algebra, and STAT 378 or equivalent.

STAT 479 Time Series Analysis

★3 (*fi 6*) (either term, 3-0-0). Stationary series, spectral analysis, models in time series: autoregressive, moving average, ARMA and ARIMA. Smoothing series, computational techniques and computer packages for time series. Note: This course may be offered only in alternate years. Prerequisites: STAT 266 and any 300- or 400-level STAT course.

211.226.2 Graduate Courses

STAT 558 Techniques of Statistical Analysis I

★3 (*fi 6*) (first term, 3-0-0). The contents will be selected each year from applied topics. Prerequisite: consent of Department.

STAT 559 Techniques of Statistical Analysis II

★3 (*fi 6*) (second term, 3-0-0). The contents will be selected each year from applied topics. Prerequisite: consent of Department.

STAT 561 Sample Survey Methodology

★3 (*fi 6*) (either term, 3-0-0). Review of basic sampling schemes: simple random sampling, and stratified random sampling, and systematic sampling. Multistage sampling schemes. Estimation of nonlinear parameters: ratios, regression coefficients, and correlation coefficients. Variance estimation techniques: linearization, BRR, jackknife, and bootstrap. Selected topics:

model-based estimation, regression analysis from complex survey data. Relevant computer packages. Prerequisites: STAT 361, 466, 471.

STAT 562 Discrete Data Analysis

★3 (fi 6) (either term, 3-0-0). Sampling models and methods of inference for discrete data. Maximum likelihood estimation for complete contingency tables, measures of association and agreement. Goodness-of-fit. Incomplete tables. Analysis of square tables; symmetry and marginal homogeneity. Model selection and closeness of fit; practical aspects. Chi-square tests for categorical data from complex surveys. Prerequisite: STAT 466.

STAT 568 Design and Analysis of Experiments

★3 (fi 6) (either term, 3-0-0). The general linear model. Fully randomized designs, one-way layout, multiple comparisons. Block designs, Latin squares. Factorial designs confounding, fractions. Nested designs, randomization restrictions. Response surface methodology. Analysis of covariance. Prerequisite: STAT 378. Corequisites: STAT 466, 471.

STAT 577 Nonparametric Inference

★3 (fi 6) (either term, 3-0-0). Tests for randomness. Rank tests and estimates of location: one-sample and two-sample location model. Nonparametric analysis of variance: one-way and two-way layouts. Nonparametric tests in linear regression. Multivariate location model. Prerequisite: STAT 378. Corequisites: STAT 466, 471.

STAT 578 Regression Analysis

★3 (fi 6) (either term, 3-0-0). Multiple linear regression, ordinary and generalized least squares, partial and multiple correlation. Regression diagnostics, collinearity, model building. Nonlinear regression. Selected topics: robust and nonparametric regression, measurement error models. Prerequisites: STAT 378 and a 400-level statistics course.

STAT 580 Stochastic Processes

★3 (fi 6) (either term, 3-0-0). Elements of stochastic processes. Discrete and continuous time Markov Chains; Birth and Death processes. Branching processes. Brownian Motion. General Stationary and Markov processes. Examples. Prerequisite: STAT 471.

STAT 666 Theory of Point Estimation

★3 (fi 6) (either term, 3-0-0). Concept of decision theory. Exponential families of distributions. Unbiased, equivariant, Bayes and minimax estimation. Large sample theory, asymptotic optimality. Prerequisites: STAT 466, 471, 472.

STAT 667 Theory of Hypothesis Tests and Confidence Regions

★3 (fi 6) (second term, 3-0-0). Optimality criteria, unbiasedness, invariance. Prerequisites: STAT 466, 671.

STAT 671 Probability Theory I

★3 (fi 6) (first term, 3-0-0). Probability spaces, introduction to measure and integration, random variables, types of stochastic convergence. Distribution functions and characteristic functions. Weak limit theorems. Prerequisite: STAT 472.

STAT 672 Probability Theory II

★3 (fi 6) (second term, 3-0-0). Zero-one laws, three-series criterion, laws of iterated logarithm, Central Limit Problem, conditional expectation. Introduction to stochastic processes. Martingales and Markov processes. Prerequisite: STAT 671.

STAT 675 Multivariate Analysis

★3 (fi 6) (either term, 3-0-0). Multivariate normal distribution, estimation of the mean vector and the covariance matrix. The distribution of the sample covariance matrix and the sample generalized variance, Hotelling's T^2 . Discriminant analysis. Some statistical applications. Prerequisites: STAT 466, 471, 475 and MATH 381, 382.

STAT 679 Time Series Analysis

★3 (fi 6) (either term, 3-0-0). The autocorrelation function and spectrum and their estimates. Linear stationary models; autoregressive, moving average, and mixed models. Linear nonstationary models; autoregressive integrated moving average models. Forecasting. Model identification and estimation. Spectral analysis. Prerequisite: STAT 466 or equivalent.

STAT 766 Topics in Statistics I

★3 (fi 6) (first term, 3-0-0).

STAT 767 Topics in Statistics II

★3 (fi 6) (second term, 3-0-0).

STAT 771 Topics in Probability I

★3 (fi 6) (first term, 3-0-0).

STAT 772 Topics in Probability II

★3 (fi 6) (second term, 3-0-0).

STAT 900 Directed Research Project

★3 (fi 6) (variable). Open only to students taking the MSc non-thesis option in statistics.

211.227 Statistique

Faculté Saint-Jean

STATQ 141 Introduction à la statistique

★3 (fi 6) (l'un ou l'autre semestre, 3-0-0). Variables aléatoires et distribution des fréquences. Distribution des échantillons et inférence élémentaire. Tables des éventualités (contingences) et test d'indépendance. Régression et corrélation. Analyse de la variance. Prérequis: Mathématiques 30 ou équivalent. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour STAT 151, 155, 221, 235, 236, 237, 255, 265, PSYCO 211, SCSOC 322, ou SOC 210.

211.228 Surgery

Department of Surgery

Faculty of Medicine and Oral Health Sciences

211.228.1 Undergraduate Courses

SURG 421 An Introduction to Surgery

★4 (fi 8) (full session, 80 hours). For Phase II Medical students only.

SURG 422 An Introduction to Surgical Subspecialty Urology

★2 (fi 4) (second term, 28 hours). For Phase II Medical students only.

SURG 431 Topics in Otolaryngology

★1 (fi 2) (full session, 16 hours). For third year Medical students only.

SURG 446 Student Internship

★7.5 (fi 15) (full session, 10 weeks). Student internship for students in Phase III, MD program only.

211.228.2 Graduate Courses

SURG 500 Experimental Surgery

★3 (fi 6) (second term, 0-0-3). Designed to introduce MSc and PhD candidates to basic experimental surgical procedures. Course will include: (a) surgical anatomy of laboratory animals, (b) basic surgical methods, (c) selected methods in experimental surgery. Prerequisite: consent of Department.

SURG 510 Gene Transfection and Expression

★3 (fi 6) (Intersession, 4 weeks, 1-0-3). This course will prepare graduate students for carrying out projects requiring molecular biology techniques. Topics to be covered include preparation of competent bacteria; bacterial transformation with gene of interest; growing transformed bacteria in a large scale; isolation of plasmid DNA containing gene of interest; isolation of DNA insert by electroclution method to be used as a probe; gene transfection of human mammalian cells such as dermal fibroblasts; preparation of total RNA from transfected and untransfected cells; separation of RNA by gel electrophoresis; RNA blotting and hybridization with probe of interest; DNA labelling; analysis of corresponding protein as a gene product in transfected cells using a variety of techniques including ELISA, Western blot analysis, immunohistochemistry or receptor assay. It will provide students with an understanding of the basic science on which these techniques will be based. This course is intended for Surgical Residents and Fellows working in experimental surgery. Prerequisite: consent of Department.

SURG 520 Directed Reading in Biomedical Research

★3 (fi 6) (full session, 2-0-0). Lecture series on research techniques in the biomedical sciences intended for students with an advanced medical background. Prerequisite: consent of Department

SURG 530 Directed Reading in Biology and Medicine

★3 (fi 6) (either term, 3-0-0). Reading and study of topics in biomedical research of relevance to the student's interest under direction of one or more faculty members.

SURG 555 Microvascular Surgery

★3 (fi 6) (full session, 40 hours). The course will review the fundamentals of microvascular surgery, and then allow supervised instruction in techniques including dissection, vascular anastomosis, mobilization of free flaps of vascularized tissue, transplantation and vein grafts. This course is intended for individuals with an extensive background in the theory and practice of surgery such as Surgery Residents and experienced researchers in the field. Prerequisite: consent of Department.

SURG 600 Research Seminar

★2 (fi 4) (full session, 0-1s-0). A weekly series of seminars on current research is held during both terms. Graduate students must attend and make two presentations in this series.

211.229 Swedish

(Division of Germanic Languages, Literatures, and Linguistics)
Department of Modern Languages and Comparative Studies
Faculty of Arts

S SWED 100 Elementary Swedish

★6 (*fi 12*) (full session, 3-0-2). Designed to give basic practical skill in everyday spoken and written Swedish. The oral approach, using the laboratory, is followed. Formerly SCAND 101.

S SWED 200 Second-Year Swedish

★6 (*fi 12*) (full session, 3-0-1). Reading and study of selected texts in Swedish literature and culture. Composition and conversation. Prerequisite: SWED 100 or consent of Department. Formerly SCAND 301.

211.230 Reserved**211.231 Textiles, Clothing, and Culture**

Department of Human Ecology
Faculty of Agriculture, Forestry and Home Economics

Note: See also Consumer Studies, Family Studies, and Human Ecology listings for related courses

211.231.1 Undergraduate Courses**S TCC 150 Design Processes for the Near Environment**

★3 (*fi 6*) (either term, 3-0-3). An introductory design course aimed at developing visual awareness and an understanding of design processes. Functional components of the near environment and their aesthetic qualities are evaluated through creative problem solving.

TCC 151 Design Processes in Community Context

★3 (*fi 6*) (either term, 3-3s-0). An introductory course in design fundamentals to develop visual awareness in a community context. Field study to reinforce lecture material is required. Note: May not be taken by TCC majors or by Education students majoring in Home Economics. Credit may not be obtained for both TCC 150 and TCC 151.

D TCC 252 Textile Design I

★3 (*fi 6*) (either term, 2-0-4). An introductory studio course in various methods of printing and dyeing textiles. Prerequisites: TCC 150 and either ART H 102 or 374 or consent of Instructor.

S TCC 254 Apparel Design and Technology I

★3 (*fi 6*) (either term, 3-0-3). Principles of design integrated into pattern-drafting methods. A creative problem-solving approach to apparel design. Production analysis, profitability and industrial techniques introduced. Prerequisite: Clothing and Textiles 20 or an intermediate level CTS module (Fashion Studies), or equivalent; TCC 150 or consent of Instructor.

S TCC 260 Dress and Culture

★3 (*fi 6*) (either term, 3-0-0). This course examines clothing as a primary historical, social, and cultural document that reveals its message through time and across cultures. Course themes include the construction of gender, the economics and politics of appearance, the body as a material of fashion, the way clothing depicts narrative in film, and a critical evaluation of fashion theory in the global context. Prerequisite: HECOL 238 or consent of Instructor.

S TCC 266 The Apparel Industry

★3 (*fi 6*) (either term, 3-0-0). Exploration of the apparel industry, both nationally and globally. Emphasis on current issues impacting on the apparel industry and competitiveness. Entrepreneurship opportunities explored. Link to local industry through guest speakers and industry involvement. Offered in alternate years.

S TCC 268 Survey of Historic Dress

★3 (*fi 6*) (either term, 3-0-0). Introduction to the historical development of dress within a European/North American context, including concepts, factors, and features of fashion change. Contemporary applications in museums, performance, design, and merchandising will be considered. Resources will include the Clothing and Textiles Collection.

S TCC 270 Textiles for the Consumer

★3 (*fi 6*) (either term, 3-0-3). Study of textile components—fibre, yarn, fibre coloration and fabric finish—and their relationship to performance.

TCC 350 Computer-aided Textile and Apparel Design

★3 (*fi 6*) (either term, 3-0-3). Application of computer-aided design technology to textile and apparel design. Focus on CAD for textile or apparel business and entrepreneurship. Prerequisite: TCC 254 or TCC 252. Corequisite: ENGG 208.

D TCC 352 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. Prerequisites: TCC 252 and consent of Instructor.

S TCC 369 Historic and Cross Cultural Textiles

★3 (*fi 6*) (either term, 3-0-3). Textiles from a variety of cultures and time periods; their social significance, production, structure design, and the influence on contemporary design. Prerequisites: ★9 in History, Art History, Design History or Anthropology or consent of Instructor.

S TCC 371 Textile and Apparel Performance Evaluation

★3 (*fi 6*) (either term, 3-0-3). Relationship of performance to end use. Physical testing and evaluation focusing on consumer products. Textile standards and specifications. Prerequisite: TCC 270. Offered in alternate years.

TCC 438 Domestic Material Culture

★3 (*fi 6*) (either term, 3-0-3). Investigation of the material culture of domestic environments, including homes, furnishings, and textiles. Focus will be on late 19th and 20th centuries in Western Canada, while drawing on precedents from a variety of time periods and cultures. Students will be involved in primary research using departmental collections, museums, historic sites, archives as well as oral history of individuals, families, and communities. Prerequisite: HECOL 238 or consent of Instructor. Offered in alternate years.

TCC 450 Design Processes for the Near Environment

★3 (*fi 6*) (either term, 3-0-3). Design at the senior level; development of visual awareness and understanding of design processes. Prerequisites: Graduate standing and permission of instructor. Note: May not be taken for credit by students with credit in TCC 150 or 151.

TCC 452 Selected Topics in Textiles

★3 (*fi 6*) (full session, 3-0-3). Normally offered in Intersession.

TCC 454 Apparel Design and Technology II

★3 (*fi 6*) (either term, 3-0-3). Advanced problems in pattern drafting and apparel design. Development of a production pattern and a line of clothing. Exploration of the functional design process through research into activities, special needs, and appropriate textiles. Interrelationship of design, construction and textiles. Prerequisite: TCC 254. Offered in alternate years.

TCC 456 Selected Topics in Apparel

★3 (*fi 6*) (full session, 3-0-3). Normally offered in Intersession.

TCC 457 Apparel Design and Technology

★3 (*fi 6*) (either term, 3-0-3). The principles of design integrated into pattern drafting methods. Visual evaluation of apparel quality. Exploration of the functional design process through research into activities, special needs, and appropriate textiles. Prerequisites: Graduate standing and permission of Instructor. May not be taken for credit by students with credit in both TCC 155 and TCC 255.

TCC 460 Dress and Culture

★3 (*fi 6*) (either term, 3-0-0). Senior level study of clothing behavior of individuals at stages of the life cycle and in a variety of lifestyles. Prerequisites: Graduate standing and permission of Instructor. Note: May not be taken for credit by students with credit in TCC 260.

TCC 466 Culture, Environment, and Economy: Human Ecological Perspectives

★3 (*fi 6*) (either term, 3-0-0). An introduction to the relationship among cultural values and customs, economic systems, and resources. Topics include: trade, barter, dowry, home-based production, arts and crafts, and ecotourism. Prerequisite: HECOL 238 or consent of Instructor. Offered in alternate years.

S TCC 467 Textile and Apparel Policy

★3 (*fi 6*) (either term, 2-2s-0). Principles and processes of policy development, implementation and analysis; government policies and programs, including international trade agreements, and their effect on the textile and apparel industries and market. Prerequisites: TCC 266 and ECON 102.

S TCC 468 19th- and 20th-Century Dress

★3 (*fi 6*) (either term, 3-0-3). The class will use 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. Prerequisites: HECOL 238 and TCC 268 or consent of the instructor.

TCC 472 Textile Fibres and Finishes

★3 (*fi 6*) (either term, 3-1s-2). Polymer and fibre structure-property relationships; in-depth study of fibres including production, structure, physical and chemical properties. Effect of selected finishes on performance. Prerequisites: CHEM 161 and 163; and TCC 270 or consent of Department.

TCC 480 Selected Topics

★3 (*fi 6*) (either term, 3-0-0, or 3-0-3, or 2-0-4). Topics of current interest in clothing, textiles and design. Prerequisite: Varies with specific offering.

TCC 491 Research Project in Textiles and Clothing

★3 (*fi 6*) (either term, 0-1s-5). Research project planned by student in consultation with faculty advisor. Preparation and presentation of seminar based on project. Open only to TCC majors who have completed 90 units of course weight. Prerequisite: consent of Instructor.

TCC 571 Color in Textiles

★3 (*fi 6*) (either term, 3-0-3). Study of major classes of dyes; color science and evaluation of color change; analysis of fibres by polarized light microscopy. Prerequisites: TCC 472 or consent of Department. Offered in alternate years.

S TCC 577 Preventive Textile Conservation

★3 (*fi 6*) (first term, 3-0-3). Theoretical and practical investigation of the preventive care of textiles and costumes in museums or related institutions. Topics include an overview of deteriorating factors, as well as procedures for handling, storage, display, and preventive treatment. Museum collections and personnel will augment university lecture, seminar, laboratory and study collection facilities. Prerequisites: TCC 268, 270, and 369 or consent of Instructor.

S TCC 578 Textile Conservation Theory and Practice

★3 (*fi 6*) (second term, 3-0-3). Theoretical and practical investigation of the degradation and treatment of historic textiles and costumes. Lecture and laboratory experience will include an in-depth study of factors affecting the degradation of fibres, as well as methods of cleaning, bleaching, and consolidation. Prerequisites: TCC 370 and TCC 577.

S TCC 598 Historic Resources Internship I

★3 (*fi 6*) (full session, 0-1s-8). Internship with an institution involved in historic resources conservation. Normally offered in Intersession by special arrangement. Prerequisite: TCC 578 or consent of Department.

S TCC 599 Historic Resources Internship II

★3 (*fi 6*) (full session, 0-1s-8). Continuation of TCC 598. Normally offered in Intersession by special arrangement. Prerequisites: TCC 598 and consent of Department.

211.231.2 Graduate Courses

TCC 601 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.

TCC 602 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: TCC 601 or consent of Instructor.

TCC 660 Research in Cross-Cultural Clothing and Textiles

★3 (*fi 6*) (either term, 0-3s-0). Focus to be in-depth and specific; topics selected will depend on the needs and interests of course participants and may be oriented to primary data (archival or field) and/or secondary sources. Prerequisite: consent of Instructor.

TCC 665 Consumer Research in Textiles and Clothing

★3 (*fi 6*) (either term, 0-3s-0). A study of conceptual frameworks for consumer research. Familiarization with the consumer research literature in textiles and clothing, with emphasis on developments in theory. Prerequisite: MARK 422 or CONS 220 or consent of Instructor.

S TCC 668 Curatorial Research in Clothing and Textiles

★3 (*fi 6*) (either term, 0-3s-0). Investigation of past, current, and potential research of concern to museum curators. Prerequisites: TCC 369, 619, and one of TCC 368 or 468; or consent of Instructor.

TCC 670 Topics in Advanced Fibre Science

★3 (*fi 6*) (either term, 0-3s-0). Selected fibre science topics. Prerequisite: consent of Instructor.

TCC 671 Research in Textile and Apparel Performance

★3 (*fi 6*) (either term, 0-3s-3). Evaluation of fibre, yarn, fabric, and finish in assessing performance of textile products. Relationship of textile performance to use. Prerequisite: consent of Instructor.

211.232 Thesis

Faculty of Graduate Studies and Research

THES 901 Thesis Research

★0 (*fi 2*) (either term). Represents research activity equivalent to ★1 for registration status and fee assessment purposes. Approval of the Faculty of Graduate Studies and Research required.

THES 902 Thesis Research

★0 (*fi 4*) (either term). Represents research activity equivalent to ★2 for registration status and fee assessment purposes. Approval of Faculty of Graduate Studies and Research required.

THES 903 Thesis Research

★0 (*fi 6*) (either term). Represents research activity equivalent to ★3 for registration status and fee assessment purposes.

THES 904 Thesis Research

★0 (*fi 8*) (either term). Represents research activity equivalent to ★4 for registration status and fee assessment purposes.

THES 905 Thesis Research

★0 (*fi 10*) (either term). Represents research activity equivalent to ★5 for registration status and fee assessment purposes.

THES 906 Thesis Research

★0 (*fi 12*) (either term). Represents research activity equivalent to ★6 for registration status and fee assessment purposes.

THES 907 Thesis Research

★0 (*fi 14*) (either term). Represents research activity equivalent to ★7 for registration status and fee assessment purposes.

THES 908 Thesis Research

★0 (*fi 16*) (either term). Represents research activity equivalent to ★8 for registration status and fee assessment purposes.

THES 909 Thesis Research

★0 (*fi 18*) (either term). Represents research activity equivalent to ★9 for registration status and fee assessment purposes.

THES 910 Thesis Research

★0 (*fi 0*) (either term). For special purposes. Approval of Faculty of Graduate Studies and Research required.

211.233 Ukrainian

(Division of Slavic and East European Studies)
Department of Modern Languages and
Comparative Studies
Faculty of Arts

Note: See also INT D 439 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.

211.233.1 Undergraduate Courses

S UKR 100 Beginners' Ukrainian

★6 (*fi 12*) (full session, 3-0-2). Essentials of grammar, reading, and pronunciation. Designed to give a working knowledge of Ukrainian. Note: Not open to students with credit in Ukrainian 30.

S UKR 150 First-Year University Ukrainian

★6 (*fi 12*) (first session, 3-0-1). An intensive course in grammar, reading and conversation. Readings from modern Ukrainian literature, elementary composition and laboratory work. Designed for students having some previous knowledge of Ukrainian. Prerequisite: Ukrainian 30 or the consent of Department. Note: Not open to students with credit in UKR 100, UKR 303 or UKR 304. All students are required to consult with the Department prior to registering for this course. Formerly UKR 200.

S UKR 201 Second-Year Ukrainian I

★3 (*fi 6*) (first term, 3-0-1). Ukrainian grammar, composition, and oral practice based on selected texts of Ukrainian classical and contemporary literature. Prerequisite: UKR 100, or 150, or consent of Department.

S UKR 202 Second-Year Ukrainian II

★3 (*fi 6*) (second term, 3-0-1). This course is a continuation of UKR 201, with greater emphasis on reading and composition. Prerequisite: UKR 201 or consent of Department. Formerly UKR 304.

S UKR 214 Ukrainian Literature: An Introduction in English

★3 (*fi 6*) (either term, 3-0-0). A survey of the major periods in their cultural and historical context with emphasis on prominent writers. All readings and lectures in English. No prerequisites. This course will not fulfil the Language other than English requirement of the BA degree.

S UKR 215 Assisted Readings and Guided Conversation I

★3 (*fi 6*) (first term, 3-0-0). Training in the skills and techniques necessary for reading Ukrainian literature, folklore, and contemporary newspapers. Literary texts selected mostly from 20th-century material. Topical texts also serve as basis for conversation. Prerequisite: UKR 202 or consent of Department.

S UKR 216 Assisted Readings and Guided Conversation II

★3 (*fi 6*) (second term, 3-0-0). Training in the skills and techniques necessary for reading Ukrainian literature, folklore, and contemporary newspapers. Literary texts selected mostly from pre-20th-century material. Topical texts also serve as basis for conversation. Prerequisite: UKR 202, or 215, or consent of Department.

S UKR 253 Ukrainian Phonetics

★3 (*fi 6*) (either term, 3-0-0). Scientific study of the Ukrainian sound system combined with practice in phonetic discrimination and transcription. Prerequisite: UKR 150, or 202, or consent of Department. Note: Not open to students with credit in UKR 453.

S UKR 326 Ukrainian Culture

★6 (*fi 12*) (full session, 3-0-0). An introduction to Ukrainian culture, with special emphasis on the interrelationship of village life with popular and elite cultures. Focus is placed on the verbal arts, ritual, material and social culture, and the manner in which these are manifested in various contexts. Language of instruction is English. No prerequisite. This course will not fulfill the Language other than English requirement of the BA degree.

S UKR 327 Early Ukrainian-Canadian Culture

★3 (*fi 6*) (either term, 3-0-0). A survey of the cultural heritage of Ukrainian immigrants who settled in Western Canada in the late 19th and early 20th centuries. Note: This course is given in the Intersession only. Language of instruction is English. This course will not fulfill the Language other than English requirement of the BA degree.

S UKR 401 Third-Year Ukrainian I

★3 (*fi 6*) (either term, 3-0-0). Intensive language work in oral and written Ukrainian: advanced grammar, oral exercises and written compositions based on readings of contemporary news items and modern literature, and the viewing of topical videos. Prerequisite: UKR 202 or consent of Department. Note: Formerly UKR 361. Not open to students with credit in UKR 361.

S UKR 402 Third-Year Ukrainian II

★3 (*fi 6*) (either term, 3-0-0). A continuation of UKR 401. Emphasis on difficult grammar problems, written compositions, and speaking. Contemporary news items, modern literature, and video material are used. Prerequisite: UKR 401 or consent of Department. Note: Formerly UKR 362. Not open to students with credit in UKR 362.

S UKR 413 Alexander Dovzhenko and His Contemporaries

★3 (*fi 6*) (either term, 3-0-3). An examination of Soviet silent cinema of the 1920s in its social, political and artistic setting. Major Ukrainian and Russian silent films are examined for their formal, cultural, and political features against the background of the aesthetic and theoretical ferment of the decade. Works by A Dovzhenko, D Vertov, V Pudovkin, L Kuleshov, S Eisenstein, and others. No prerequisites.

S UKR 414 Futurism: East and West

★3 (*fi 6*) (either term, 3-0-3). A comparative examination of the Futurist movement in Slavic countries (Russia, Ukraine, Poland) against the background of Italian Futurism. Poetry, prose and manifestos. Works by Mayakovsky, Khlebnikov, Marinetti, Semenko, Shkurupii and others. Prerequisite: Consent of Department. Reading knowledge of one relevant language other than English is desirable but not essential.

S UKR 422 Ukrainian Folk Poetry

★3 (*fi 6*) (either term, 3-0-0). A survey of the folk song genres, with analysis of texts in the original. Some field work. Prerequisite: UKR 216 or consent of Department.

S UKR 423 Ukrainian Folk Prose

★3 (*fi 6*) (either term, 3-0-0). A survey of the prose and minor verbal genres, with analysis of texts in the original. Some field work. Prerequisite: UKR 216 or consent of Department.

S UKR 425 Ukrainian Rites of Passage

★3 (*fi 6*) (either term, 3-0-0). Examines rites of passage for birth, marriage and death. Some field work. Prerequisites: UKR 216 and ANTHR 207 or consent of Department.

S UKR 426 Ukrainian Calendar Customs

★3 (*fi 6*) (either term, 3-0-0). Examines seasonal folk customs, including winter, spring, summer and autumn rites. Some field work. Prerequisites: UKR 216 and ANTHR 207 or consent of Department.

S UKR 427 Ukrainian Material Culture

★3 (*fi 6*) (either term, 3-0-0). Investigation of selected aspects of the vernacular material culture of Ukrainians and Ukrainian Canadians, including village dress, architecture, agricultural techniques, and folk crafts. Prerequisites: UKR 216 and ANTHR 207 or consent of Department.

S UKR 428 Ukrainian Folk Art and Performance

★3 (*fi 6*) (either term, 3-0-0). Investigation of selected aspects of Ukrainian folk arts, their performance processes and material manifestations. Topics include embroidery, egg decoration, folk medicine, games, folk movement, and drama. Prerequisites: UKR 216 and ANTHR 207 or consent of Department.

S UKR 451 Cultural History of the Ukrainian Language

★3 (*fi 6*) (either term, 3-0-0). The growth and development of Ukrainian from its origins to the present day. Prerequisite: UKR 150, or 202, or consent of Department.

S UKR 455 Contrastive Linguistics: Ukrainian-English

★3 (*fi 6*) (either term, 3-0-0). Contrastive study of the structures of Ukrainian and English with emphasis on problems of language learning. Prerequisite: UKR 150, or 202, or 253, or consent of Department.

S UKR 456 Ukrainian Syntax

★3 (*fi 6*) (either term, 3-0-0). Linguistic study of the syntactic system of Ukrainian. Prerequisite: UKR 150 or 202, or consent of Department.

S UKR 470 Medieval and Early-Modern Ukrainian Literature

★3 (*fi 6*) (either term, 3-0-0). A survey in English of the legacy of Kievan and Galician-Volhynian Rus' (11th–15th centuries) and the cultural renaissance of the 16th–18th centuries. Lectures in English. Modern Ukrainian translations available to students majoring or minoring in Ukrainian. Prerequisite: consent of Department.

S UKR 471 Ukrainian Romanticism

★3 (*fi 6*) (either term, 3-0-0). Introduces the major themes and genres of Ukrainian Romanticism against the background of early 19th century interest in folklore and history. Readings range from I Kotliarevsky, L Borovykovsky, A Metlynsky, and M Kostomarov to P Kulish, with special emphasis on T Shevchenko. Prerequisite: UKR 216 or corequisite: UKR 401 and 402, or consent of Department.

S UKR 472 Ukrainian Realism

★3 (*fi 6*) (either term, 3-0-0). Realist trends in the short story, novel, and drama from the second-half of the 19th-century to the 1920s. Populism, psychologism, and class conflict are some of the issues addressed. Prerequisite: UKR 216; or corequisites: UKR 401 and 402, or consent of Department.

S UKR 473 Ukrainian Modernism and Avant-Garde

★3 (*fi 6*) (either term, 3-0-0). The dramatic revolt against 19th-century aesthetics from the 1890s to 1930. Selected poetry, short prose, drama, and manifestoes highlight the philosophical and formal innovations introduced by such movements as symbolism, futurism, and constructivism. Analogies are drawn to the visual arts. Prerequisite: UKR 216; or corequisites: UKR 401 and 402, or consent of Department.

S UKR 474 Ukrainian Literature: Diaspora and Dissent

★3 (*fi 6*) (either term, 3-0-0). Works in the diaspora (1940s - 1980s) are compared and contrasted with Soviet Ukraine's official and dissident literature. The focus is on the "New York Group" and the "writers of the Sixties," with emphasis on their innovations in poetic language and themes. Prerequisite: UKR 216; or corequisites: UKR 401 and 402, or consent of Department.

S UKR 475 Ukrainian Literature Today

★3 (*fi 6*) (either term, 3-0-0). The course begins with developments on the eve of Ukrainian independence (1991). The dramatic transformation of literature is surveyed against the background of the collapse of communism and socialist realism. Emphasis is on the youngest and most radical generation of writers and critics, their styles, themes, and ideologies. Prerequisite: UKR 216; or corequisites: UKR 401 and 402, or consent of Department.

UKR 479 Honors Thesis

★3 (*fi 6*) (variable, 3-0-0). Directed Honors thesis research. Note: Required of all BA (Honors) students majoring in Ukrainian who are in their final year of study.

S UKR 497 Conference Course (Folklore)

★3 (*fi 6*) (either term, 3-0-0) or ★6 (*fi 12*) (full session, 3-0-0). Students as well as staff may initiate proposals in any given year for the content of this course. Please consult the Department for the procedure for student-initiated proposals.

S UKR 498 Conference Course (Linguistics)

★3 (*fi 6*) (either term, 3-0-0) or ★6 (*fi 12*) (full session, 3-0-0). Students as well as staff may initiate proposals in any given year for the content of this course. Please consult the Department Chair for the procedure for student-initiated proposals.

S UKR 499 Conference Course (Literature)

★3 (*fi 6*) (either term, 3-0-0) or ★6 (*fi 12*) (full session, 3-0-0). Students as well as staff may initiate proposals in any given year for the content of this course. Please consult the Department Chair for the procedure for student-initiated proposals.

211.233.2 Graduate Courses

S UKR 501 Advanced Ukrainian I

★3 (*fi 6*) (either term, 3-0-0). Composition and conversation conducted in Ukrainian based on contemporary literature, journalism, and videos. Prerequisite: UKR 402, or consent of Department.

S UKR 502 Advanced Ukrainian II

★3 (*fi 6*) (either term, 3-0-0). Continuation of UKR 501. Prerequisite: UKR 501, or consent of Department.

S UKR 511 The Structure of Ukrainian

★3 (fi 6) (either term, 3-0-0).

S UKR 515 Early-Modern Ukrainian Poetry and Drama (1550s–1780s)

★3 (fi 6) (either term, 3-0-0). The impact of humanistic theory on the linguistic and formal features of occasional verse, religious lyric, school drama, and political dialogue. Course also considers the alternative poetics of the love lyric, the puppet theatre, and the oral epic. Authors include H Smotrytsky, K Sakovych, L Baranovych, I Velychkovsky, S Iavorsky, T Prokopovych, M Dovhalevsky, and H Skovoroda.

S UKR 516 Early-Modern Ukrainian Prose (1550s–1780s)

★3 (fi 6) (either term, 3-0-0). A study of the impact of humanistic rhetoric on polemical prose, religious oratory, diaries, philosophical tracts, and colloquies. The radical transformation of discourse is illustrated by selections drawn from the Cossack Chronicles. Authors include Z Kopystensky, I Vyshensky, and H Skovoroda; I Galiatovsky, D Tuptalo and A Radyvylovsky; P Orlyk, H Hrabianka, and S Velychko.

S UKR 517 Ukrainian Dialectology

★3 (fi 6) (either term, 3-0-0).

S UKR 531 History of Ukrainian Folklore Studies

★3 (fi 6) (either term, 3-0-0).

S UKR 532 Ukrainian Folklore in Canada

★3 (fi 6) (either term, 3-0-0).

S UKR 555 Theory and Practice of Teaching Ukrainian

★3 (fi 6) (either term, 2-1S-0). Designed to help graduate teaching assistants develop both theoretical knowledge and practical expertise in the instruction of Ukrainian at the college and university levels.

S UKR 599 Directed Reading (Ukrainian Literature)

★3 (fi 6) (either term, 3-0-0) or ★6 (fi 12) (full session, 3-0-0).

S UKR 631 Ukrainian Folklore Theory Studies

★3 (fi 6) (either term, 3-0-0).

S UKR 632 Ukrainian Folklore Research Methods

★3 (fi 6) (either term, 3-0-0).

S UKR 641 Studies in Ukrainian Poetry

★3 (fi 6) (either term, 3-0-0). Detailed study of major poetic works of the 19th and 20th centuries.

S UKR 642 Studies in Ukrainian Drama

★3 (fi 6) (either term, 3-0-0). Detailed study of major dramatic works of the 19th and 20th centuries.

S UKR 643 Studies in the Ukrainian Novel and Short Prose

★3 (fi 6) (either term, 3-0-0). Detailed study of major prose works of the 19th and 20th centuries.

S UKR 644 Studies in Ukrainian Modernism

★3 (fi 6) (either term, 3-0-0). The major modernist and avant-garde trends from the 1890s to 1930.

S UKR 645 Studies in Ukrainian Literary Criticism

★3 (fi 6) (either term, 3-0-0). Detailed study of major critical texts from the 19th and 20th centuries.

S UKR 697 Conference Course (Folklore)

★3 (fi 6) (either term, 3-0-0) or ★6 (fi 12) (full session, 3-0-0). A detailed study of a folklore problem or genre not dealt with in the other courses. Designed to meet the needs of individual Graduate Students.

S UKR 698 Conference Course (Linguistics)

★3 (fi 6) (either term, 3-0-0) or ★6 (fi 12) (full session, 3-0-0). A detailed study of an area of Ukrainian linguistics not dealt with in the other Honors or Graduate courses. May be initiated by either staff or students as need arises.

S UKR 699 Conference Course (Literature)

★3 (fi 6) (either term, 3-0-0) or ★6 (fi 12) (full session, 3-0-0). A detailed study of a literary problem, period, or genre not dealt with in the other courses. Designed to meet the needs of individual Honors or Graduate students.

211.234 Université

Faculté Saint-Jean

UNTE 101 Initiation aux études universitaires

★0 (fi 2) (l'un ou l'autre semestre, 12 hres). Une série de séminaires visant à faciliter la réussite académique au niveau universitaire. Méthodes d'étude et de recherche. Introduction au réseau des bibliothèques et à l'utilisation de l'Internet. Note ce cours est obligatoire pour tous les étudiants de première année inscrits à la Faculté Saint-Jean.

211.235 University

Faculty of Agriculture, Forestry and Home Economics

UNIV 100 First-Year Experience

★2 (fi 4) (first term, 0-2s-0). Examines topics relevant to successful academic performance including study skills, use of campus resources, stress management, and career planning. University regulations, faculty expectations, pathways to academic excellence, and practical methods for surviving the challenges of first year on campus are covered. (Open only to students in the Faculty of Agriculture, Forestry and Home Economics.)

211.236 Women's StudiesWomen's Studies Program
Faculty of Arts**D W ST 200 Introduction to Women's Studies**

★6 (fi 12) (full session, 3-0-0). A survey and analysis of issues concerning women's lives, both historically and in the present; an account of the development of feminist theories and critiques, and an assessment of the contribution this new scholarship has made in transforming received knowledge in a variety of disciplines. Not available to first-year students. Formerly W ST 300.

S W ST 301 History of Feminist Thought

★3 (fi 6) (either term, 3-0-0). The development of feminist thought and theories from the 18th to the 20th century, including the contributions of, and tensions between various feminisms. Prerequisite: W ST 200 or consent of the Program.

S W ST 302 Feminist Research and Methodologies

★3 (fi 6) (either term, 3-0-0). Whether there can be and is a distinctive feminist perspective on research in various disciplines; the ways in which taking a feminist perspective, or taking account of women in research, affects the research process. Prerequisite: W ST 200 or consent of the Program.

S W ST 305 Women and Work

★3 (fi 6) (either term, 0-3s-0). This course surveys women's paid employment, and domestic work, examining the nature of work women do and the interrelation between different forms of female labor. Canada provides the focal point of the course, with comparisons being drawn to other industrialized countries. Prerequisite: W ST 200 or consent of Program.

S W ST 310 Women in Development

★3 (fi 6) (either term, 3-0-0). This course deals with development issues, such as work, health, environment, and human rights among women in developing countries. Prerequisite: W ST 200 or consent of the Program. This course is not available to students with credit in R SOC 310.

S W ST 320 Popular Culture/Feminist Culture

★3 (fi 6) (either term, 3-0-0). This course examines selected cultural forms in Canadian and American society from feminist perspectives. The focus is both on developing a feminist critique of cultural representations of women, and on considering the possibilities of feminist intervention in and production of popular culture. Prerequisite: W ST 200 or consent of the Program.

S W ST 330 Feminist Perspectives on Women, Counselling and Psychoanalysis

★3 (fi 6) (either term, 3-0-0). This course studies women's relationship to counselling and psychoanalysis from interdisciplinary and feminist points of view. Gender, mental illness and 'madness' will be examined from within historical, social and theoretical frameworks. Prerequisite: W ST 200 or consent of the Program.

S W ST 340 Recent Developments in Women's Spirituality

★3 (fi 6) (either term, 3-0-0). There will be an advanced focus on such themes as (1) the nature and purpose of women's agency; (2) the relations between rationality, spirituality, sexuality, and economic realities for women; and (3) women's spirituality as a motivator for social change. Prerequisite: W ST 200 or consent of the Program.

S W ST 350 Women and Science

★3 (fi 6) (either term, 3-0-0). This course will explore the roles of women in science, and the ways in which scientific theory and practice might better accommodate women's ideas, lives, and ways of knowing. Prerequisite: W ST 200 or consent of the Program.

S W ST 400 Feminist Ethics: An Interdisciplinary Approach

★3 (fi 6) (either term, 0-3s-0). A critical exploration of moral agency, moral language, moral identity, relationships, and moral community in the context of asymmetrical power as these relate to selected ethical issues affecting women's lives. Prerequisite: W ST 200 or consent of the Program.

D W ST 401 Directed Readings in Women's Studies

★3 (*fi 6*) (either term, 0-3s-0). Prerequisite: W ST 200 or consent of the Program. Open only to Women's Studies honors, majors and minors. May be taken only once.

D W ST 402 Honors Seminar and Project

★6 (*fi 12*) (full session, 0-3s-0). Prerequisites: W ST 200 and 302.

S W ST 410 Feminism/Postmodernism

★3 (*fi 6*) (either term, 0-3s-0). An introductory exploration of tensions, disadvantages, and advantages of postmodernism for feminist theory and practice in relation to cultural and political issues such as representation, agency, identity/difference/ambiguity, nature, bodies, sexualities, and community. Prerequisite: W ST 200 or consent of Program. Not open to students with credit in W ST 300.

S W ST 497 History of Women and Health

★3 (*fi 6*) (either term, 0-3s-0). This seminar examines the multicultural history of women as health practitioners, patients, and health activists in North America. Prerequisite: W ST 200 or consent of Program.

S W ST 498 Topics in Women's Studies

★3 (*fi 6*) (either term, 0-3s-0). Prerequisite: W ST 200 or consent of Program.

D W ST 500 Directed Reading in Women's Studies

★3 (*fi 6*) (either term, 0-3s-0).

211.237 Work Experience

Note: For information regarding fees for work experience courses, see §22.2.1.

211.237.1 Faculty of Arts

WKEXP 961 Psychology Work Experience I

★0 (*fi 9*) (either term). A four-month work placement for Psychology students in the Faculty of Arts in the Psychology Cooperative Program. The focus of the work experience will be for the student to gain an appreciation of the work environment. Prerequisite: consent of Department.

WKEXP 962 Psychology Work Experience II

★0 (*fi 9*) (either term). A four-month work placement for Psychology students in the Faculty of Arts in the Psychology Cooperative Program. The focus of the work experience will be for the student to gain further knowledge of the work environment. Prerequisite: WKEXP 961.

WKEXP 963 Psychology Work Experience III

★0 (*fi 9*) (either term). A four-month work placement for Psychology students in the Faculty of Arts in the Psychology Cooperative Program. The focus of the work experience is to further the student's knowledge of the working world. Prerequisite: WKEXP 962.

WKEXP 970 Honors Work Term

★0 (*fi 9*) (either term) A work placement for students in Honors Programs in Arts as described in §43.1.5(II)(8). Prerequisites: Department and Faculty approval.

WKEXP 971 Honors Work Assignment

★0 (*fi 6*) (either term) A work term for students in Honors Programs in Arts as described in §43.1.5(II)(8). Prerequisites: Department and Faculty approval.

211.237.2 Faculty of Business

WKEXP 911 Business Work Experience I

★0 (*fi 15*) (either term). A four-month work placement for Business students admitted into the cooperative education option. The focus of the work experience will be for the student to gain an appreciation of the work environment. Evaluation will be based on the employer's performance appraisal, the cooperative education coordinator's site evaluation report, and the student's performance on the work-term report.

WKEXP 912 Business Work Experience II

★0 (*fi 15*) (either term). A four-month work placement for Business students admitted into the cooperative education option. The focus of the work experience will be for the student to gain experience in their chosen field of specialization. Evaluation will be based on the employer's performance appraisal, the cooperative education coordinator's site evaluation report, and the student's performance on the work-term report. Prerequisite WKEXP 911.

WKEXP 913 Business Work Experience III

★0 (*fi 15*) (either term). A four-month work placement for Business students admitted into the cooperative education option. The focus of the work experience will be for the student to perform work directly related to their

specialization and of sufficient technical merit to show a good understanding of a particular area of study in Business. Evaluation will be based on the employer's performance appraisal, the cooperative education coordinator's site evaluation report, and the student's performance on the work-term report. Prerequisite: WKEXP 912.

211.237.3 Faculty of Engineering

WKEXP 901 Engineering Work Experience I

□0 (*fi 7*) (either term). A four-month work placement for Engineering students registered in the Cooperative Education Program. This work experience will provide the student with exposure to the practical application of engineering and the general work environment. Evaluation will be based on the employer's performance appraisal, the student's work term report, and the student's ability to learn from the experiences of the work term. Prerequisite: ENGG 299. (★0)

WKEXP 902 Engineering Work Experience II

□0 (*fi 7*) (either term). A four-month work placement for Engineering students registered in the Cooperative Education Program. This work experience will provide the student with exposure to the practical application of engineering and the general work environment. Evaluation will be based on the employer's performance appraisal, the student's work term report, and the student's ability to learn from the experiences of the work term. Prerequisite: WKEXP 901. (★0)

WKEXP 903 Engineering Work Experience III

□0 (*fi 7*) (either term). A four-month work placement for Engineering students registered in the Cooperative Education Program. This work experience will provide students with personal involvement in the practice of their engineering discipline commensurate with their level of academic preparation. Evaluation will be based on the employer's performance appraisal, the student's work term report, and the student's ability to learn from the experiences of the work term. Prerequisite: WKEXP 902. (★0)

WKEXP 904 Engineering Work Experience IV

□0 (*fi 7*) (either term). A four-month work placement for Engineering students registered in the Cooperative Education Program. This work experience will provide students with personal involvement in the practice of their engineering discipline commensurate with their level of academic preparation. Evaluation will be based on the employer's performance appraisal, the student's work term report, and the student's ability to learn from the experiences of the work term. Prerequisite: WKEXP 903. (★0)

WKEXP 905 Engineering Work Experience V

□0 (*fi 7*) (either term). A four-month work placement for Engineering students registered in the Cooperative Education Program. This work experience will provide students with personal involvement in the practice of their engineering discipline commensurate with their level of academic preparation. Evaluation will be based on the employer's performance appraisal, the student's work term report, and the student's ability to learn from the experiences of the work term. Prerequisite: WKEXP 904. (★0)

211.237.4 Faculty of Science

WKEXP 401 Science Work Experience

★0 (*fi 9*) (first term). A four-month work placement for Chemistry, Earth and Atmospheric Sciences, Physics, and Environmental Physical Sciences students admitted to the Industrial Internship program.

WKEXP 402 Science Work Experience

★0 (*fi 9*) (second term). A four-month work placement for Chemistry, Earth and Atmospheric Sciences, Physics, and Environmental Physical Sciences students admitted to the Industrial Internship program.

WKEXP 403 Science Work Experience

★0 (*fi 9*) (either term, Intersession). A four-month work placement for Chemistry, Earth and Atmospheric Sciences, Physics, and Environmental Physical Sciences students admitted to the Industrial Internship Program.

WKEXP 921 Computing Science Introductory Work Experience

★0 (*fi 9*) (first term, unassigned). A required four-month work experience placement for Computing Science Honors or Specialization students admitted into the Industrial Internship Program. The focus of the work experience will be for the student to gain an in-depth appreciation of the computing profession.

WKEXP 922 Computing Science Advanced Work Experience

★0 (*fi 9*) (second term, unassigned). A required four-month work experience for Computing Science Honors or Specialization students admitted into the Industrial Internship Program. The focus of the work experience will be for the student to perform work directly related to their specialization

with sufficient technical and professional merit expected of a computing professional. Prerequisite: WKEXP 921.

WKEXP 923 Computing Science Work Experience

★0 (*fi 9*) (Intersession). A required four-month work experience placement for Computing Science Honors or Specialization students admitted into the Industrial Internship Program. The focus of the work experience will be for the students to perform in-depth work directly related to the advanced technical and professional skill level expected of a computing professional. Prerequisite: WKEXP 922.

WKEXP 931 Psychology Work Experience I

★0 (*fi 9*) (first term). A four-month work placement for Psychology students in the Faculty of Science in the Psychology Industrial Internship Program. The focus of the work experience will be for the student to gain an appreciation of the work environment. Prerequisite: consent of Department.

WKEXP 932 Psychology Work Experience II

★0 (*fi 9*) (second term). A four-month work placement for Psychology students in the Faculty of Science in the Psychology Industrial Internship Program. The focus of the work experience will be for the student to gain further knowledge of the work environment. Prerequisite: WKEXP 931.

WKEXP 933 Psychology Work Experience III

★0 (*fi 9*) (Intersession). A four-month work placement for Psychology students in the Faculty of Science in the Psychology Industrial Internship Program. The focus of the work experience is to further the student's knowledge of the working world. Prerequisite: WKEXP 932.

WKEXP 941 Science Work Experience I

★0 (*fi 9*) (first term). A four-month work placement for Biological Sciences students admitted into the Industrial Internship Program. The focus of the work experience will be for the student to gain an appreciation of the work environment.

WKEXP 942 Science Work Experience II

★0 (*fi 9*) (second term). A four-month work placement for Biological Sciences students admitted into the Industrial Internship Program. The focus of the work experience will be for the student to gain experience in his or her chosen field of specialization. Prerequisite: WKEXP 941.

WKEXP 943 Science Work Experience III

★0 (*fi 9*) (full term, intersession). A four-month work placement for Biological Sciences students admitted into the Industrial Internship Program. The focus of the work experience will be for the student to perform work directly related to his or her specialization and of sufficient technical merit to show a good understanding of a particular area of study in Biological Sciences. Prerequisite: WKEXP 942.

WKEXP 951 Mathematical Sciences Work Experience I

★0 (*fi 9*) (first term). A four-month work placement for Honors and Specialization students in the Mathematical Sciences Industrial Internship Program. The focus of the work experience will be for the student to gain an appreciation of the work environment. Prerequisite: consent of Department.

WKEXP 952 Mathematical Sciences Work Experience II

★0 (*fi 9*) (second term). A four-month work placement for Honors and Specialization students in the Mathematical Sciences Industrial Internship Program. The focus of the work experience will be for the student to gain further knowledge of the work environment. Prerequisite: WKEXP 951.

WKEXP 953 Mathematical Sciences Work Experience III

★0 (*fi 9*) (Intersession). A four-month work placement for Honors and Specialization students in the Mathematical Sciences Industrial Internship Program. The focus of the work experience is to further the student's knowledge of the working world. Prerequisite: WKEXP 952.

211.238 Writing

Department of English
Faculty of Arts

WRITE 294 Introduction to Writing Poetry

★3 (*fi 6*) (either term, 3-0-0). Lectures and workshops in which the student will be required to write poetry. Prerequisites: ENGL 100, 101 (or equivalent), and consent of Instructor(s) based on a portfolio (see Instructor for deadline). Note: Not to be taken by students with credit in ENGL 296 or ENGL 377.

WRITE 295 Introduction to Writing Prose

★3 (*fi 6*) (either term, 3-0-0). Lectures and workshops in which the student will be required to write prose. Prerequisites: ENGL 100, 101 (or equivalent), and consent of Instructor(s) based on a portfolio (see Instructor for deadline). Note: Not to be taken by students with credit in ENGL 296 or ENGL 376.

WRITE 298 Introduction Non-Fiction Writing

★6 (*fi 12*) (full session, 3-0-0). The purpose of this course is to increase the student's ability to write clear nonfiction prose. The study of models

of prose style will be central, combined with frequent practice in writing on the basis of such models. Prerequisite: ENGL 100, 101 (or equivalent), and consent of Instructor. Not open to students with credit in ENGL 298.

WRITE 394 Intermediate Creative Writing: Poetry

★6 (*fi 12*) (full session, 3-0-0). Prerequisites: One of WRITE 294, 295, 298, former ENGL 296 (Introduction to Writing Fiction and Poetry), 298 (Introduction to Writing Nonfiction), 376 (Introduction to Creative Writing: Fiction), or 377 (Introduction to Creative Writing: Poetry) and consent of Instructor. Consult Instructor for portfolio deadline. Not open to students with credit in ENGL 394.

WRITE 395 Intermediate Creative Writing: Fiction

★6 (*fi 12*) (full session, 3-0-0). Prerequisites: One of WRITE 294, 295, 298, former ENGL 296 (Introduction to Writing Fiction and Poetry), 298 (Introduction to Writing Nonfiction), 376 (Introduction to Creative Writing: Fiction), or 377 (Introduction to Creative Writing: Poetry), and consent of Instructor. Consult Instructor for portfolio deadline. Not open to students with credit in ENGL 395.

WRITE 398 Intermediate Non-Fictional Writing

★6 (*fi 12*) (full session, 3-0-0). Prerequisites: One of WRITE 294, 295, 298, former ENGL 296 (Introduction to Writing Fiction and Poetry), 298 (Introduction to Writing Nonfiction), 376 (Introduction to Creative Writing: Fiction), or 377 (Introduction to Creative Writing: Poetry), and consent of Instructor. Not open to students with credit in ENGL 398.

WRITE 494 Creative Writing: Advanced Poetry

★3 (*fi 6*) (either term, 3-0-0). Prerequisites: WRITE 394 or former ENGL 394 (Intermediate Poetry Writing), and consent of Instructor. Consult Instructor for portfolio deadline. Not open to students with credit in ENGL 494.

WRITE 495 Creative Writing: Advanced Fiction

★3 (*fi 6*) (either term, 3-0-0). Prerequisites: WRITE 395 or former ENGL 395 (Intermediate Fiction Writing), and consent of Instructor. Consult Instructor for portfolio deadline. Not open to students with credit in ENGL 495.

WRITE 498 Advanced Non-Fiction Writing

★3 (*fi 6*) (either term, 3-0-0). Prerequisites: WRITE 398 or former ENGL 398 (Advanced Non-Fiction Writing), and consent of Instructor. Not open to students with credit in ENGL 498.

WRITE 532 Tutorial—Fourth-Year Combined Honors Creative Writing

★3 (*fi 6*) (either term, variable) or ★6 (*fi 12*) (full session, variable). In the third year of the Combined Honors in Creative Writing program, the Honors student, in consultation with the Department, will arrange for a writing project under the guidance of a member of the Department for the ensuing summer and winter. The project is to be an original creative project judged by the Department to be the equivalent of a half-year creative writing course for ★3 or a full-year creative writing course for ★6.

211.239 Zoology (Biological Sciences)

Department of Biological Sciences
Faculty of Science

Notes

- (1) See the following sections for listings of other Biological Sciences courses: Biology (BIOL) §211.23; Botany (BOT) §211.26; Entomology (ENT) §211.88; Genetics (GENET) §211.111; Microbiology (MICRB) §211.158.
- (2) See also INT D 490 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.
- (3) See also courses listed under Biology, Botany, Marine Science, or Paleontology.
- (4) Specified prerequisites for senior courses may be waived for advanced students; consult the Department.
- (5) Where a course prerequisite is a Biological Sciences course, courses titled Biology, Botany, Entomology, Genetics, Microbiology, Paleontology, and Zoology may be used.
- (6) Not all senior courses are offered every year. Check with the Biological Sciences Student Services Officer (CW312 Biological Sciences) for current offerings.

211.239.1 Undergraduate Courses

ZOOL 202 Animal Developmental Biology

★3 (*fi 6*) (first term, 3-0-3). An introduction to basic principles in animal development both in vertebrates and invertebrates. This course examines how the molecular, cellular, and comparative approaches are integrated to explain the development of the egg into the embryo, and the cellular interactions that culminate in the development of organ systems. Prerequisite: BIOL 107.

ZOOL 224 Vertebrate Diversity

★3 (fi 6) (first term, 3-0-3). A comparative survey of vertebrates, focusing on their morphology, classification, and phylogeny. Prerequisite: BIOL 108.

ZOOL 225 Comparative Anatomy of the Vertebrates

★3 (fi 6) (first term, 3-0-3). Comparative anatomy of the vertebrates with special emphasis on the mammals. Prerequisite: BIOL 108. ZOOL 224 strongly recommended.

ZOOL 241 Animal Physiology I: Homeostasis

★3 (fi 6) (first term, 3-1s-0). Survey of physiological systems that regulate levels of gases, food, energy, temperature, water, and ions. Examples from invertebrates and vertebrates. Students with credit in ZOOL 242 prior to 1996/97 or PHYSL 210 may not obtain credit in ZOOL 241. Prerequisite: BIOL 107.

ZOOL 242 Animal Physiology II: Intercellular Communication

★3 (fi 6) (second term, 3-1s-0). Endocrinology, immunology and neural, sensory, motor, and reproductive physiology. Examples from invertebrates and vertebrates. Students with credit in PHYSL 210 may not obtain credit in ZOOL 242. Prerequisite: BIOL 107.

ZOOL 250 Survey of the Invertebrates

★3 (fi 6) (second term, 3-0-3). The functional anatomy and life cycles of the major invertebrate taxa are emphasized. Prerequisite: ZOOL 120 or BIOL 108.

ZOOL 260 Humanity and the Biosphere

★3 (fi 6) (either term, 3-0-0). A consideration of the place of people in the biosphere and of the biological bases of environmental problems including population, pollution, and consideration of renewable and aesthetic resources. Note: Credit may not be obtained for both BIOL 110 and ZOOL 260. Prerequisite: One full year of university-level Biology.

ZOOL 301 Natural History of the Vertebrates of Alberta

★3 (fi 6) (second term, 3-0-3). The identification, distribution, habitats, and life histories of the fishes, amphibians, reptiles, birds, and mammals of Alberta. Prerequisite: A 200-level Biological Sciences course. Prerequisite: ZOOL 224 is recommended.

ZOOL 302 Invertebrate Development

★3 (fi 6) (second term, 3-0-3). Reproduction, embryonic, and postembryonic development in invertebrates with emphasis on insects. Prerequisite: ZOOL 202 or ENT 317. ZOOL 250 is recommended.

ZOOL 332 Animal Community Ecology

★3 (fi 6) (second term, 3-0-3). A study of niche theory: food webs; competition, predation, disturbance, and their effects on community diversity; diversity gradients; island biogeography; taxon cycles; convergence of community structure. Prerequisite: BIOL 208 or equivalent. Offered in alternate years.

ZOOL 340 Environmental Physiology

★3 (fi 6) (first term, 3-0-0). The influence of environmental variables on animal function. Prerequisite: ZOOL 241. Offered in alternate years.

ZOOL 341 Energy Metabolism and Water Balance

★3 (fi 6) (first term, 3-0-0). A comparative approach to the physiological, cellular, and biochemical aspects of energy metabolism and water balance, their support by respiratory and circulatory functions, and regulation by neural and hormonal mechanisms. Emphasis will be on conceptual and integrated understanding of functions at the organismic level, often illustrated using vertebrates. Prerequisite: ZOOL 241.

ZOOL 342 Neurobiology

★3 (fi 6) (second term, 3-0-0). Nerve cells, nervous systems and neuromuscular systems from molecular, physiological, behavioral, and developmental perspectives. Examples from both invertebrates and vertebrates are given. Prerequisite: ZOOL 242 and PHYSL 210. Offered in alternate years.

ZOOL 343 Comparative Endocrinology

★3 (fi 6) (second term, 3-0-0). Endocrine systems and actions of hormones in vertebrates and invertebrates. Prerequisite: ZOOL 242. Offered in alternate years.

ZOOL 344 Laboratory Exercises in Animal Physiology

★3 (fi 6) (second term, 0-1s-4). Physiological topics are reinforced in experimental lab exercises. Labs include computer simulations, artificial tissue models and animal models. Prerequisite: ZOOL 241 or ZOOL 242 or PHYSL 210.

ZOOL 351 Aquatic Invertebrates of Alberta

★3 (fi 6) (first term, 3-0-3). Emphasis is on an identified collection of invertebrates found in Alberta's lakes and streams. Lecture material pertains mainly to ecological features of the various fresh water groups. Prerequisite: ZOOL 250.

ZOOL 352 Principles of Parasitism

★3 (fi 6) (first term, 3-3s-0). An introduction of protozoan, helminth and arthropod parasites of animals; principles of host and parasite adaptations,

host defense, epidemiology, and disease. Laboratory tutorials emphasize morphology, life cycles, and systematics of parasites. Prerequisite: ZOOL 250.

ZOOL 354 Wildlife Disease

★3 (fi 6) (second term, 3-0-3). Etiology, ecology, and pathogenesis of parasitic, viral, bacterial, and non-infectious diseases of mammals, birds, and fish. Laboratory projects emphasize methods for the study of parasites of wild hosts. Prerequisite: ENCS 376, FOR 365, MICRB 265, or a 200-level course in Zoology (ZOOL 352 recommended). Offered in alternate years.

ZOOL 355 Invertebrate Biology

★3 (fi 6) (first term, 3-0-3). The functional morphology and biomechanics of invertebrate organisms. The emphasis will be on the higher invertebrates. Prerequisite: ZOOL 250. Credit may not be obtained for both ZOOL 355 and ENT 317.

ZOOL 370 Ethological Mechanisms

★3 (fi 6) (first term, 3-0-3). Animal behavior from an ethological perspective, with emphasis on the mechanisms underlying a variety of behaviors. The material is intended to complement that of ZOOL 371. (Alternates with ZOOL 371.) Prerequisite or corequisite: ZOOL 241 or 242.

ZOOL 371 Behavioral Ecology and Sociobiology

★3 (fi 6) (first term, 3-0-3). Animal behavior from an ecological and evolutionary perspective, with emphasis on social behavior. The material is intended to complement that of ZOOL 370. (Alternates with ZOOL 370). Prerequisite: ZOOL 231 or BIOL 208.

ZOOL 402 Current Topics in Developmental Biology

★3 (fi 6) (second term, 0-3s-0). Discussion of selected topics in animal developmental biology from a molecular and cellular perspective. Evaluation of the primary literature and communication skills are emphasized. Prerequisite: ZOOL 202 or 302. Credit for this course may be obtained more than once.

ZOOL 405 Ichthyology

★3 (fi 6) (first term, 3-0-3). A comparative survey of living and fossil fishes focusing on their classification, ecology, morphology, and evolution, as well as unique aspects of their biology. Prerequisites: ZOOL 224, 225, and a 300-level ZOOL. ZOOL 301 strongly recommended. Offered in alternate years. Credit may not be obtained for both ZOOL 405 and 305.

ZOOL 408 Mammalogy

★3 (fi 6) (second term, 3-0-3). A comparative survey of living and fossil mammals, focusing on their classification, ecology, morphology, and evolution, as well as unique aspects of their biology. Prerequisites: ZOOL 224, 225, and a 300-level ZOOL. ZOOL 301 strongly recommended. Offered in alternate years. Credit may not be obtained for both ZOOL 408 and 304.

ZOOL 427 Insect Taxonomy

★3 (fi 6) (first term, 2-0-6). To provide a base for understanding the evolution, diversity, phylogeny, distribution, and classification of hexapods and practical experience in their identification. Prerequisite: ENT 220, BIOL 335 is a useful corequisite. Credit may not be obtained for both ENT 327 and 427.

ZOOL 434 Field Course in Animal Ecology

★3 (fi 6) (first term, 0-0-6). Design, execution, analysis, and presentation of field problems in behavioral, population, and community ecology in both terrestrial and aquatic habitats. Field problems and independent projects will take place during the two weeks preceding the fall term at a field station off the main campus. Presentation of results will take place during four weeks of class time in September. Prerequisites: BIOL 331 or ZOOL 332 or 371; STAT 237 or 337; CMPUT 251 highly recommended. This course requires the payment of additional miscellaneous fees. See §22.2.3 for details.

ZOOL 441 Current Topics on Homeostasis

★3 (fi 6) (first term, 0-3s-0). Discussion of selected topics in cardiac, gut, renal, respiratory, temperature, and metabolic physiology. Evaluation of the primary literature and communication skills are emphasized. Prerequisite: ZOOL 340 or 341. Credit for this course may be obtained more than once.

ZOOL 442 Current Topics in Intercellular Communication

★3 (fi 6) (second term, 0-3s-0). Discussion of selected topics in endocrinology, immunology, and neurobiology from molecular, cellular, and whole-animal perspectives. Evaluation of the primary literature and communication skills are emphasized. Prerequisite: ZOOL 342 or 343 or 352 or PMCOL 371. Credit for this course may be obtained more than once.

ZOOL 452 Experimental Parasitology

★3 (fi 6) (first term, 3-0-3). Experimental approaches to study parasitism, including topics on ecology, biochemistry, physiology, genetics, and immunology of host-parasite relationships. Laboratory exercises cover

experimental design and methods of collecting and processing host and parasite samples, with emphasis on parasites of laboratory hosts. Prerequisite: ZOO 352 or consent of Department.

ZOO 461 Current Problems in Animal Ecology

★3 (*fi 6*) (either term, 3-0-0). Credit for this course may be obtained more than once. Prerequisite: ZOO 331 or 332 or 371; ZOO 321 highly recommended.

ZOO 464 Limnology

★3 (*fi 6*) (first term, 3-0-3). Discussion of physical and chemical regimes in lakes, ecology of various aquatic organisms, calculation of hydraulic and chemical budgets, models used in lake management, and lake management problems such as acid rain and eutrophication. Prerequisite: A 300-level Biological Sciences course and ★6 in University level Chemistry. This course requires the payment of additional miscellaneous fees. See §22.2.3 for details.

ZOO 467 Wildlife Conservation

★3 (*fi 6*) (first term, 3-0-3). Principles and concepts involved in the conservation and management of wild birds and mammals. Prerequisite: ZOO 331, 332, or ENCS 376.

ZOO 468 Problems in Wildlife Conservation

★3 (*fi 6*) (second term, 3-0-0). A seminar and reading course dealing with current problems in the conservation and management of wild birds and mammals. Prerequisites: ZOO 467 and consent of Department. Offered in alternate years.

ZOO 472 Current Problems in Behavioral Ecology

★3 (*fi 6*) (either term, 3-0-0). Discussion of behavioral problems with ecological implications. Prerequisite: ZOO 370 or 371 or consent of Department.

211.239.2 Graduate Courses

Notes

- (1) All 300- and 400-level courses in the Department of Biological Sciences may be taken for credit by graduate students with approval of the student's supervisor or supervisor committee.
- (2) 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 supervisor committee: BIOCH 510, 520, 530, 540, 541, 550, 555, 560; CHEM 361, 363, 461; CELL 300, 301; INT D 371, 372, 421, 452, 455, 464, 543, 544, 545, 551; MA SC 400, 401, 402, 410, 412, 420, 425, 430, 437, 440, 445, 450, 454, 470, 480; MMI 350, 405, 415, 516, 520; NEURO 472, 503, NU FS 363; PALEO 318, 319; PHARM 601.

ZOO 552 Advanced Parasitology

★3 (*fi 6*) (second term, 3-0-3). Individual projects and seminars emphasize the use of parasites as model systems to study fundamental questions in biology. Prerequisite: ZOO 452 or consent of Department.

ZOO 601 Philosophy, Sociology, and Politics of Science

★3 (*fi 6*) (first term, 3-0-0). Discussion of the influences of current philosophical concepts, and the sociological and political realities, on zoological research and teaching. Prerequisite: consent of Department.

ZOO 605 Current Problems in Fish Ecology and Systematics

★3 (*fi 6*) (either term, 3-0-0). Credit for this course may be obtained more than once.

ZOO 657 Biology of Parasites

★3 (*fi 6*) (either term, 3-0-0). Lectures and discussion of selected topics in parasitology. Credit for this course may be obtained more than once.

ZOO 664 Limnology and Fisheries

★1 (*fi 2*) (either term, 0-2s-0). Credit for this course may be obtained more than once.