

SOC APPROVALS

July 12, 2023

The following proposals were approved at the July 12, 2023, meeting of the Subcommittee on Undergraduate Academic Courses (SOC).

FACULTY OF ARTS AND HUMANITIES

DEPARTMENT OF ENGLISH AND WRITING STUDIES

Course Introduction – Effective September 1, 2023, the following course be introduced:

MEDIEVAL STUDIES 3901F/G
SPECIAL TOPICS IN MEDIEVAL STUDIES

(Short Title: Spec Top in Medieval St)

This course explores a focused aspect of medieval society. Consult Program Director or website for details.

Prerequisite(s): 1.0 course from Medieval Studies 1022, Medieval Studies 1025A/B, or Medieval Studies 1026A/B.

Extra Information: 3 hours.

Course Weight: 0.50

Course Introduction – Effective September 1, 2023, the following course be introduced:

MEDIEVAL STUDIES 3902A/B
SPECIAL TOPICS IN MEDIEVAL STUDIES

(Short Title: Spec Top in Medieval St)

This course explores a focused aspect of medieval society. Consult Program Director or website for details.

Prerequisite(s): 1.0 course from Medieval Studies 1022, Medieval Studies 1025A/B, or Medieval Studies 1026A/B.

Extra Information: 3 hours.

Course Weight: 0.50

Course Revision – Effective September 1, 2023, the following change(s) be made:

**ENGLISH 3573F/G
BLACK WRITING IN CANADA**

This course offers advanced study of writing by authors of the Black Diaspora in Canada. ~~Its focus and scope may vary by course~~ **Course** offerings ~~may vary by~~, ~~from multiple~~ genre(s) (e.g., theatre, fiction, poetry, documentary film) ~~to a single~~ mode (e.g., Afrofuturism, neo-slave narratives) ~~to Black writing in a particular~~ region, (e.g., the Prairies, West Coast, East Coast, Toronto) ~~or a particular~~ historical period (e.g., 19th century, 21st century, 1960s to 1990s). Attentive to historical, literary historical, and other contexts, the course celebrates the aesthetics and artistry of Black writing in Canada and the knowledges it produces.

Prerequisite(s): At least 60% in 1.0 English courses from 1020-1999, or permission of the Department.

Antirequisite(s): **English 3579F/G if taken in 2021-22.**

Extra Information: 3 hours.

Course Weight: 0.50

Program Revision – Effective September 1, 2023, the following change(s) be made:

MAJOR IN MEDIEVAL STUDIES

Module

6.0 courses:

1.0 course from: Comparative Literature and Culture 2141A/B, English 2076F/G, History 2401E.

0.5 course: Medieval Studies 3022F/G (offered in alternate years).

1.0 course from: Classical Studies 2200, Classical Studies 2350A/B, Classical Studies 2480A/B, Classical Studies 3050F/G, Classical Studies 3303F/G, Classical Studies 3450E, Classical Studies 3490F/G, Classical Studies 3555E, Classical Studies 4580F/G, Classical Studies 4585F/G; History 2403E, History 2607F/G, History 2650E, **History 2818F/G, History 2821F/G**, History 3401E, History 3605E, **History 3621F/G**, History 4603F/G; Music 3700A/B; Philosophy 2014, Philosophy 2202F/G, Philosophy 2205W/X, Philosophy 2214, Philosophy 3012F/G, Philosophy 3014F/G; Religious Studies 2126F/G, Religious Studies 2204F/G, Religious Studies 2285F/G, Religious Studies 2297A/B; Theological Studies 3331F/G; Art History 2620F/G, Art History 2622F/G, **Art History 3620F/G**, the former Philosophy 4023F/G.

1.0 course from: Comparative Literature and Culture 2141A/B, Comparative Literature and Culture 2142A/B, Comparative Literature and Culture 3340F/G, Comparative Literature and Culture 3341F/G, Comparative Literature

and Culture 3342F/G, Comparative Literature and Culture 3361F/G, Comparative Literature and Culture 3380F/G; English 2076F/G, English 3300, English 3310, **English 3315E, English 3316E**, English 3318E, English 3319F/G, English 3320F/G, English 3321F/G, English 3322F/G, English 3323F/G, English 3326F/G, English 3327A/B, English 3328E, English 3330E; French 3540F/G/Z, French 3541F/G/Z, French 3542F/G/Z, French 3560F/G, French 3561F/G, French 3562F/G, French 4040A/B; German 3341F/G.

1.0 course: Latin 2000*.

1.5 additional courses from those listed above not already taken or Medieval Studies 3320F/G, **Medieval Studies 3901F/G, Medieval Studies 3902A/B**, Medieval Studies 4320F/G, or those on a list approved by the Committee for Medieval Studies, available from the program coordinator. Special topics courses are not offered every year; students should check the website for current courses.

Students must take 1.0 courses (including Medieval Studies 3022F/G) at the 3000-level or higher.

~~*Students who plan to continue to a graduate program in Medieval Studies are strongly encouraged to take Latin 2000.~~

Note: Some courses in this module may require prerequisites not required for admission; students are advised to check course prerequisites carefully.

Program Revision – Effective September 1, 2023, the following change(s) be made:

MINOR IN MEDIEVAL STUDIES

Module

4.0 courses:

1.0 course from: Classical Studies 2200, Classical Studies 2350A/B, Classical Studies 2480A/B, Classical Studies 3050F/G, Classical Studies 3303F/G, Classical Studies 3450E, Classical Studies 3490F/G, Classical Studies 3555E, Classical Studies 4580F/G, Classical Studies 4585F/G; History 2401E, History 2403E, History 2607F/G, History 2650E, **History 2818F/G, History 2821F/G**, History 3401E, History 3602F/G, History 3605E, **History 3621F/G**, History 4603F/G; Music 3700A/B; Philosophy 2014, Philosophy 2202F/G, Philosophy 2205W/X, Philosophy 2214, Philosophy 3012F/G, Philosophy 3014F/G; Religious Studies 2126F/G, Religious Studies 2204F/G, Religious Studies 2285F/G, Religious Studies 2297A/B; Theological Studies 3331F/G; Art History 2620F/G, Art History 2622F/G, **Art History 3620F/G**, the former Philosophy 4023F/G.

1.0 course from: Comparative Literature and Culture 2141A/B, Comparative Literature and Culture 2142A/B, Comparative Literature and Culture

3340F/G, Comparative Literature and Culture 3341F/G, Comparative Literature and Culture 3342F/G, Comparative Literature and Culture 3361F/G, Comparative Literature and Culture 3380F/G; English 2076F/G, English 3300, English 3310, English 3315E, English 3316E, English 3318E, English 3319F/G, English 3320F/G, English 3321F/G, English 3322F/G, English 3323F/G, English 3326F/G, English 3327A/B, English 3328E, English 3330E; French 3540F/G/Z, French 3541F/G/Z, French 3542F/G/Z, French 3560F/G, French 3561F/G, French 3562F/G, French 4040A/B, German 3341F/G.

2.0 additional courses from those listed above or senior-level courses in Medieval Studies on an approved list*, **Medieval Studies 3901F/G, Medieval Studies 3902A/B**, or Latin 2000** (1.0 of these 2.0 courses may also be taken through study abroad, e.g., at Poitiers for an intensive Latin course, or engaging in a relevant archaeological dig in Europe or the Middle East.)

* The approved list may be found in the Academic Counselling Office in the Faculty of Arts and Humanities.

** Students considering any graduate program in Medieval Studies are encouraged to take at least Latin 2000 as part of their undergraduate degree.

Note: Maximum of 1.0 course may be taken in one subject. Some courses in this module may require prerequisites not required for admission; students are advised to check course prerequisites carefully.

DEPARTMENT OF LANGUAGES AND CULTURES

Course Introduction – Effective September 1, 2023, the following course be introduced:

INTERCULTURAL COMMUNICATIONS 1030 INTERCULTURAL COMMUNICATION AND GLOBAL AWARENESS

(Short Title: Intercultural Communication)

Using a range of cultural artifacts, this course provides students with a framework to approach and understand the complexities of intercultural communication in diverse local, national, and international settings. Students learn how intercultural communication processes are influenced by power dynamics and develop skills to negotiate our changing world.

Extra Information: 3 hours.

Course Weight: 1.00

FACULTIES OF ARTS AND HUMANITIES AND SOCIAL SCIENCE

DEPARTMENT OF GENDER, SEXUALITY, AND WOMEN'S STUDIES

Course Introduction – Effective September 1, 2023, the following course be introduced:

GENDER, SEXUALITY, AND WOMEN'S STUDIES 2710F/G MARRIAGE: QUEER AND FEMINIST PERSPECTIVES

(Short title: Perspectives on Marriage)

Despite the idea that love conquers all, marriage was historically about property, money, and power, not love. This course examines marriage, primarily in the west. Topics may include the transition from arranged to companionate marriage; feminism and marriage; capitalism and weddings; child marriage; marriage equality; and queer perspectives on marriage.

Antirequisite(s): Gender, Sexuality, and Women's Studies 2233F/G if taken in 2022-23.

Extra Information: 3 hours.

Course Weight: 0.50

FACULTY OF HEALTH SCIENCES

SCHOOL OF HEALTH STUDIES

Course Revision – Effective September 1, 2023, the following change(s) be made:

HEALTH SCIENCES 3801A/B

MEASUREMENT AND ANALYSIS IN HEALTH SCIENCES

An introduction to measurement and analysis in health sciences research, covering topics such as validity, reliability, standard errors, confidence intervals, tests of means, correlation, and linear regression.

Antirequisite(s): Biology 2244A/B, Economics 2122A/B, Economics 2222A/B, Geography 2210A/B, **Kinesiology 3032A/B**, MOS 2242A/B, Psychology 2810, Psychology 2820E, Psychology 2830A/B, Psychology 2850A/B, Psychology 2851A/B, Social Work 2207A/B, Sociology 2205A/B, Statistical Sciences 2035, Statistical Sciences 2141A/B, Statistical Sciences 2143A/B, Statistical Sciences 2244A/B, Statistical Sciences 2858A/B, ~~Statistical Sciences 2037A/B if taken prior to Fall 2010.~~

Prerequisite(s): Health Sciences 2801A/B.

Extra Information: 2 lecture hours, 1 laboratory hour.

Course Weight: 0.50

Course Revision – Effective September 1, 2023, the following change(s) be made:

HEALTH SCIENCES 4990F

INDEPENDENT STUDY

Readings and discussion on, or field experience in, selected topics in Health Sciences agreed upon through consultation between the student and the supervising professor.

Prerequisite(s): Enrolment in the fourth year of an Honours Specialization module in the School of Health Studies with a minimum average of 75%.

Extra Information: Students will be permitted to take a maximum of 1.0 credits among Health Sciences 4990F, Health Sciences 4991G, Health Sciences 4995A/B/F/G (or the former Health Sciences 4995F/G), and Health Sciences 4996A/B/F/G (or the former Health Sciences 4996F/G).

Course Weight: 0.50

Course Revision – Effective September 1, 2023, the following change(s) be made:

HEALTH SCIENCES 4991G

INDEPENDENT STUDY

Readings and discussion on, or field experience in, selected topics in Health Sciences agreed upon through consultation between the student and the supervising professor.

Prerequisite(s): Enrolment in the fourth year of an Honours Specialization module in the School of Health Studies with a minimum average of 75%.

Extra Information: Students will be permitted to take a maximum of 1.0 credits among Health Sciences 4990F, Health Sciences 4991G, Health Sciences 4995A/B/F/G (or the former Health Sciences 4995F/G), and Health Sciences 4996A/B/F/G (or the former Health Sciences 4996F/G).

Course Weight: 0.50

SCHOOL OF KINESIOLOGY

Course Revision – Effective September 1, 2023, the following change(s) be made:

KINESIOLOGY 4495

FIELD EXPERIENCE IN STRENGTH AND CONDITIONING

This course is a field experience where students are assigned to a varsity sport team as a student training assistant. Supplementary training will include various aspects related to sport performance training with a focus on strength and conditioning.

Prerequisite(s): Kinesiology 2236A/B; Kinesiology 3337A/B; Kinesiology 3339A/B; the former Kinesiology 2961A/B; current certification in Emergency First Responder (EFR) training.

Extra Information: 2 lecture/seminar hours per week plus a field experience practicum. Restricted to students in fourth year Honours Specialization in Kinesiology and subject to Faculty procedural guidelines and approval. Students will be permitted to take a maximum of 1.0 credits from Kinesiology 4495, Kinesiology 4498A/B, Kinesiology 4585, Kinesiology 4590, Kinesiology 4995A/B/F/G (or the former Kinesiology 4995F/G), and Kinesiology 4996A/B/F/G (or the former Kinesiology 4996F/G).

Course Weight: 1.00

Course Revision – Effective September 1, 2023, the following change(s) be made:

KINESIOLOGY 4498A/B

SPORT MANAGEMENT PRACTICUM

Field experience in managerial activities in a sport/recreation organization selected by the student and approved by the instructor, who meet regularly to discuss the experiences and to examine current issues in sport management. A comprehensive report is required at the end of the term.

Prerequisite(s): Kinesiology 3398F/G, Kinesiology 3399F/G.

Extra Information: 2 lecture hours (Additional Field experience TBA). Students will be permitted to take a maximum of 1.0 credits from Kinesiology 4495, Kinesiology 4498A/B, Kinesiology 4585, Kinesiology 4590, Kinesiology 4995 **A/B/F/G (or the former Kinesiology 4995F/G)**, and Kinesiology 4996 **A/B/F/G (or the former Kinesiology 4996F/G)**.
Course Weight: 0.50

Course Revision – Effective September 1, 2023, the following change(s) be made:

**KINESIOLOGY 4585
ATHLETIC INJURIES PRACTICUM**

This course provides students with the opportunity to put theory into practice within the sport system available at Western. Students will work closely with athletic teams in assigned areas and under course-instructor supervision.

Prerequisite(s): Kinesiology 3336A/B; current certification in Emergency First Responder (EFR) Training.

Extra Information: 3 lecture/seminar hours. Restricted to students in fourth year Honours Specialization in Kinesiology and subject to Faculty procedural guidelines and approval. Students will be permitted to take a maximum of 1.0 credits from Kinesiology 4495, Kinesiology 4498A/B, Kinesiology 4585, Kinesiology 4590, Kinesiology 4995 **A/B/F/G (or the former Kinesiology 4995F/G)**, and Kinesiology 4996 **A/B/F/G (or the former Kinesiology 4996F/G)**.
Course Weight: 1.00

Course Revision – Effective September 1, 2023, the following change(s) be made:

**KINESIOLOGY 4590
CLINICAL KINESIOLOGY PLACEMENT**

This course offers students the opportunity to apply concepts and professional practice skills by gaining kinesiology experience working directly with clients/patients to optimize 'performance' (i.e. in sport) or 'health' (i.e. prevention and/or management of chronic disease and impairment).

Prerequisite(s): Registration in the B.A. Honours Specialization in Clinical Kinesiology.

Extra Information: One hour/week online with class/self-reflective journal/blog; two 2-hour class meetings in person every 4 weeks; Routine meetings and peer-facilitated discussions about professional experiences will encourage the development of reflective practitioners. Issues related to the intersection of theory and practice will be explored. Electronic video conferencing will be used for weekly discussions to reduce travel by students from dispersed. Students will be permitted to take a maximum of 1.0 credits from Kinesiology 4495, Kinesiology 4498A/B, Kinesiology 4585, Kinesiology 4590, Kinesiology 4995 **A/B/F/G (or the**

former Kinesiology 4995F/G), and Kinesiology 4996A/B~~F/G~~ **(or the former Kinesiology 4996F/G).**

Course Weight: 1.00

FACULTY OF INFORMATION AND MEDIA STUDIES

Course Introduction – Effective September 1, 2023, the following course be introduced:

**DIGITAL COMMUNICATION 3308A/B
SPECIAL TOPICS IN DIGITAL COMMUNICATION**

(Short Title: Special Topics in Digital Com)

Please consult the Faculty for current offerings.

Extra Information: 3 hours.

Course Weight: 0.50

Course Introduction – Effective September 1, 2023, the following course be introduced:

**MEDIA, INFORMATION AND TECHNOCULTURE 3220F/G
REBEL KNOWLEDGE: KNOW WHAT YOU NEED**

(Short Title: Rebel Knowledge)

This course considers factors crucial to successful functioning of human communities. It reviews problems identified during earlier study in order to propose solutions, whether ideals, dreams, or probabilities supported by information, ecological, technological, and media theories, applying landmark texts to the worlds of present and future.

Antirequisite(s): MIT 4100F/G if taken in 2019-20, 2020-21, 2021-22, 2022-23.

Extra Information: 3 lecture hours.

Course Weight: 0.50

Course Introduction – Effective September 1, 2023, the following course be introduced:

**MEDIA, INFORMATION AND TECHNOCULTURE 3930A/B
DIGITAL ACTIVISM**

This course explores how activists use digital technologies to organize, protest, evade surveillance, and share information. It considers what contemporary digital activism reveals about democracy and how it functions, the media, citizenship, and technological potentials and limitations. Students will engage with content in a variety of formats and project-based work.

Antirequisite(s): Digital Communication 2305F/G if taken in 2022-23 or MIT 3954F/G if taken in 2020-21, 2021-22, 2022-23.

Extra Information: 3 lecture hours.

Course Weight: 0.50

Course Introduction – Effective September 1, 2023, the following course be introduced:

**MEDIA, INFORMATION AND TECHNOCULTURE 3779A/B
PRODUCING PHOTOGRAPHY**

This introductory course directly and productively engages with the photographic situation, grounded in its history and its social and aesthetic practice. Exploring notions of reality and representation, history and politics through photographic practice and experimentation, students will investigate technical and aesthetic approaches to photography as medium, message, and technology.

Prerequisites: Registration in Year 3 or Year 4 of a FIMS module.

Antirequisite(s): Studio Art 2652B; MIT 3665B if taken in 2016-17, 2018-19, MIT 3663B if taken in 2022-23.

Extra Information: 3 hours.

Course Weight: 0.50

Course Introduction – Effective September 1, 2023, the following course be introduced:

**MEDIA, INFORMATION AND TECHNOCULTURE 3934F/G
MEDIA AND HUMAN RIGHTS**

This course provides students with the critical tools needed to understand the use of media and its impact on the recognition and restitution of human rights claims. We examine various visual practices (documentation, archiving, witnessing, advocacy, and surveillance) and a range of visual imagery (video, photography, drawings, and monuments).

Antirequisite(s): MIT 3772F/G if taken in 2016-17, 2017-18, 2021-22, 2022-23.

Extra Information: 3 lecture hours.

Course Weight: 0.50

Course Revision – Effective September 1, 2023, the following change(s) be made:

**MEDIA, INFORMATION AND TECHNOCULTURE 2570A/B
INTRODUCTION TO ~~DIGITAL IMAGING AND WEB SITE~~ WEB DESIGN**

Students will develop coding skills in HTML and CSS, while learning foundational architecture and user-experience principles. They will explore the cultural significance and theoretical implications of this medium, focussing on design and production of information for websites, which communicate through the integrated use of text, images, and other media. ~~This course concentrates on developing digital imaging skills for the WWW and introduces HTML. Secondly, it focuses on the design and production of information for web sites, which communicate through the integrated use of text, images and graphic elements. The cultural significance and theoretical implications of this medium will be explored.~~

Antirequisite(s): **Computer Science 2033A/B**, Digital Communication 2203A/B.
Extra Information: **3 lecture hours** ~~2 lecture hours, 2 laboratory hours~~.
Course Weight: 0.50

DON WRIGHT FACULTY OF MUSIC

DEPARTMENT OF MUSIC RESEARCH AND COMPOSITION

Program Revision – Effective September 1, 2023, the following change(s) be made:

SPECIALIZATION IN MUSIC ADMINISTRATIVE STUDIES

Module

10.0 courses

1.0 course normally taken in second year from: MOS 2181A/B and a 2000-level or higher MOS course, Psychology 2061A/B and Psychology 2070A/B.

1.0 course normally taken in second year: Business Administration 2257.

3.0 courses from: MOS 3360A/B, MOS 3361A/B, MOS 2310A/B*, MOS 2320A/B*, MOS 3280F/G, MOS 3330A/B.

2.5 courses from Department of Music Research and Composition at the 2000 level or above.

2.5 courses from Don Wright Faculty of Music at the 2000 level or above.

~~*Students interested in pursuing an HBA Degree at the Richard Ivey School of Business must defer MOS 2310A/B and MOS 2320A/B until Year 3. These two courses will not count towards the 10.0 credits required for admission to the HBA Program and are discouraged for those students continuing on to the Richard Ivey School of Business. Students continuing in Music Administrative Studies must complete MOS 2310A/B and MOS 2320A/B in Year 3 prior to enrolling in MOS courses for which these courses are the prerequisite.~~

Note: A maximum of 1.0 courses from Music 2171A/B/Y, Music 2801A/B, and Music 2700A/B through Music 2709A/B/Y may be counted toward the module.

FACULTY OF SCIENCE

DEPARTMENT OF CHEMISTRY

Course Introduction – Effective September 1, 2023, the following course be introduced:

CHEMISTRY 4424A/B

MOLECULAR STRUCTURE AND SIMULATION

(Short Title: Molec Structure & Simulation)

Exposition of modern computational methods used in chemistry, biological modeling, and materials research. Topics include molecular quantum mechanics, molecular dynamics, and elements of statistical and machine-learning techniques.

Antirequisite(s): the former Chemistry 4444A/B, the former Chemistry 4474A/B.

Prerequisite(s): Chemistry 3374A/B or Physics 3200A/B.

Extra Information: 3 lecture hours.

Course Weight: 0.50

Course Revision – Effective September 1, 2023, the following change(s) be made:

CHEMISTRY 2374A

THERMODYNAMICS

Introduction to classical thermodynamics and its real-world applications.

Topics include: the four laws of thermodynamics, enthalpy, entropy, Helmholtz and Gibbs energies, chemical potential, real gases, phase diagrams, ideal and real solutions, ionizing solvents, electrolytes, and electrochemical cells.

~~An introduction to classical thermodynamics. Topics to be covered include: Zeroth law of thermodynamics, first law of thermodynamics, enthalpy, entropy, second and third law of thermodynamics, Helmholtz and Gibbs energies, chemical potential, non-ideal gases, phase diagrams, ideal and real solutions, properties of ionizing solvents, electrolyte solutions, electrochemical cells.~~

Antirequisite(s): Chemistry 2214A/B.

Prerequisite(s): **Chemistry 1301A/B, Chemistry 1302A/B, 0.5 course from Calculus 1000 A/B, Calculus 1500A/B, Numerical and Mathematical Methods 1412A/B, and any other 0.5 course at the 1000-level from Calculus, Applied Mathematics, Mathematics, or Numerical and Mathematical Methods. Integrated Science 1001X may be used as a substitute for the combination of Chemistry 1302A/B and Calculus 1301A/B.** ~~Both Chemistry 1301A/B and Chemistry 1302A/B, each with a minimum mark of 60%; one of Calculus 1000A/B, the former Calculus 1100A/B, or Calculus 1500A/B, each with a minimum mark of 60%; and one of Applied Mathematics 1201A/B, Calculus 1301A/B, Calculus 1501A/B, Mathematics 1600A/B, Mathematics 1225A/B,~~

~~Mathematics 1229A/B, each with a minimum mark of 60%. Integrated Science 1001X with a minimum mark of 60% can be used as a prerequisite in place of Chemistry 1302A/B and Calculus 1301A/B.~~

Extra Information: 3 lecture hours.

Course Weight: 0.50

Course Revision – Effective September 1, 2023, the following change(s) be made:

CHEMISTRY 3374A/B

QUANTUM CHEMISTRY AND SPECTROSCOPY

Introduction to the principles and applications of quantum mechanics in chemistry and spectroscopy. Topics include the Schrödinger equation, mathematical language of quantum mechanics, foundations of vibrational, rotational, and electronic spectroscopy, and elements of the quantum theory of chemical bonding. ~~Basic concepts of quantum mechanics are introduced and applied to a variety of problems in chemistry and spectroscopy. Topics include quantum behavior of microscopic particles, principles of vibrational, rotational, and electronic spectroscopy, and the foundations of the quantum theory of chemical bonding.~~

Antirequisite(s): Physics 3200A/B.

Prerequisite(s): ~~Chemistry 2384B.~~ **Chemistry 1301A/B, Chemistry 1302A/B, 0.5 course from Calculus 1000A/B, Calculus 1500A/B, Numerical and Mathematical Methods 1412A/B, and any other 0.5 course at the 1000-level from Calculus, Applied Mathematics, Mathematics, or Numerical and Mathematical Methods. Integrated Science 1001X may be used as a substitute for the combination of Chemistry 1302A/B and Calculus 1301A/B.**

Extra Information: 3 lecture hours, 1 tutorial hour

Course Weight: 0.50

Course Withdrawal – Effective September 1, 2023, the following course be withdrawn:

CHEMISTRY 4444A/B

STATISTICAL MECHANICS AND MOLECULAR SIMULATIONS

Computer simulations using methods based on the theory of statistical mechanics allow computations of physical properties of any state of matter and study of chemical transformations. In the course, applications of Molecular Dynamics and Monte Carlo techniques will be discussed as well as the underlying theory of Statistical Mechanics.

Prerequisite(s): Chemistry 3374A/B.

Extra Information: 3 lecture hours.

Course Weight: 0.50

Course Withdrawal – Effective September 1, 2023, the following course be withdrawn:

CHEMISTRY 4474A/B

ADVANCED QUANTUM CHEMISTRY AND SPECTROSCOPY

Applications of quantum mechanics to atomic and molecular spectroscopy, including magnetic resonance, rotational, vibrational, and electronic spectroscopies of molecules.

Prerequisite(s): Chemistry 3374A/B.

Extra Information: 3 lecture hours.

Course Weight: 0.50

Course Withdrawal – Effective September 1, 2023, the following course be withdrawn:

CHEMISTRY 4483A/B

ELUCIDATION OF ORGANIC AND BIOORGANIC MECHANISMS

Techniques for diagnosing and testing mechanisms of chemical reactions, with an emphasis on organic and bioorganic examples: kinetics, activation parameters, Bronsted catalysis law, Hammett and Taft relations, Marcus Theory, kinetic isotope effects, solvent effects. An introduction to pericyclic reactions with a discussion of aromaticity and orbital symmetry.

Prerequisite(s): Chemistry 3373F.

Extra Information: 3 lecture hours.

Course Weight: 0.50

DEPARTMENT OF PHYSICS AND ASTRONOMY

Course Revision – Effective September 1, 2023, the following change(s) be made:

PHYSICS 1502A/B

ENRICHED INTRODUCTORY PHYSICS II

A calculus-based laboratory course for students intending to pursue further studies in science, particularly the physical sciences. Relativity, the electromagnetic interaction, the strong and weak interactions, oscillations and waves.

Antirequisite(s): Physics 1021, Physics 1102A/B, Physics 1202A/B, Physics 1402A/B, the former Physics 1029A/B, the former Physics 1302A/B.

Prerequisite(s): one of Physics 1501A/B (preferred) or Physics 1201A/B or Physics 1401A/B, or the former Physics 1301A/B, or a minimum mark of 80% in the former Physics 1028A/B; Calculus 1000A/B or Calculus

1500A/B **or Numerical and Mathematical Methods 1412A/B** or **the former Applied Mathematics 1412A/B**. **Corequisite(s)**: Calculus 1501A/B (preferred) or Calculus 1301A/B or Numerical and Mathematical Methods 1414A/B. The former Applied Mathematics 1414A/B or the former Applied Mathematics 1413 can be used in place of Numerical and Mathematical Methods 1414A/B. Extra Information: 3 lecture hours, 3 laboratory/tutorial hours. Note: This course, together with Physics 1501A/B, is a suitable prerequisite for all modules in the Faculty of Science, for modules offered by the basic medical science departments and for professional schools having a Physics requirement.

Program Revision – Effective September 1, 2023, the following change(s) be made:

MAJOR IN PHYSICS

Module

6.0 courses:

1.0 course: Calculus 2502A/B (preferred) or Calculus 2302A/B **or Numerical and Mathematical Methods 2276A/B or Numerical and Mathematical Methods 2277A/B**, Calculus 2503A/B (preferred) or Calculus 2303A/B **or Numerical and Mathematical Methods 3415A/B**.

0.5 course: Applied Mathematics 2402A (or the former Differential Equations 2402A) **or Numerical and Mathematical Methods 2270A/B**.

1.0 course: Physics 2101A/B, Physics 2102A/B.

1.0 course: Physics 2110A/B and Physics 2910F/G (or the former Physics 2900E).

1.0 course from: **any Physics or Astronomy course not yet taken numbered 2100 or above, Chemistry 4424A/B** ~~Astronomy 2201A/B, Astronomy 2801A/B, Physics 2810A/B, the former Physics 2700A/B, the former Materials Science 2800, the former Physics 2600A/B, the former Physics 2800.~~

0.5 course from: Physics 3900F/G/Z, Physics 3926F/G.

1.0 course from: Physics 3151A/B, Physics 3200A/B, Physics 3300A/B, Physics 3400A/B.

Students must also complete Physics 2950Y, Physics 3950Y (non-credit seminar courses).

Note: The above courses may have prerequisites not included in the module.

DEPARTMENT OF STATISTICAL AND ACTUARIAL SCIENCES

Course Revision – Effective September 1, 2023, the following change(s) be made:

STATISTICAL SCIENCES 2035

STATISTICS FOR BUSINESS AND SOCIAL SCIENCES

Descriptive statistics and graphs, probability and distributions. Sampling, hypothesis testing, and confidence intervals. Experimental design and analysis of variance. Regression and correlation, including multiple regression. Applications emphasized. ~~This course cannot be taken for credit in any module in Data Science, Statistics, Actuarial Science, or Financial Modelling, other than the Minor in Applied Statistics.~~

Antirequisite(s) at Main Campus: All other courses in Introductory Statistics (except Statistical Sciences 1023A/B and Data Science 1000A/B or the former Statistical Sciences 1024A/B): Biology 2244A/B, Economics 2122A/B, Economics 2222A/B, Geography 2210A/B, Health Sciences 3801A/B, MOS 2242A/B, Psychology 2811A/B or the former Psychology 2810, Psychology 2801F/G or the former Psychology 2820E, Psychology 2830A/B, Psychology 2850A/B, Psychology 2851A/B, Social Work 2207A/B, Sociology 2205A/B, Statistical Sciences 2141A/B, Statistical Sciences 2143A/B, Statistical Sciences 2244A/B, Statistical Sciences 2858A/B. Antirequisite(s) at King's: All other courses in Introductory Statistics (except Statistical Sciences 1023A/B and Statistical Sciences 1024A/B): Biology 2244A/B, Economics 2122A/B, Economics 2222A/B, Geography 2210A/B, Health Sciences 3801A/B, MOS 2242A/B, Psychology 2811A/B, the former Psychology 2810, the former Psychology 2820E, Psychology 2830A/B, Psychology 2850A/B, Psychology 2851A/B, Social Work 2207A/B, Sociology 2205A/B, Statistical Sciences 2141A/B, Statistical Sciences 2143A/B, Statistical Sciences 2244A/B, Statistical Sciences 2858A/B, Statistical Sciences 2037A/B if taken prior to Fall 2010.

Prerequisite(s): One full course or equivalent from: Applied Mathematics 1201A/B, Data Science 1000A/B, (Calculus 1000A/B or Calculus 1500A/B or Numerical and Mathematical Methods 1412A/B or the former Applied Mathematics 1412A/B), (Calculus 1301A/B or Calculus 1501A/B or Numerical and Mathematical Methods 1414A/B or the former Applied Mathematics 1414A/B), Mathematics 1600A/B, Mathematics 1225A/B, Mathematics 1228A/B, Mathematics 1229A/B, Mathematics 1230A/B, or the former Applied Mathematics 1413, the former Statistical Sciences 1024A/B.

Extra Information: 3 lecture hours. **This course cannot be taken for credit in any module in Data Science, Statistics, Actuarial Science, or Financial Modelling, other than the Minor in Applied Statistics, the Minor in Data Science, or the Certificate in Data Science.**

Course Revision – Effective September 1, 2023, the following change(s) be made:

STATISTICAL SCIENCES 2141A/B

APPLIED PROBABILITY AND STATISTICS FOR ENGINEERS

An introduction to statistics with emphasis on the applied probability models used in Electrical and Civil Engineering and elsewhere. Topics covered include samples, probability, probability distributions, estimation (including comparison of

means), correlation and regression. ~~This course cannot be taken for credit in any module in Data Science, Statistics, Actuarial Science, or Financial Modelling, other than the Minor in Applied Statistics, the Minor in Applied Financial Modeling.~~

Antirequisite(s): All other courses in Introductory Statistics (except Statistical Sciences 1023A/B, Data Science 1000A/B or the former Statistical Sciences 1024A/B): Biology 2244A/B, Economics 2122A/B, Economics 2222A/B, Geography 2210A/B, Health Sciences 3801A/B, MOS 2242A/B, Psychology 2811A/B or the former Psychology 2810, Psychology 2801F/G or the former Psychology 2820E, Psychology 2830A/B, Psychology 2850A/B, Psychology 2851A/B, Social Work 2207A/B, Sociology 2205A/B, Statistical Sciences 2035, Statistical Sciences 2143A/B, Statistical Sciences 2244A/B, Statistical Sciences 2858A/B.

Prerequisite(s): 0.5 course from Numerical and Mathematical Methods 1412A/B, Calculus 1000A/B, Calculus 1500A/B, the former Applied Mathematics 1412A/B, plus 0.5 course from Numerical and Mathematical Methods 1414A/B, Calculus 1301A/B, Calculus 1501A/B, the former Applied Mathematics 1414A/B. The former Applied Mathematics 1413 may also be used to meet this 1.0 course prerequisite.

Extra Information: 3 lecture hours, 1 tutorial hour. **This course cannot be taken for credit in any module in Data Science, Statistics, Actuarial Science, or Financial Modelling, other than the Minor in Applied Statistics, the Minor in Applied Financial Modeling, the Minor in Data Science, or the Certificate in Data Science.**

Course Revision – Effective September 1, 2023, the following change(s) be made:

STATISTICAL SCIENCES 2143A/B

APPLIED STATISTICS AND DATA ANALYSIS FOR ENGINEERS

A data-driven introduction to statistics intended primarily for students in Chemical and Mechanical Engineering. Exploratory data analysis, probability, the Binomial, Poisson, Normal, Chi-Square and F distributions. Estimation, correlation and regression (model building and parameter estimation), analysis of variance, design of experiments. ~~This course cannot be taken for credit in any module in Data Science, Statistics, Actuarial Science, or Financial Modelling, other than the Minor in Applied Statistics, the Minor in Applied Financial Modeling.~~

Antirequisite(s): All other courses in Introductory Statistics (except Statistical Sciences 1023A/B, Data Science 1000A/B or Statistical Sciences 1024A/B): Biology 2244A/B, Economics 2122A/B, Economics 2222A/B, Geography 2210A/B, Health Sciences 3801A/B, MOS 2242A/B, Psychology 2811A/B or the former Psychology 2810, Psychology 2801F/G or the former Psychology 2820E, Psychology 2830A/B, Psychology 2850A/B, Psychology 2851A/B, Social Work 2207A/B, Sociology 2205A/B, Statistical Sciences 2035, Statistical Sciences 2141A/B, Statistical Sciences 2244A/B, Statistical Sciences 2858A/B.

Prerequisite(s): 0.5 course from Numerical and Mathematical Methods 1412A/B, Calculus 1000A/B, Calculus 1500A/B, the former Applied Mathematics 1412A/B, plus 0.5 course from Numerical and Mathematical Methods 1414A/B, Calculus 1301A/B, Calculus 1501A/B, the former Applied Mathematics 1414A/B. The former Applied Mathematics 1413 may also be used to meet this 1.0 course prerequisite.

Extra Information: 3 lecture hours, 1 tutorial hour. **This course cannot be taken for credit in any module in Data Science, Statistics, Actuarial Science, or Financial Modelling, other than the Minor in Applied Statistics, the Minor in Applied Financial Modeling, the Minor in Data Science, or the Certificate in Data Science.**

Course Revision – Effective September 1, 2023, the following change(s) be made:

STATISTICAL SCIENCES 2244A/B STATISTICS FOR SCIENCE

An introductory course in the application of statistical methods, intended for ~~honours~~ students in departments other than Statistical and Actuarial Sciences, Applied Mathematics, Mathematics, or students in the Faculty of Engineering. Topics include sampling, confidence intervals, analysis of variance, regression and correlation. ~~Cannot be taken for credit in any module in Data Science, Statistics, Actuarial Science, or Financial Modelling other than the Minor in Applied Statistics.~~

Antirequisite(s): All other courses in Introductory Statistics (except Statistical Sciences 1023A/B, Data Science 1000A/B or the former Statistical Sciences 1024A/B): Biology 2244A/B, Economics 2122A/B, Economics 2222A/B, Geography 2210A/B, Health Sciences 3801A/B, MOS 2242A/B, Psychology 2811A/B or the former Psychology 2810, Psychology 2801F/G or the former Psychology 2820E, Psychology 2830A/B, Psychology 2850A/B, Psychology 2851A/B, Social Work 2207A/B, Sociology 2205A/B, Statistical Sciences 2035, Statistical Sciences 2141A/B, Statistical Sciences 2143A/B, Statistical Sciences 2858A/B.

Prerequisite(s): 1.0 Mathematics course or equivalent numbered 1000 or above. Data Science 1000A/B or the former Statistical Sciences 1024A/B or Integrated Science 1001X can be used to meet 0.5 of the 1.0 mathematics course requirement.

Extra Information: 2 lecture hours, 3 lab hours. **This course cannot be taken for credit in any module in Data Science, Statistics, Actuarial Science, or Financial Modelling other than the Minor in Applied Statistics, the Minor in Data Science, or the Certificate in Data Science.**

Course Revision – Effective September 1, 2023, the following change(s) be made:

STATISTICAL SCIENCES 3859A/B REGRESSION

Simple and multiple linear regression models and their use to model data using computing including model specification and assumptions, inference and estimation, use of indicator variables, regression diagnostics, model building and selection. Introduction to forecasting and time series.

Antirequisite(s): **Economics 2123A/B and Economics 2223A/B.**

Prerequisite(s): A minimum mark of 60% in Statistical Sciences 2858A/B. Pre- or

Corequisite(s): Statistical Sciences 2864A/B.

Extra Information: 3 lecture hours, 1 tutorial hour.

Course Weight: 0.50

Program Revision – Effective September 1, 2023, the following change(s) be made:

MINOR IN APPLIED STATISTICS

Module

4.0 courses:

1.0 course(s) from: Biology 2244A/B **or Statistical Sciences 2244A/B,** Epidemiology 2200A/B, **Psychology 2811A/B and Psychology 2812A/B, the former Psychology 2810,** Statistical Sciences 2035, Statistical Sciences 2141A/B, Statistical Sciences 2143A/B, ~~Statistical Sciences 2244A/B,~~ Statistical Sciences 2857A/B, Statistical Sciences 2858A/B. **** ****

2.0 courses: Data Science 3000A/B (or the former Statistical Sciences 3850F/G), Statistical Sciences 2864A/B, Statistical Sciences 3843A/B, Statistical Sciences 3859A/B or Statistical Sciences 3869A/B.

1.0 course(s) from: Biology 2290F/G, Biostatistics 3100A, Computer Science 2034A/B, Computer Science 2035A/B, ~~Economics 2223A/B,~~ Epidemiology 2200A/B, Epidemiology 3200A/B, ~~Psychology 2800E,~~ **Psychology 2801F/G, Psychology 2802F/G,** Psychology 2840F/G, Psychology 2855F/G, Psychology 2856F/G, Psychology 3800F/G, Psychology 3840F/G, **the former Psychology 2800E,** Sociology 2206A/B, Sociology 2236A/B, or any Statistical Sciences course at the 3800 level or higher.

~~** Psychology 2810 may be used to meet this 1.0 course requirement.~~

~~**~~ If previously completed, Economics 2222A/B and MOS 2242A/B may be used towards this 1.0 course requirement. In these cases, students will be required to complete 1.5 courses from the final 1.0 course list.

Program Revision – Effective September 1, 2023, the following change(s) be made:

MAJOR IN APPLIED STATISTICS

Admission Requirements

Completion of first-year requirements, including the following:

Calculus 1000A/B or Calculus 1500A/B plus Calculus 1501A/B (or Calculus 1301A/B with a mark of at least 85%); Mathematics 1600A/B; 1.0 course from Psychology 1000, **Psychology 1002A/B and Psychology 1003A/B**, Biology 1001A and Biology 1002B, Biology 1201A and Biology 1202B, Sociology 1020, **Sociology 1025A/B, Sociology 1026A/B, Sociology 1027A/B**; plus 0.5 other principal course, with no mark less than 60% in any of the 3.0 principal courses.

Recommended (but not required) first-year courses: Data Science 1000A/B and/or Statistical Sciences 1023A/B; or the former Statistical Sciences 1024A/B.

Note: Numerical and Mathematical Methods 1412A/B and Numerical and Mathematical Methods 1414A/B; or the former Applied Mathematics 1412A/B and the former Applied Mathematics 1414A/B or the former Applied Mathematics 1413 may be substituted for the 1.0 Calculus course requirement. Numerical and Mathematical Methods 1411A/B or the former Applied Mathematics 1411A/B may be substituted for Mathematics 1600A/B. If not taken in Year 1, Mathematics 1600A/B must be completed prior to the second term of Year 2.

Module

6.0 courses:

3.5 courses: Data Science 3000A/B (or the former Statistical Sciences 3850F/G), Statistical Sciences 2857A/B, Statistical Sciences 2858A/B, Statistical Sciences 2864A/B, Statistical Sciences 3843A/B, Statistical Sciences 3859A/B, Statistical Sciences 3860A/B.

0.5 course: Calculus 2402A/B*.

0.5 course from: Biology 2290F/G, Sociology 2206A/B, ~~Psychology 2800E**~~
Psychology 2801F/G, or the former Psychology 2800E**

0.5 course: Epidemiology 2200A/B.

1.0 course from: Applied Mathematics 2402A, Applied Mathematics 3615A/B, Financial Modelling 3817A/B; Psychology 3800F/G, Psychology 3840F/G; Sociology 2236A/B, Sociology 4441A/B; Statistical Sciences 4846A/B, Statistical Sciences 4850F/G, Statistical Sciences 4853A/B or any approved Statistics course at the 3000-level or higher.

* Calculus 2402A/B may be replaced by (Calculus 2502A/B and Calculus 2503A/B). When such a replacement occurs, the module will increase by 0.5 course.

** **The former Psychology 2800E (1.0 credit) may be used to fulfill this 0.5 course requirement without affecting any other requirement of the module**
~~Psychology 2800E may be used to fulfill this 0.5 course requirement and in these cases the module will increase by 0.5 course.~~

This module can only be completed in a four-year (honours or non-honours) degree.

Program Revision – Effective September 1, 2023, the following change(s) be made:

HONOURS SPECIALIZATION IN ACTUARIAL SCIENCE

Module

10.5 courses:

3.5 courses: Actuarial Science 2553A/B, Actuarial Science 2427A/B, Actuarial Science 3424A/B, Actuarial Science 3429A/B, Actuarial Science 3431A/B, Actuarial Science 4426F/G, Actuarial Science 4824A/B.

~~4.0~~ **4.5** courses: Data Science 3000A/B (or the former Statistical Sciences 3850F/G), Statistical Sciences 2503A/B, Statistical Sciences 2857A/B, Statistical Sciences 2858A/B, Statistical Sciences 2864A/B, Statistical Sciences 3657A/B, Statistical Sciences 3858A/B, Statistical Sciences 3859A/B, **Statistical Sciences 4861A/B**.

1.5 courses: Financial Modelling 2555A/B, Financial Modelling 2557A/B, Financial Modelling 3520A/B.

0.5 courses: Calculus 2402A/B.

~~0.5 course from: Statistical Sciences 3843A/B, Statistical Sciences 3860A/B, Statistical Sciences 4850F/G, Statistical Sciences 4861A/B, Statistical Sciences 4864A/B.~~

0.5 course from: Any additional Actuarial Science, Financial Modelling or Statistical Sciences course at the 4000 level.

Calculus 2402A/B may be replaced by (Calculus 2502A/B and Calculus 2503A/B). When such a replacement occurs, the module will include 11.0 courses.

FACULTY OF SOCIAL SCIENCE

DEPARTMENT OF ECONOMICS

Course Revision – Effective September 1, 2023, the following change(s) be made:

ECONOMICS 3389A/B APPLIED ECONOMETRICS II

This course is an introduction to machine learning and big data for use in economic analysis. Machine learning employs techniques for analyzing large data sets with an emphasis on making predictions. The econometric methods covered in Economics 2222A/B and Economics 2223A/B are extended to common machine learning methods such as random forest and artificial neural networks.

Antirequisite(s): Data Science 3000A/B, the former Computer Science 4414A/B, and the former Software Engineering 4460A.

Prerequisite(s): Economics 2223A/B.

Extra Information: 4 2 lecture hours, 2 laboratory hours.

Course Weight: 0.50

DEPARTMENT OF POLITICAL SCIENCE

Course Revision – Effective September 1, 2023, the following change(s) be made:

POLITICAL SCIENCE 2145A/B

RUSSIA'S WAR AGAINST UKRAINE ~~RUSSIA AND UKRAINE AT WAR~~

On 24 February 2022 Russia escalated and launched a full-scale war against Ukraine. This course gets behind the headlines and explores the what, why, and how of this brutal, unprovoked war in modern Europe. Themes include hybrid warfare, disinformation, geo-politics, international law, humanitarian impact, and more. ~~Antirequisites: Political Science 2192A/B if taken in 2022-23.~~

Antirequisite(s): **Political Science 2192A/B if taken in 2022-23.**

Extra Information: 2 hours.

Course Weight: 0.50

Course Revision – Effective September 1, 2023, the following change(s) be made:

POLITICAL SCIENCE 3348F/G FEDERALISM IN CANADA AND BEYOND

(Short Title: Federalism in Canada & Beyond)

This course offers a thorough examination of federalism. It devotes significant attention to the Canadian case, but it sets Canadian federalism

securely within a broader comparative context. The course will explore federal theory, federal institutions, and the implications of federalism for political actors, intergovernmental negotiations, and crucial public policy outcomes.

~~This course will describe, analyze and evaluate interactions between federal, provincial and local governments in Canada. The course will focus on the processes of interaction and the policy impacts of these relationships in the contemporary period.~~

Prerequisite(s): Political Science 2230E or Political Science 2530F/G, or the former Political Science 2234E.

Extra Information: 2 lecture hours.

Course Weight: 0.50