



## Academic Programs Committee of Council

### University Course Challenge

**Scheduled posting: December 2013**

The following types of curricular and program changes are approved by the University Course Challenge -- additions and deletions of courses, lower levels of study and program options; straightforward program changes; and changes to courses which affect another college.

#### **Contents:**

<b>Arts and Science: Humanities and Fine Arts</b>	<b>Page 2</b>
Art History, Catholic Studies, Drama, English, French, History, Interdisciplinary Centre for Culture and Creativity, Linguistics, Philosophy, Religion and Culture, Studio Art	
<b>Science</b>	<b>Page 16</b>
Anatomy and Cell Biology, Biochemistry, Bioinformatics, Biology, Chemistry, Computer Science, Mathematics, Microbiology and Immunology, Physics, Statistics, Toxicology	
<b>Social Sciences</b>	<b>Page 35</b>
Anthropology, Archaeology, Business Economics, Economics, Environment and Society, Geography, International Studies, Native Studies, Northern Studies, Political Studies, Psychology, Sociology	
<b>Arts and Science items for information</b>	<b>Page 49</b>
English, History, Computer Science, Microbiology and Immunology, Anthropology, International Studies	
<b>Dentistry</b> Program requirements	<b>Page 52</b>
<b>Education</b> Prerequisite changes, teaching area changes	<b>Page 52</b>
<b>Edwards School of Business</b> Accounting changes	<b>Page 53</b>
<b>Engineering</b>	<b>Page 54</b>
Engineering Physics, Environmental Engineering, Computer Engineering	
<b>Graduate Studies and Research</b>	<b>Page 55</b>
Food and Bioproduct Sciences, Large Animal Clinical Sciences, Psychology, Environment and Sustainability	
<b>Kinesiology</b> Program change	<b>Page 59</b>
<b>Nursing</b> Course equivalents	<b>Page 60</b>
<b>Western College of Veterinary Medicine</b>	<b>Page 60</b>
New course	

**Approval:** Date of circulation: December 17, 2013  
Date of effective approval if no Challenge received: January 7, 2014

#### **Next scheduled posting:**

The next scheduled Challenge document posting will be in January, 2014, with a submission deadline of **January 15, 2014**. All program changes for the 2014-15 Course and Program Catalogue should be submitted by this date. This is also the last date for submission of any prerequisite or other course changes for Spring and Summer terms (201405 and 201407). Urgent items can be posted on request.

---

## ***College of Arts and Science***

The curricular revisions listed below were approved through the Arts & Science College Course and Program Challenge and are now submitted to the University Course Challenge for approval.

### **DIVISION OF HUMANITIES & FINE ARTS**

#### ***Art History***

##### **Minor Program Revisions**

##### **Bachelor of Arts Double Honours in Art History**

The format of the program entry is being changed so that students will more clearly understand how two disciplines are combined in a single Double Honours degree program. Students must complete the Specialization 1 requirements for their first discipline (the discipline for which students must complete the Distribution requirements) and Specialization 2 requirements for their second discipline. There are no changes to the program requirements.

##### **Bachelor of Arts Minor in Studio Art for Art History Majors**

Change to wording to allow all ART courses to be counted toward fulfilling the program requirements, while retaining the requirement that students choose courses from two areas of Studio Art.

#### ***Catholic Studies***

##### **Minor Program Revision**

##### **Minor in Catholic Studies**

Change to courses in area of study lists:

##### Area I: Catholicism and History

- HIST 202.3 The Formation of Europe 300-1000
- HIST 205.3 Europe and World in High Middle Ages 1000 to 1300
- HIST 230.3 Christianity from Constantine to the Age of the Renaissance and the Reformations, 300 to 1650 CE
- HIST 231.3 Christianity in Modern Times, 1650-2000
- HIST 309.3 Crusades and Aftermath
- HIST 424.3 Catholic Reform and Counter-Reformation in Italy 1540-1650
- ~~RLST 219.3 Bible and Western Culture~~ (Moved to Area III)
- RLST 221.3 Introduction to Christianity
- RLST 253.3 Introduction to Old Testament
- RLST 254.3 Introduction to New Testament
- ~~RLST 328.3 Jewish-Christian Relations in Historical Perspective~~ (Moved to Area III)
- RLST 363.3 Early Christian Literature: Text and Context

##### Area II: Catholic Thought and Culture

- ~~DRAMA 303.3 Advanced Theatre History I~~
- ENG 221.6 Shakespeare
- ENG 311.3 Chaucer
- ENG 393.3 Medieval Devotional Literature

- FREN 423.3 Literature and Spirituality: Catholic Novel in France
- HIST 330.3 Humanist Thought in Renaissance Italy 1300 to 1527
- HIST 421.3 Erasmus and Renaissance Humanism
- PHIL 204.3 Philosophy of Religion: Christian Philosophical Tradition
- PHIL 210.3 Medieval Philosophy I
- PHIL 211.3 Medieval Philosophy II
- PHIL 212.3 Medieval Intellectuals: Thought and Learning in the Middle Ages
- ~~PHIL 404.3 Advanced Problems in Philosophy and Theology~~ (moved to Area III)
- PHIL 412.3 The Philosophy of Thomas Aquinas I
- ~~PHIL 413.3 The Philosophy of Thomas Aquinas II~~
- POLS 236.3 Classical, Medieval, and Renaissance Political Thought
- RLST 222.3 Mystics, Monks, and Heretics
- ~~RLST 223.3 Introduction to Christian Thought~~
- ~~RLST 224.3 Introduction to Christian Ritual and Worship~~
- RLST 225.3 Perspectives on Jesus
- ~~RLST 315.3 Eastern Christian Thought First Millennium~~
- ~~RLST 316.3 Eastern Christianity Second Millennium~~
- ~~RLST 326.3 Christian Thought in Art~~

#### Area III: Catholicism and the Modern World

- ~~HIST 266.3 Issues in Native Newcomer Relations~~
- ~~INTS 400.3 Critical Perspectives on Social Justice~~
- ~~PHIL 302.3 Contemporary Philosophy of Religion~~
- ~~PHIL 404.3 Advanced Problems in Philosophy and Theology~~ (moved from Area II)
- PSY 261.3 Community Psychology
- ~~RLST 219.3 Bible and Western Culture~~ (moved from Area I)
- ~~RLST 265.3 Bible and Film~~
- RLST 314.3 Issues in Contemporary Catholicism
- ~~RLST 328.3 Jewish-Christian Relations in Historical Perspective~~
- ~~RLST 375.3 Religion and Science~~
- ~~SOC 321.3 Sociology of Religion~~
- SOC 360.3 Globalization and Social Justice
- SOC 413.3 Seminar in the Sociology of Religion

*Rationale:* Several changes have been made to the interdisciplinary Minor in Catholic Studies. All changes were discussed with the relevant department heads. More specifically, these changes were identified in consultation with the relevant department heads or the relevant instructors during the spring of 2013. These modifications reflect program changes that the Academic Programs Committee has already approved.

The rationale for these changes is as follows:

1. Several classes were deleted from the programme roster because they no longer exist or because they duplicate existing courses. The Academic Programs Committee will recall that in 2012-13, Religion and Culture undertook a significant program revision, and that, in the year prior to that, the STM Philosophy program likewise undertook a significant program revision in the year. Courses from both of these departments feature prominently in the Catholic Studies minor. Thus many of the changes proposed here simply reflect the program revisions of these aforementioned departments.

2. Some classes were added because they complement and enhance classes already on the roster and some because they fill noticeable gaps in the programme offerings. These changes provide both depth and breadth to the Minor. An example of this is Drama 303.3, Advanced Theatre History. This was added in consultation with Moira Day, who regularly teaches the course.

## ***Drama***

### **Minor Program Revisions**

Reformat to include the distribution and electives requirements explicitly in the program listings.

### **Bachelor of Arts Honours, Four-year and Three-year in Drama**

Remove requirement for DRAM 101 and replace with ENG 112.3 (and 3 credit units 100-level ENG).

### **Bachelor of Fine Arts in Drama**

Reformat to include the distribution and electives requirements explicitly in the program listing, and remove the requirement for DRAM 101 and replace with ENG 112.3 (and 3 credit units 100-level ENG). Remove closed courses.

### **Bachelor of Arts Double Honours in Drama**

The format of the program entry in the Program Catalogue is changed such that students will more clearly understand how two disciplines are combined in a single Double Honours degree program.

Also included are minor changes to the program requirements: remove requirement for DRAM 101 and replace with ENG 112.3 in Specialization 2 and with ENG 112.3 and 3 credit units 100-level ENG in Specialization 1 (to match changes to BA and BFA programs), and change to create both an acting option and a theatre history option within the program.

## ***English***

### **Minor Program Revisions**

### **Bachelor of Arts Honours in English**

Add ENG 206.3 (An Introduction to Cultural Studies) and INCC 311.3 (Digital Storytelling and New Media Poetics) to the list of Category 5 courses. Program requirements have also been reformatted to improve clarity.

### **Bachelor of Arts Double Honours in English**

The format of the program entry is being changed so that students will more clearly understand how two disciplines are combined in a single Double Honours degree program. Students must complete the Specialization 1 requirements for their first discipline (the discipline for which students must complete the Distribution requirements) and Specialization 2 requirements for their second discipline.

Also included are minor changes to course lists.

- [ENG 314.3](#) (can be used to fulfill either Category 1 AngloSaxon & Medieval or Category 2 Renaissance requirements, but not both)

### **Minor in Canadian Literature in English**

Add ENG 294, 418 and 466 to the list of courses which credit to the Minor.

Rationale: While honours seminars are not required for the minor in Canadian Literature in English, students who are able to enroll in suitable seminars should be given credit for these courses. Therefore, we propose to add ENG 418.3 Topics in 19th Century Canadian Literature and ENG 466.3 Topics in 20th Century Canadian Literature to the courses for which students are given credit in this minor. This change will bring the minor into alignment with other programs in English, which allow students to take these honours seminars to fulfill the Canadian Literature requirement. ENG 294.3 Techniques of Canadian Poetry is also added as this course was recently revised to include a substantial Canadian literature component.

### **New Course(s)**

#### **ENG 230.3 Literature for Children**

1 or 2 A critical study of literature written or adopted for children and young adult readers. Emphasis will be placed on the historical significance of key forms, such as fables, folk stories, fairy tales, and nursery rhymes, as well as later developments in drama, poetry, and prose fiction, including fantasy, realism, animal stories, historical fiction, and the young adult "problem novel." The interplay between oral, written, and visual texts will be considered, as will the cultural contexts that inform changing attitudes towards children, childhood, and adolescence. Prerequisite(s): 6 credit units 100-level ENG

Instructor(s): Ann Martin, Jeanette Lynes, Peter Hynes

Rationale: The course is designed to fill a gap in literary studies courses offered by the Department of English, a gap that is signaled by the prominence of Children's Literature as a field of study at numerous other Canadian universities. In form--a survey course inclusive of non-majors--it may echo some of the Department's more popular second-year offerings, such as ENG 232.3: Gothic Narrative, ENG 260.3: Crime and Detective Fiction, and ENG 280.3: Introduction to Film. In content, it may complement an emerging area of specialization within the Department, the study of Fantasy and Speculative Fiction (e.g. ENG 226.3). And as an inter- and transdisciplinary field, it may prove a useful course for students from other programs and colleges interested in childhood, children's education, and writing for children (eg, the College of Education; the MFA in Writing Program at the ICCC).

#### **ENG 312.3 Early Chaucer Dream and Romance Tragedy**

1 or 2 The course examines Geoffrey Chaucer's literary works before *The Canterbury Tales*, namely, the dream visions and the romance tragedy *Troilus and Criseyde*.

Prerequisite(s): 6 credit units of 100-level English.

Instructor(s): Sarah Powrie, Yin Liu, Peter Robinson, Michael Cichon, Richard Harris, David Parkinson

Rationale: The proposed course on Chaucer's early works will expand and enrich current course offerings in the medieval period, which is Category 1, in the program of study for the Three-year, Four-year and Honours B.A. in English.

#### **ENG 326.3 Renaissance Epic**

1 or 2 This course explores two of English literature's grandest, longest, and most demanding poems, Edmund Spenser's *Faerie Queene* and John Milton's *Paradise Lost*. It investigates

Spenser's and Milton's transformation of classical epic and medieval romance conventions in the context of sixteenth- and seventeenth-century English culture, politics and religion.

Prerequisite(s): 6 credit units of 100-level English.

Note: Area 2: Renaissance

Instructor(s): R. Cooley, J. Henderson, B. Nelson, J. Rochester, A. Kumaran (STM), D. Parkinson.

Rationale: This course proposal is part of a plan to consolidate course offerings in Area 2 (Renaissance), to maintain healthy course enrollments, while continuing to cover canonical texts widely accepted as part of a well-rounded undergraduate education in English literature.

### **Course Deletion(s)**

#### **ENG 318.3 Renaissance and Reformation**

Rationale: The popular and still primarily Medieval literary genres of the English Reformation, which constitute most of the reading for this course, are a specialized subject that can be reserved for honors and graduate seminars. English 319.3 is being revised to include the best known literature previously taught in English 318.3 (for instance, works by Thomas More and his circle). Students at the 300-level will thus be able to sample the literary highlights of the sixteenth-century English Renaissance in 3 c.u. rather than in 6 credit units.

#### **ENG 323.3 17<sup>th</sup> Century Literature after 1640**

Rationale: This course deletion is part of a plan to consolidate course offerings in Area 2 (Renaissance), to maintain healthy course enrollments, while continuing to cover canonical texts widely accepted as part of a well-rounded undergraduate education in English literature. Four courses are being reduced to three. This is the fourth, extraneous course, whose content has been incorporated into two of the three remaining courses. ENG 322.3 has been revised to cover the whole of the 17th century.

#### **ENG 351.3 Canadian Poetry in English**

Rationale: Canadian Poetry is a third-year course that suffers from low enrolment. Canadian literature is a particularly strong area of teaching and research in the Department of English, and we believe it is vital to preserve the study of Canadian poetry as one of the department's offerings. The department has thus decided to delete ENG 351 and reconfigure a second-year course for which we no longer have a dedicated instructor (ENG 294.3: Techniques of English Poetry) so as to offer students the chance to learn both critical methodology and Canadian poetry in a single course offering. The reconfigured 294 will maintain its original aim--to instruct students in the critical methodology of the study of poetry--but the primary course readings will all be in Canadian poetry.

#### **ENG 364.3 Fiction Since 1950**

Rationale: This proposed course deletion is part of a plan to consolidate course offerings in Area 4 (20th Century) to maintain healthy course enrollments, while continuing to cover texts widely accepted as part of a well-rounded undergraduate education in English literature. English 363.3, its former companion course, will absorb the relevant course material and enrollments.

### **ENG 369.3 Poetry Since 1950**

Rationale: This proposed course deletion is part of a plan to consolidate course offerings in Area 4 (20th Century) to maintain optimal course enrollments, while continuing to cover texts widely accepted as part of a well-rounded undergraduate education in English-language literatures. English 368.3, its former companion course, will absorb the relevant course material and enrollments under a new name (Approaches to 20th- and 21st-Century Poetry) and description.

### **French**

#### **Bachelor of Arts Double Honours in French**

The format of the program entry is being changed so that students will more clearly understand how two disciplines are combined in a single Double Honours degree program. Students must complete the Specialization 1 requirements for their first discipline (the discipline for which students must complete the Distribution requirements) and Specialization 2 requirements for their second discipline. There are no changes to the program requirements.

### **History**

#### **Minor Program Revisions**

#### **Bachelor of Arts Double Honours in History**

The format of the program entry is being changed so that students will more clearly understand how two disciplines are combined in a single Double Honours degree program. Students must complete the Specialization 1 requirements for their first discipline (the discipline for which students must complete the Distribution requirements) and Specialization 2 requirements for their second discipline. There are no changes to the program requirements.

#### **New Course(s)**

#### **New 100-level courses in History:**

#### **HIST 115.3 History Matters Ideas and Culture**

1 or 2 Courses in this series examine how history has shaped—and been shaped by—human thought and culture. They might examine how the ideas of intellectuals, philosophers, writers, artists, or religious thinkers related to historical developments such as the spread of Christianity or Islam; the rise of modern secularism; or the various revolutionary movements of the modern world, whether political, economic, social, or artistic. They might examine elite, middle-brow, or popular culture for clues about how past societies responded to the realities of being human — birth, illness, death, the need to work, prepare food, raise children, establish communities, or make sense of one’s place in the universe. Examples of courses: “An Introduction to Modern European Thought and Culture,” “Religious Reformations of the 16<sup>th</sup> Century,” “A Global History of Food and Eating.” All courses emphasize how historians have understood the relationship between ideas, culture, and historical change.

#### **HIST 125.3 History Matters Indigenous Colonial and Post colonial Histories**

1 or 2 Courses in this series examine the peoples and processes shaping indigenous societies, their imperial rulers, and the postcolonial experience. Topics will range from local case studies of First Nations to broader histories of European imperial expansion and national independence movements. The problems of identity, power and policy are at the forefront of these investigations, emphasizing the ways that communities either accepted, resisted or transformed colonial agendas. Courses will also foreground variations among colonizing projects, and

responses to them, in different eras. Examples of course foci include Britain and British Empires since Caesar, the Arab Spring, the scramble for Africa, aboriginal activism in Canada, USA, and Australia, a global history of slavery, perspectives on community and sovereignty in North America, and colonial Latin America. All courses will emphasize how historians have understood different practices of colonization and their relationship to political, economic and social change.

**Attention:** A maximum of nine credit units of 100-level HIST may be taken for credit. Only six of these credit units may count toward a History major or minor. The remaining three credit units will count as a junior elective in Requirement 7.

### **HIST 135.3 History Matters Gender Sex and Society**

1 or 2 Courses in this series examine how histories of gender, sex and society have interacted and evolved throughout time. We will explore how, in various societies, social, cultural, political, legal, and medical views of gender and sexuality have both regulated gender and sexual norms and acted as levers of change. Topics in this shell will include national and transnational histories of sexuality, gender and social change (in the Americas, Europe, Africa and Asia). Possible areas of exploration include: media and cultural depictions of masculinity and femininity; medical, legal, cultural, and theoretical discourses on gender and sexuality; race, class, ethnicity, and indigeneity; gendered performance and geographies of sexual possibilities; demographic continuities and change; artistic representations of sexuality and gender; and, finally, histories of the family, of labour, of migration, as well as of activism, resistance, and repression as they intersect with the history of gender and sexuality.

**Attention:** A maximum of nine credit units of 100-level HIST may be taken for credit. Only six of these credit units may count toward a History major or minor. The remaining three credit units will count as a junior elective in Requirement 7.

### **HIST 145.3 History Matters War Violence and Politics**

1 or 2 Courses in this series examine the history of war and violence, cutting across periods and historical specializations. Areas of exploration may include the factors that have shaped human conflict (social, cultural, political, and religious); specific cases, campaigns or systems of conflict (including interpersonal, intergroup, and international violence); wars hot and cold; historic forms of oppression and injustice, and their relationship to conflict; and the history of resistance to interpersonal, intergroup and systemic violence including the history of peace and reconciliation and non-violent movements.

**Attention:** A maximum of nine credit units of 100-level HIST may be taken for credit. Only six of these credit units may count toward a History major or minor. The remaining three credit units will count as a junior elective in Requirement 7.

### **HIST 155.3 History Matters Science and Environment**

1 or 2 Courses in this series examine the history and conceptualization of science, the cosmos, or the environment and their relationships to society and culture. The term science is understood broadly to include not only modern science but pre-modern and non-western approaches to understanding and manipulating the natural world. Historians focus on the human history of the environment, with a particular attention to the ever-changing relationship between societies and their ecosystems. Possible areas of exploration might include: the scientific revolution; North-American environmental history; global commodities, imperialism and the environment; and



science, magic, and rationality. With reference to historical examples, these courses will seek to nuance concepts such as ‘science’, ‘rationality’, and ‘nature’ and also to examine broad conventional historical narratives such as ‘disenchantment’, ‘enlightenment’, ‘industrialization’ or ‘globalization’.

**Attention:** A maximum of nine credit units of 100-level HIST may be taken for credit. Only six of these credit units may count toward a History major or minor. The remaining three credit units will count as a junior elective in Requirement 7.

### **HIST 165.3 History Matters Health and Society**

1 or 2 Courses in this series examine how historians have understood the complex relationship between health, society, and historical change. Health is used as a vehicle for understanding political, social and cultural change throughout history. Topics range from antiquity the birth of Galenic healing through western and non-western traditions that have guided our understandings of bodies, pain, gender, and power and into the modern era of health and medicine with the rise of professional medicine, ethics, experimentation and institutionalized healing. Health is widely defined to capture experiences that fall outside the traditional doctor-patient relationship, and to explore issues including: mental health; the politics of healthcare; health economies; the health professions; disease’s power to shape human history. These courses rely on a variety of sources: food and nutrition, to medical treatises, patient narratives, activist and anti-medical establishment texts, artwork, and institutional reports, and a rich historical tradition of examining health and medicine and its influence on human history. Possible areas of exploration include: madness; the body; pain; health and disease.

**Attention:** A maximum of nine credit units of 100-level HIST may be taken for credit. Only six of these credit units may count toward a History major or minor. The remaining three credit units will count as a junior elective in Requirement 7.

### **HIST 175.3 History Matters Identities and Communities in Transition**

1 or 2 Courses in this series examine the complexity of identity and the ever-changing and complicated nature of community through an exploration of history. Identities are never ‘fixed’ and constructed in isolation; they are always both ‘invented’ and the result of historical change. Communities are similarly complex: never autonomous, always shaped by history and the interplay between internal dynamics and relationships with forces outside of the community. All courses in this series are linked through their exploration of the history of identities and communities but they explore that history in different places and times. Some courses will take a micro-level view, exploring the history of identity in one particular location or community over time and relating those changes to broader perspectives; others will look at the way broad historical forces shaped identities. Possible areas of exploration may include: historical roots and myths surrounding ‘tribalism’ in Africa and the contemporary impacts of this discourse; the spread nationalism in the 18<sup>th</sup> and 19<sup>th</sup> centuries and the rise of the modern nation-state; how such groups as Kurds have been able to maintain a distinct identity over time; Quebec’s status as a separate ‘nation’ in Canada.

**Attention:** A maximum of nine credit units of 100-level HIST may be taken for credit. Only six of these credit units may count toward a History major or minor. The remaining three credit units will count as a junior elective in Requirement 7.

Instructor(s): History faculty

Rationale: These courses are being created as part of the History Department's Curriculum renewal process. Our intention is to provide students with exciting and interesting 100 level/first year courses that are thematically aligned with the research strengths of the history department and linked to faculty research interests, in lieu of the standard broad survey courses. We hope to increase enrollments and attract students to major in Humanities subjects. Although the specific content of each iteration will vary, all offerings in the series will have standard learning concerned with students' acquisition of skills related to the discipline of History

### **HIST 223.3 Age of the Renaissance**

1 or 2 This course introduces the student to world of Western Europe in the fourteenth through the sixteenth centuries. It covers the major developments in the period: the Renaissance and Reformation, the development of centralized monarchies, and the start of the Scientific Revolution. In addition, it examines topics such as magic and witchcraft and their relationship to these larger events or movements.

Prerequisite(s): 3 credit units HIST at the 100 level, or INTS 101, or 30 credit units of University.

Note: Pre-1815; Europe and Great Britain. Students with credit for HIST 225 may not take this course for credit.

Instructor(s): Frank Klaassen; Alan Reese

Rationale: This 3 credit course replaces HIST 225.6 Age of Renaissance 1300 to 1500.

### **HIST 255.3 Canadian History from the Pre Contact Period to 1867**

1 or 2 This course is an introduction to the history of Canada up until Confederation in 1867. The bi-weekly lectures will examine major events, issues, and themes in pre-Confederation history, with a specific focus on key historical debates and our understandings of Canada's colonial past. A few of the topics for this course include native-newcomer relations, European empires and conquest, colonial cultures, and rebellion and nationhood.

Prerequisite(s): 3 credit units HIST at the 100 level, or INTS 101, or 30 credit units of University.

Note: Pre-1815; North America. Students who have received credit for HIST 151.3 may not take HIST 255.3 for credit.

Instructor(s): Robert Englebert

Rationale: Over the last two years the history department engaged in curriculum renewal with a dedicated focus on 100-level courses. The result of the department's efforts is the creation of a series of thematically designed History Matters courses. Consequently, the Canadian survey courses, HIST 151.3 (Canada to 1867) and 152.3 (Canada after 1867), now fit more appropriately in the department's 200-level curriculum. It is worth noting that these courses were situated at the 200 level years ago, and that this is really a return to their historical place within the history curriculum. There are no conflicts with other history courses and this change is simply part of this history department's curriculum renewal. There has been very high demand for these classes and thus we wished to continue to offer them as part of our program.

### **HIST 256.3 Post Confederation Canada 1867 to the Present**

1 or 2 History 256.3 is an introductory Canadian history lecture course that covers Canadian history from 1867, the year of Confederation, to the present day. HIST 256.3 combines political, social, cultural and gender history approaches to the study of Canada' past. This class surveys

the development of the Canadian nation-state and its people. Topics include: First Nations people; federal politics; society and gender; war; activism; regional politics and economy and Canadian culture.

Prerequisite(s): 3 credit units HIST at the 100 level, or INTS 101, or 30 credit units of University.

Note: Post-1815; North America. Students with credit in HIST 152.3 may not take this class.

Instructor(s): Professor Valerie Korinek, Professor Keith Carlson; Professor Bill Waiser & Professor Erika Dyck

Rationale: See HIST 255.3 above.

### **HIST 365.3 Recipes for a Nation: Food History in Canada**

2 This course offers students the opportunity to engage with a newly emerging field of historical scholarship: food history. Food, its production, marketing, preparation and consumption is the product of particular societies and cultural practices and, ultimately, food has a history. Drawing upon the recent international and national literature this class offers a social and cultural history of Canada through food. Employing the traditional analytical categories of social history (race, gender, class and nation/region) provides us with the tools to understand the expansion of food products and commercialization; the growth of fast food empires; immigration and "ethnic" cuisine, the gendered dynamics of the kitchen, the farmyard and the grocery store; food safety and social justice; and now, most recently, our fascination with sustainability, organic foods and so-called '100 mile diets'.

Prerequisite(s): 3 credit units 200-level HIST

Note: North America. Students who took the earlier iteration of this class as a HIST 398.3 (2011 and 2012) may not take this course for credit.

Rationale: After two very successful offerings as a special topics class, this course is being created to meet the demands of students interested in food history. Equally important, this course was created because it is a research specialization of the instructor.

### **Course Deletion(s)**

#### **HIST 114.6 Ancient and Medieval World**

Rationale: This course has not been taught since 2006-07 and will not be taught again. It was replaced by HIST 110.3 and HIST 111.3 some time ago.

#### **HIST 327.3 Russian Revolution 1894 to 1924**

#### **HIST 328.3 Stalinism**

#### **HIST 390.3 Cold War I**

Rationale: These courses have not been taught for at least 4 years as the instructors who taught in this area retired/moved.

#### **HIST 225.6 Age of Renaissance 1300 to 1555**

Rationale: Replaced by proposed HIST 223.3 Age of the Renaissance, above.

## **Interdisciplinary Centre for Culture & Creativity**

### **New Course(s)**

#### **INCC 120.1 Creativity Spoken Word**

This course will introduce first-year students to the art form of spoken word poetry. The course will provide a brief overview of the history of spoken word, focusing on seminal practitioners of spoken word such as Linton Kwesi-Johnson, Lillian Allen, Shane Koyczan, and Eekwol. The course will explore spoken word as a form of political activism. Students will create and perform their own spoken word piece. Special attention will be given to local spoken word artists such as Charles Hamilton, Shana Stock, and Cody Dill etc. Documentary films may be shown in class and are listed in the Course Syllabus.

The community will serve as the experiential learning site for this course, giving students access to diverse cultures and engaging in a creative environment. Community sites could include, but are not limited to, places such as schools, public libraries, the farmers' market, The Core Neighbourhood Youth Co-Op, and Station 20 West. Specific sites will be coordinated with partnering organizations for each offering.

Instructor(s): Jeanette Lynes, and/or mentored graduate students in the MFA in Writing program

Rationale: The purpose of developing 1 credit unit courses is to provide students with essential skills, expertise, and experience to support success in upper level courses. The micro-courses are designed to develop talent and build awareness through exposure to different people, different views and ideas on a theme or issue, and different places within and beyond our campus. These courses will provide an interactive environment for students to become engaged in their own learning, integrate knowledge, and explore a variety of disciplinary and interdisciplinary perspectives.

As exemplified by other institutions: University of British Columbia, University of Portland, University of Manitoba, University of Guelph, Trinity Western University, and the Department of Kinesiology at the University of Saskatchewan, 1 cu micro-courses promote experiential learning and provide integral skills that lead to success in upper level courses.

## **Linguistics**

### **New Course(s)**

#### **LING 343.3 Child Language Development**

1 or 2 This course provides an overview of the field of first language acquisition. It examines issues of language development from the child's birth to high school graduation. The course materials address a variety of topics in applied linguistics, such as linguistic development in infancy, acquisition of linguistic ability in phonology, morphology, syntax, semantics, and speaking skills. Furthermore, it examines underlying factors that may lead to atypical language development and evaluates language-therapeutic approaches in addressing those factors. It also includes a practical component applying and evaluating research methodology in child language research.

Prerequisite(s): LING 111 and LING 112

Instructor(s): Veronika Makarova

Rationale: Child Language Development research is a large part of Applied Linguistics with impact on Speech and Language Pathologies (pathologies in child language acquisition). This course improves and complements the offerings in the Interdisciplinary Linguistics Program, especially in the Language and Speech Sciences Stream.

## **Philosophy**

### **Minor Program Revisions**

#### **Bachelor of Arts Double Honours in Philosophy**

The format of the program entry is being changed so that students will more clearly understand how two disciplines are combined in a single Double Honours degree program. Students must complete the Specialization 1 requirements for their first discipline (the discipline for which students must complete the Distribution requirements) and Specialization 2 requirements for their second discipline. There are no changes to the program requirements.

## **Religion & Culture**

### **New Course(s)**

#### **RLST 362.3 Monsters and Mischief Makers**

1 or 2 This class will examine the construction of morality in religious texts by using the outsider/insider (or neighbor/stranger) question. We will investigate this question further by asking how do the people and things we consider to be like us or not like us help us to determine how to behave, and/or what to believe.

Prerequisite(s): 3 credit units 200-level RLST or 48 credit units of university courses

Note: Students who completed RLST 398.3: Monsters and Mischief-makers may not take this course for credit.

Rationale: The class will examine the construction of morality by looking at the use of monsters and mischief-makers because various religious traditions use “monsters” or “mischief-makers” to teach adherents how to behave in the world. For instance, one definition of monster states that a monster is something that exists “outside” of one’s culture, city, country and body. Thus, the monster is completely alien. According to the biblical text, the best way to figure out how to behave in society is to understand what a “foreigner/alien” is, what it is like to be a “foreigner/alien,” and how the incorporation of the “foreigner/alien” affects the morality of society in general. In this class, we will look at the “monsters” of the Ancient Near East traditions, Judaism, and Christianity in order to see how these traditions used monsters to create morality. We will also look at how changes in the portrayal of monsters changed throughout history, and how modern monsters and mischief-makers (Vampires, Werewolves, Witches, Anti-Heroes) have their roots in these religious traditions. This class, then, would appeal to students who would like to understand concepts of morality, religious reforms, and how religions affect cultural themes.

## **Studio Art**

### **Minor Program Revisions**

#### **Bachelor of Arts Double Honours in Studio Art**

The format of the program entry is being changed so that students will more clearly understand how two disciplines are combined in a single Double Honours degree program. Students must complete the Specialization 1 requirements for their first discipline (the discipline for which students must complete the Distribution requirements) and Specialization 2 requirements for their second discipline. There are no changes to the program requirements.

### **Bachelor of Arts Minor in Studio Art**

Change to wording to allow all ART courses to be counted toward fulfilling the program requirements, while retaining the requirement that students choose courses from two areas of Studio Art.

### **Bachelor of Fine Arts in Studio Art**

Revise the Academic Requirement to allow greater flexibility and automatic inclusion of all eligible Arts & Science courses.

### **Current Requirement:**

#### **E1 B.F.A. Academic Requirement (30 credit units)**

No more than 6 credit units may be taken from any one of the following groups:

1. [ENG 110.6](#), [ENG 111.3](#), [ENG 112.3](#), [ENG 113.3](#), [ENG 114.3](#), or [LIT 100.6](#).
2. A second Language: [CHIN 111.6](#), [CHIN 130.6](#), [CREE 101.6](#), [CREE 120.6](#), [FREN 103.3](#), [FREN 106.3](#), [FREN 122.3](#), [FREN 125.3](#), [FREN 128.3](#), [GERM 114.3](#), [GERM 117.3](#), [GRK 112.3](#), [GRK 113.3](#), [HEB 111.6](#), [LATN 112.3](#), [LATN 113.3](#), [RUSS 114.3](#), [RUSS 117.3](#), [SNSK 101.6](#), [SPAN 114.3](#), [SPAN 117.3](#), [UKR 114.3](#), [UKR 117.3](#)
3. [HIST 110.3](#), [HIST 111.3](#), [HIST 114.6](#), [HIST 120.6](#), [HIST 121.3](#), [HIST 122.3](#), [HIST 151.3](#), [HIST 152.3](#), [HIST 170.6](#)
4. [ANTH 111.3](#), [ARCH 112.3](#), [ARCH 116.3](#), [ANTH 220.3](#), [ARCH 250.3](#), [ARCH 251.3](#)
5. [LING 111.3](#), [LING 112.3](#), [NS 107.3](#), [SOC 111.3](#), [SOC 112.3](#), [POLS 111.3](#), [POLS 112.3](#), [ECON 111.3](#), [ECON 114.3](#), [GEOG 130.3](#)
6. [PSY 120.3](#), [PSY 121.3](#) (PSY 120 and 121 were formerly PSY 110)
7. [PHIL 110.6](#), [PHIL 120.3](#), [PHIL 133.3](#), [PHIL 140.3](#), [PHIL 226.3](#), [PHIL 271.3](#)
8. [ASTR 103.3](#), [BIOL 107.6](#), [BIOL 120.3](#), [BIOL 121.3](#), [CHEM 112.3](#), [CHEM 115.3](#), [CMPT 100.3](#), [CMPT 102.3](#), [CMPT 105.3](#), [CMPT 106.3](#), [CMPT 111.3](#), [CMPT 115.3](#), [GEOG 120.3](#) or [GEOG 125.3](#), [GEOL 108.3](#), [GEOL 109.3](#), [GEOL 121.3](#), [GEOL 122.3](#), [PHYS 115.3](#), [PHYS 117.3](#) or [PHYS 125.3](#), [PHYS 128.3](#), [STAT 103.3](#)
9. [MATH 104.3](#), [MATH 110.3](#), [MATH 112.3](#), [MATH 116.3](#), [MATH 128.3](#)
10. Classics, Drama, Music, Religious Studies or [WGST 112.3](#) or [KINA 210.2](#)

### **Proposed replacement:**

#### **E1 B.F.A. Academic Requirement (30 credit units)**

Choose **30 credit units** Academic Coursework, including at least 3 credit units from three of the five areas and not more than 6 credit units from any single subject.

#### **Fine Arts**

\*Please note that DRAM 121 cannot be used to satisfy this requirement.

- |   |                             |
|---|-----------------------------|
| • <a href="#">DRAM 101.3</a>                                  | • <a href="#">MUS 120.2</a> |
| • <a href="#">DRAM 104.6</a>                                  | • <a href="#">MUS 121.2</a> |
| • <a href="#">DRAM 110.3</a>                                  | • <a href="#">MUS 133.3</a> |
| • <a href="#">DRAM 113.3</a>                                  | • <a href="#">MUS 134.3</a> |
| • <a href="#">DRAM 118.3</a> (or <a href="#">DRAM 116.3</a> ) | • <a href="#">MUS 150.3</a> |
| • <a href="#">DRAM 119.3</a> (or <a href="#">DRAM 117.3</a> ) | • <a href="#">MUS 151.3</a> |
| • <a href="#">MUS 101.3</a>                                   | • <a href="#">MUS 184.3</a> |
| • <a href="#">MUS 105.3</a>                                   |                             |
| • <a href="#">MUS 111.3</a>                                   |                             |

- Any senior-level DRAM or MUS course provided that the prerequisite is met

### Humanities

*Standard Humanities course list.*

### Languages

*Standard Languages course list.*

### Science

*Standard Science course list.*

### Social Science

*Standard Social Sciences course list.*

Rationale: This change allows students more flexibility to choose their academic requirements from all eligible Arts & Science courses, while still requiring that they choose from different areas of study. In using the standard lists for Fine Arts (excluding ART and ARTH courses), Humanities, Languages, Science and Social Science, new courses will be automatically added, which will reduce administrative work to request exceptions and submit program revisions.

### **New Course(s)**

#### **ART 355.3 Topics in Interdisciplinary Studio Practice**

1 Identification of the concepts, materials, and means of interdisciplinary art-making using a range of media. A wide range and exploration of materials and combinations of mediums will be emphasized, depending on the expertise of the instructor.

Prerequisite(s): 24 credit units ART courses or permission of the instructor

Note: Topics covered in this course will vary, depending on the instructor. See the subtitle of the class section determine the specific interdisciplinary topic for each offering.

Instructor(s): Susan Shantz, Alison Norlen, Tim Nowlin

Rationale: Increased interest from students and faculty in taking/offering courses at the senior level which cross media boundaries (ie painting and sculpture) and incorporate knowledge from faculty research and related disciplines (ie art and natural science).

#### **ART 356.6 Topics in Interdisciplinary Studio Practice**

1 & 2 Identification of the concepts, materials and means of interdisciplinary art-making using a range of media. A wide exploration of materials and combinations of mediums will be emphasized depending on the expertise of the instructor.

Prerequisite(s): 24 credit units ART courses or permission of the instructor

Note: Topics covered in this course will vary, depending on the instructor. See the subtitle of the class section determine the specific interdisciplinary topic for each offering.

Instructor(s): Susan Shantz, Alison Norlen, Tim Nowlin

Rationale: Increasing interest from students and faculty in taking/offering courses at the senior studio level which cross media boundaries (ie. drawing and sculpture) and incorporate knowledge from faculty research and related disciplines (ie. digital media, 3D printing).

## DIVISION OF SCIENCE

### **Anatomy & Cell Biology**

#### **Adding a Lower Level of Concentration**

#### **Bachelor of Science Double Honours in Anatomy & Cell Biology**

Though students have been allowed to pursue a Double Honours with Anatomy & Cell Biology as one of the two disciplines for some time, the program requirements have never been explicit in the Program Catalogue. Only specific combinations with Biochemistry and Microbiology & Immunology are available. The program requirements will now be listed in the Program Catalogue under both disciplines, which will improve clarity and consistency for students.

#### **Anatomy & Cell Biology and Biochemistry – B.Sc. Double Honours - Specializations 1 and 2**

#### **C1 Science Requirement (15 credit units)**

- [BIOL 120.3](#)
- [CHEM 112.3](#)
- [CHEM 115.3](#)
- [PHYS 115.3](#)
- [PHYS 117.3](#) or [PHYS 125.3](#)

#### **C2 Humanities Writing Requirement (6 credit units)**

#### **C3 Social Science Requirement (6 credit units)**

#### **C4 Mathematics and Statistics Requirement (6 credit units)**

[MATH 125.3](#) recommended

Choose **3 credit units** from the following:

- [MATH 110.3](#)
- [MATH 112.3](#)
- [MATH 116.3](#)
- [MATH 125.3](#)
- [MATH 264.3](#)

Choose **3 credit units** from the following:

- [STAT 245.3](#)
- [STAT 246.3](#)
- [PLSC 214.3](#)

#### **C5 General Requirement (6 credit units)**

#### **C6 Major Requirement (72 credit units)**

- |   |  |
|---|--|
| • <a href="#">ACB 310.3</a>             | • <a href="#">BMSC 230.3</a>   |
| • <a href="#">ACB 325.3</a>             | • <a href="#">BMSC 240.3</a>   |
| • <a href="#">ACB 330.3</a>             | • <a href="#">BIOC 300.3</a>   |
| • <a href="#">ACB 331.3</a>             | • <a href="#">BIOC 310.3</a>   |
| • <a href="#">ACB 405.3</a>             | • <a href="#">BIOC 311.3</a>   |
| • <a href="#">BIOL 224.3/BMSC 224.3</a> | • <a href="#">BIOC 430.3</a> or <a href="#">BIOC 436.3</a>   |
| • <a href="#">BIOL 226.3</a>            | • <a href="#">BIOC 490.0</a> (attendance in <a href="#">BIOC 490.0</a> is required in both term 1 and 2) |
| • <a href="#">BMSC 200.3</a>            |  |
| • <a href="#">BMSC 210.3</a>            |  |
| • <a href="#">BMSC 220.3</a>            | • <a href="#">CHEM 250.3</a>   |



Choose **6 credit units** from the following:

- 300-Level, 400-Level ACB Courses

Choose **9 credit units** from the following:

- 400-Level BIOC Courses

Choose **6 credit units** from the following:

- [ACB 401.6](#)
- [BIOC 489.6](#)

### **C7 Electives Requirement (9 credit units)**

Arts and Science courses, or those courses from other Colleges which have been approved for Arts and Science credit, to complete the requirements for 120 credit unit Double Honours program, of which at least 66 must be at the 200-level or higher

If you require further assistance, please contact the Arts & Science Undergraduate Student Office.

## **Anatomy & Cell Biology and Microbiology & Immunology – B.Sc. Double Honours - Specializations 1 and 2**

### **C1 Science Requirement (15 credit units)**

- [BIOL 120.3](#)
- [CHEM 112.3](#)
- [CHEM 115.3](#)
- [PHYS 115.3](#)
- [PHYS 117.3](#) or [PHYS 125.3](#)

### **C2 Humanities Writing Requirement (6 credit units)**

### **C3 Social Science Requirement (6 credit units)**

### **C4 Mathematics and Statistics Requirement (6 credit units)**

[MATH 125.3](#) (recommended)

Choose **3 credit units** from the following:

- [MATH 110.3](#)
- [MATH 112.3](#)
- [MATH 125.3](#)
- [MATH 264.3](#)

Choose **3 credit units** from the following:

- [STAT 245.3](#)
- [STAT 246.3](#)
- [PLSC 214.3](#)

### **C5 General Requirement (6 credit units)**

### **C6 Major Requirement (72 credit units)**

- |   |                              |
|---|------------------------------|
| • <a href="#">ACB 310.3</a>             | • <a href="#">BMSC 220.3</a> |
| • <a href="#">ACB 325.3</a>             | • <a href="#">BMSC 230.3</a> |
| • <a href="#">ACB 330.3</a>             | • <a href="#">BMSC 240.3</a> |
| • <a href="#">ACB 331.3</a>             | • <a href="#">MCIM 321.3</a> |
| • <a href="#">ACB 405.3</a>             | • <a href="#">MCIM 326.3</a> |
| • <a href="#">BIOL 224.3/BMSC 224.3</a> | • <a href="#">MCIM 390.3</a> |
| • <a href="#">BIOL 226.3</a>            | • <a href="#">MCIM 391.3</a> |
| • <a href="#">BMSC 200.3</a>            | • <a href="#">MCIM 416.3</a> |
| • <a href="#">BMSC 210.3</a>            | • <a href="#">MCIM 417.3</a> |

- [MCIM 423.3](#)
- [MCIM 487.3](#)
- [MCIM 490.0](#)
- [CHEM 250.3](#)

Choose **3 credit units** from the following:

- [ACB 333.3](#)
- [ACB 334.3](#)
- [ACB 400.3](#)
- [ACB 406.3](#)

Choose **6 credit units** from the following:

- [ACB 401.6](#)
- [MCIM 491.6](#)

### **C7 Electives Requirement (9 credit units)**

Arts and Science courses, or those courses from other Colleges which have been approved for Arts and Science credit, to complete the requirements for 120 credit unit Double Honours program, of which at least 66 must be at the 200-level or higher

If you require further assistance, please contact the Arts & Science Undergraduate Student Office.

## **Biochemistry**

### **Adding a Lower Level of Concentration**

#### **Bachelor of Science Double Honours in Biochemistry**

Though students have been allowed to pursue a Double Honours with Biochemistry as one of the two disciplines for some time, the program requirements have never been explicit in the Program Catalogue. As only specific combinations with Biochemistry are available, each of these will now be listed in the Program Catalogue, which will improve clarity and consistency for students.

#### **Biochemistry and Anatomy & Cell Biology – B.Sc. Double Honours - Specializations 1 and 2**

See Anatomy & Cell Biology section above (same program will be listed on both the Anatomy & Cell Biology and the Biochemistry pages so students may find it in either discipline).

#### **Biochemistry and Biology - B.Sc. Double Honours - Specializations 1 and 2**

### **C1 Science Requirement (15 credit units)**

- [BIOL 120.3](#)
- [BIOL 121.3](#)
- [CHEM 112.3](#)
- [CHEM 115.3](#)
- [PHYS 115.3](#) or [PHYS 117.3](#) or [PHYS 125.3](#)

### **C2 Humanities Writing Requirement (6 credit units)**

### **C3 Social Science Requirement (6 credit units)**

### **C4 Mathematics and Statistics Requirement (6 credit units)**

[MATH 125.3](#) recommended

Choose **3 credit units** from the following:

- [MATH 110.3](#)
- [MATH 112.3](#)
- [MATH 116.3](#)
- [MATH 125.3](#)

- [MATH 264.3](#)

Choose **3 credit units** from the following:

- [STAT 245.3](#)
- [STAT 246.3](#)
- [PLSC 214.3](#)

### **C5 General Requirement (6 credit units)**

### **C6 Major Requirement (69 credit units)**

- |  |                              |
|--|------------------------------|
| • <a href="#">BIOL 222.3</a>   | • <a href="#">BMSC 210.3</a> |
| • <a href="#">BIOL 224.3/BMSC 224.3</a>  | • <a href="#">BMSC 220.3</a> |
| • <a href="#">BIOL 226.3</a>   | • <a href="#">BMSC 230.3</a> |
| • <a href="#">BIOL 228.3</a>   | • <a href="#">BMSC 240.3</a> |
| • <a href="#">BIOL 301.3</a>   | • <a href="#">BIOC 300.3</a> |
| • <a href="#">BIOL 302.3</a>   | • <a href="#">BIOC 310.3</a> |
| • <a href="#">BIOL 350.3</a>   | • <a href="#">BIOC 311.3</a> |
| • <a href="#">BMSC 200.3</a>   |                              |
| • <a href="#">BIOC 490.0</a> (attendance in <a href="#">BIOC 490.0</a> is required in both term 1 and 2) |                              |
| • <a href="#">CHEM 250.3</a>   |                              |

Choose **6 credit units** from the following:

- 400-Level BIOC courses

Choose **6 credit units** from the following:

- [BIOC 489.6](#)
- [BIOL 481.6](#)

Choose **9 credit units** from the following:

- |  |                              |
|--|------------------------------|
| • <a href="#">200-Level, 300-Level or 400-Level BIOL Courses</a> | • <a href="#">GEOL 439.3</a> |
| • <a href="#">ACB 406.3</a>                                      | • <a href="#">MCIM 487.3</a> |
| • <a href="#">ANSC 313.3</a>                                     | • <a href="#">PLSC 405.3</a> |
| • <a href="#">ANSC 470.3</a>                                     | • <a href="#">PLSC 411.3</a> |
| • <a href="#">ARCH 270.3</a>                                     | • <a href="#">PLSC 412.3</a> |
| • <a href="#">BINF 200.3</a> or <a href="#">BINF 210.3</a>       | • <a href="#">PLSC 416.3</a> |
| • <a href="#">FABS 212.3</a>                                     | • <a href="#">PLSC 422.3</a> |
| • <a href="#">GEOL 343.3</a>                                     | • <a href="#">PLSC 423.3</a> |
| • <a href="#">GEOL 433.3</a>                                     | • <a href="#">PLSC 425.3</a> |
| • <a href="#">GEOL 435.3</a>                                     | • <a href="#">TOX 300.3</a>  |
| • <a href="#">GEOL 437.3</a>                                     | • <a href="#">TOX 301.3</a>  |

### **C7 Electives Requirement (12 credit units)**

Arts and Science courses, or those courses from other Colleges which have been approved for Arts and Science credit, to complete the requirements for 120 credit unit Double Honours program, of which at least 66 must be at the 200-level or higher

If you require further assistance, please contact the Arts & Science Undergraduate Student Office.

## **Biochemistry and Microbiology & Immunology - B.Sc. Double Honours - Specializations 1 and 2**

### **C1 Science Requirement (15 credit units)**

- [BIOL 120.3](#)

- [CHEM 112.3](#)
- [CHEM 115.3](#)
- [PHYS 115.3](#)
- [PHYS 117.3](#) or [PHYS 125.3](#)

**C2 Humanities Writing Requirement (6 credit units)**

**C3 Social Science Requirement (6 credit units)**

**C4 Mathematics and Statistics Requirement (6 credit units)**

[MATH 125.3](#) recommended

Choose **3 credit units** from the following:

- [MATH 110.3](#)
- [MATH 112.3](#)
- [MATH 116.3](#)
- [MATH 125.3](#)
- [MATH 264.3](#)

Choose **3 credit units** from the following:

- [STAT 245.3](#)
- [STAT 246.3](#)
- [PLSC 214.3](#)

**C5 General Requirement (6 credit units)**

**C6 Major Requirement (72 credit units)**

- |  |                              |
|--|------------------------------|
| • <a href="#">BIOL 224.3/BMSC 224.3</a>  | • <a href="#">CHEM 250.3</a> |
| • <a href="#">BMSC 200.3</a>   | • <a href="#">MCIM 321.3</a> |
| • <a href="#">BMSC 210.3</a>   | • <a href="#">MCIM 326.3</a> |
| • <a href="#">BMSC 220.3</a>   | • <a href="#">MCIM 390.3</a> |
| • <a href="#">BMSC 230.3</a>   | • <a href="#">MCIM 416.3</a> |
| • <a href="#">BMSC 240.3</a>   | • <a href="#">MCIM 417.3</a> |
| • <a href="#">BIOC 300.3</a>   | • <a href="#">MCIM 423.3</a> |
| • <a href="#">BIOC 310.3</a>   | • <a href="#">MCIM 487.3</a> |
| • <a href="#">BIOC 311.3</a> or <a href="#">MCIM 391.3</a>   | • <a href="#">MCIM 490.0</a> |
| • <a href="#">BIOC 490.0</a> (attendance in <a href="#">BIOC 490.0</a> is required in both term 1 and 2) |                              |

Choose **12 credit units** from the following:

- 400-Level BIOC Courses

Choose **6 credit units** from the following:

- [BIOC 489.6](#)
- [MCIM 491.6](#)

Choose **3 credit units** from the following:

- |  |                              |
|--|------------------------------|
| • <a href="#">ACB 325.3</a>                                | • <a href="#">BIOL 316.3</a> |
| • <a href="#">BINF 200.3</a> or <a href="#">BINF 210.3</a> | • <a href="#">BIOL 436.3</a> |
| • <a href="#">BIOC 405.3</a>                               | • <a href="#">CHEM 221.3</a> |
| • <a href="#">BIOC 412.3</a>                               | • <a href="#">CHEM 242.3</a> |
| • <a href="#">BIOC 430.3</a>                               | • <a href="#">MCIM 308.3</a> |
| • <a href="#">BIOC 435.3</a>                               | • <a href="#">MCIM 309.3</a> |
| • <a href="#">BIOC 436.3</a>                               | • <a href="#">MCIM 425.3</a> |

**C7 Electives Requirement (9 credit units)**

Arts and Science courses, or those courses from other Colleges which have been approved for Arts and Science credit, to complete the requirements for 120 credit unit Double Honours program, of which at least 66 must be at the 200-level or higher

If you require further assistance, please contact the Arts & Science Undergraduate Student Office.

**Biochemistry and Physics - B.Sc. Double Honours - Specializations 1 and 2****C1 Science Requirement (15 credit units)**

- [BIOL 120.3](#)
- [CHEM 112.3](#)
- [CHEM 250.3](#)
- [PHYS 115.3](#)
- [PHYS 117.3](#) or [PHYS 125.3](#)

**C2 Humanities Writing Requirement (6 credit units)****C3 Social Science Requirement (6 credit units)****C4 Mathematics and Statistics Requirement (6 credit units)**

- [MATH 110.3](#)
- [STAT 245.3](#)

**C5 General Requirement (6 credit units)****C6 Major Requirement (72 credit units)**

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• <a href="#">MATH 116.3</a></li> <li>• <a href="#">BMSC 200.3</a></li> <li>• <a href="#">BMSC 210.3</a></li> <li>• <a href="#">BMSC 220.3</a></li> <li>• <a href="#">BMSC 230.3</a></li> <li>• <a href="#">BMSC 240.3</a></li> <li>• <a href="#">BIOC 300.3</a></li> <li>• <a href="#">BIOC 310.3</a></li> <li>• <a href="#">BIOC 311.3</a></li> </ul> | <ul style="list-style-type: none"> <li>• <a href="#">BIOC 490.0</a> (attendance in <a href="#">BIOC 490.0</a> is required in both term 1 and 2)</li> <li>• <a href="#">PHYS 223.3</a></li> <li>• <a href="#">PHYS 252.3</a></li> <li>• <a href="#">PHYS 356.3</a></li> <li>• <a href="#">PHYS 371.3</a></li> <li>• <a href="#">PHYS 383.3</a></li> <li>• <a href="#">PHYS 490.0</a></li> </ul> |
|--|--|

Choose **6 credit units** from the following:

- [BIOC 405.3](#)
- [BIOC 412.3](#)
- [BIOC 430.3](#)
- [BIOC 435.3](#)
- [BIOC 436.3](#)

Choose **18 credit units** from the following:

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• <a href="#">EP 253.1</a></li> <li>• <a href="#">EP 271.3</a></li> <li>• <a href="#">EP 317.3</a></li> <li>• <a href="#">EP 353.2</a></li> <li>• <a href="#">EP 354.2</a></li> <li>• <a href="#">EP 421.3</a></li> <li>• <a href="#">EP 431.3</a></li> <li>• <a href="#">EP 464.3</a></li> <li>• <a href="#">PHYS 230.1</a></li> </ul> | <ul style="list-style-type: none"> <li>• <a href="#">PHYS 231.1</a></li> <li>• <a href="#">PHYS 323.3</a></li> <li>• <a href="#">PHYS 352.3</a></li> <li>• <a href="#">PHYS 402.3</a></li> <li>• <a href="#">PHYS 403.3</a></li> <li>• <a href="#">PHYS 452.3</a></li> <li>• <a href="#">PHYS 461.3</a></li> <li>• <a href="#">PHYS 470.3</a></li> <li>• <a href="#">PHYS 471.3</a></li> </ul> |
|--|--|

- [PHYS 481.3](#)
- [PHYS 482.3](#)
- [PHYS 492.3](#)
- [PHYS 498.3](#)
- [PHYS 499.6](#)

Choose **6 credit units** from the following:

- [BIOC 489.6](#)
- [PHYS 493.6](#)

### **C7 Electives Requirement (9 credit units)**

Arts and Science courses, or those courses from other Colleges which have been approved for Arts and Science credit, to complete the requirements for 120 credit unit Double Honours program, of which at least 66 must be at the 200-level or higher

If you require further assistance, please contact the Arts & Science Undergraduate Student Office.

## **Bioinformatics**

### **Minor Program Revisions**

#### **Bachelor of Science Honours and Four-year in Bioinformatics**

Remove MCIM 421.3 in List 1 of requirement C6, and add BIOC 300.3 to that list.

Replace BMST 305.3 in List 1 of requirement C6 with BIOC 405.3.

Remove CMPT 393.3 in List 2 of requirement C6, and add CMPT 350.3 and CMPT 381.3 to that list.

### **C6 Major Requirement (63 credit units)**

...

Choose 21 credit units from the following lists, such that a minimum of 3 credit units are completed from each list.

#### **List 1**

- |                              |                              |
|------------------------------|------------------------------|
| ○ <a href="#">ACB 331.3</a>  | ○ <a href="#">BMSC 220.3</a> |
| ○ <a href="#">ANBI 470.3</a> | ○ <a href="#">BMSC 230.3</a> |
| ○ <a href="#">ANSC 313.3</a> | ○ <del>BMST 305.3</del>      |
| ○ <a href="#">BIOC 300.3</a> | ○ <a href="#">BMST 406.3</a> |
| ○ <a href="#">BIOC 405.3</a> | ○ <a href="#">BMST 408.3</a> |
| ○ <a href="#">BIOC 412.3</a> | ○ <a href="#">CHEM 255.3</a> |
| ○ <a href="#">BIOC 420.3</a> | ○ <a href="#">MCIM 326.3</a> |
| ○ <a href="#">BIOC 436.3</a> | ○ <a href="#">MCIM 417.3</a> |
| ○ <a href="#">BIOC 437.3</a> | ○ <del>MCIM 421.3</del>      |
| ○ <a href="#">BIOL 226.3</a> | ○ <a href="#">MCIM 487.3</a> |
| ○ <a href="#">BIOL 316.3</a> | ○ <a href="#">PLSC 240.3</a> |
| ○ <a href="#">BIOL 420.3</a> | ○ <a href="#">PLSC 411.3</a> |
| ○ <a href="#">BIOL 421.3</a> | ○ <a href="#">PLSC 416.3</a> |
| ○ <a href="#">BMSC 210.3</a> |                              |

#### **List 2**

- |                              |                              |
|------------------------------|------------------------------|
| ○ <a href="#">CMPT 214.3</a> | ○ <a href="#">CMPT 385.3</a> |
| ○ <a href="#">CMPT 215.3</a> | ○ <del>CMPT 393.3</del>      |
| ○ <a href="#">CMPT 317.3</a> | ○ <a href="#">CMPT 394.3</a> |
| ○ <a href="#">CMPT 350.3</a> | ○ <a href="#">CMPT 417.3</a> |
| ○ <a href="#">CMPT 370.3</a> | ○ <a href="#">CMPT 463.3</a> |
| ○ <a href="#">CMPT 381.3</a> |                              |

**Rationale:** CMPT 393.3 no longer exists. CMPT 350 and CMPT 381 make good alternatives for bioinformatics students since a preferred method of delivering bioinformatics tools and data is often with either a graphical user interface (GUI) or a web-based interface. Knowing how to build such interfaces and making existing ones work is therefore a useful skill for graduates of the program. Also, the prerequisites do not present a problem for BINFO students, as CMPT 270 and CMPT 280 are required courses in the program.

MCIM 421.3 is no longer listed in the University course catalog and has been replaced by MCIM 321.3. However, the material in BIOC 300.3 ("Information Transfer DNA to Proteins") is more fundamental to the field of Bioinformatics than the material in MCIM 321.3 ("Principles of Immunology"). Further, BIOC 230.3 (the previous course equivalent to BIOC 300.3) was contained under List 1 in earlier versions of the Program (prior to the discontinuance of BIOC 230). Bioinformatics students interested in immunology can take MCIM 321 as an open elective.

BMST 305.3 has been replaced by BIOC 405.3.

## ***Biology***

### **Minor Program Revisions**

#### **Bachelor of Science Double Honours in Biology**

The format of the program entry is being changed so that students will more clearly understand how two disciplines are combined in a single Double Honours degree program. Students must complete the Specialization 1 requirements for their first discipline (the discipline for which students must complete the Distribution requirements) and Specialization 2 requirements for their second discipline.

Minor changes to the program requirements are included to ensure that the credit unit limits for Double Honours programs (36-42 credit units per discipline, no cognate requirements allowed) are followed. **Portions of the program that are not shown are unchanged from the current Program Catalogue entry.**

The Double Honours program in Biology will only be available as Specialization 1 (the discipline for which students must complete the Distribution requirements), and in the specified combination with Biochemistry. Biology may only be chosen as Specialization 1 or when a specific Double Honours program with Biology and the second discipline is listed in the Program Catalogue.

#### **C4 Mathematics and Statistics Requirement (6 credit units)**

Choose **3 credit units** from the following:

- [MATH 110.3](#)
- [MATH 112.3](#)
- ~~[MATH 115.3](#)~~
- [MATH 116.3](#)
- [MATH 125.3](#)
- [MATH 264.3](#)

#### **C6 Major Requirement (36 credit units)**

- [BIOL 222.3](#)
- [BIOL 224.3/BMSC 224.3](#)
- [BIOL 226.3](#)

- [BIOL 228.3](#)
- [BIOL 301.3](#)
- [BIOL 302.3](#)
- [BIOL 350.3](#)
- [BMSC 200.3](#)

Choose **3 credit units** from the following:

- 200-Level, 300-Level or 400-Level CHEM Courses
- 200-Level, 300-Level or 400-Level BIOC Courses
- BMSC 230.3
- PLSC 240.3

Choose **9 additional senior credit units** in Biology courses and/or courses chosen from the 'Courses in Other Departments and Colleges' list at the end of this section, such that at least 9 credit units of total Biology courses are at the 300-level or higher.

- |  |                              |
|--|------------------------------|
| • <a href="#">200-Level, 300-Level or 400-Level BIOL Courses</a> | • <a href="#">GEOL 435.3</a> |
| • <a href="#">ACB 406.3</a>                                      | • <a href="#">MCIM 487.3</a> |
| • <a href="#">ANBI 470.3</a>                                     | • <a href="#">PLSC 405.3</a> |
| • <a href="#">ANSC 313.3</a>                                     | • <a href="#">PLSC 411.3</a> |
| • <a href="#">ARCH 270.3</a>                                     | • <a href="#">PLSC 412.3</a> |
| • <a href="#">BINF 200.3</a>                                     | • <a href="#">PLSC 416.3</a> |
| • <a href="#">BMSC 210.3</a>                                     | • <a href="#">PLSC 422.3</a> |
| • <a href="#">BMSC 220.3</a>                                     | • <a href="#">PLSC 423.3</a> |
| • <a href="#">FABS 212.3</a>                                     | • <a href="#">PLSC 425.3</a> |
| • <a href="#">GEOL 343.3</a>                                     | • <a href="#">TOX 300.3</a>  |
| • <a href="#">GEOL 433.3</a>                                     | • <a href="#">TOX 301.3</a>  |

### **C7 Electives Requirement (45 credit units)**

~~Cognate Courses (9 credit units)~~

- ~~BMSC 200.3~~

~~Choose 3 credit units from the following:~~

- ~~200-Level, 300-Level or 400-Level CHEM Courses~~

~~Choose 3 credit units from the following:~~

- ~~200-Level, 300-Level or 400-Level CHEM Courses~~
- ~~200-Level, 300-Level or 400-Level BIOC Courses~~
- ~~BMSC 230.3~~
- ~~PLSC 240.3~~

### **Specialization 2 (36 to 42 credit units)**

- Double Honours requirements in second discipline

### **Open Electives (3 to 9 credit units)**



Arts and Science courses, or those from other Colleges which have been approved for Arts and Science credit, to complete the requirements for 120 credit unit Double Honours program, of which at least 66 must be at the 200-level or higher.

The Department of Biology strongly recommends that students include an additional 3 cu of chemistry or biochemistry courses in their program, chosen from the following list:

- 200-Level, 300-Level or 400-Level CHEM Courses
- 200-Level, 300-Level or 400-Level BIOC Courses
- BMSC 230.3
- PLSC 240.3

### **Biology and Biochemistry - B.Sc. Double Honours - Specializations 1 and 2**

See Biochemistry section above (same program will be listed on both the Biology and the Biochemistry pages so students may find it in either discipline).

#### **New Course(s)**

##### **BIOL 440.3 Photobiology**

1 or 2 An introduction to light interactions with biological systems. The class will examine the evolution of biological pigments and photoreceptor systems. Emphasis will be placed on how plants and animals detect changes in their environment based on light cues and how they respond at the physiological level. Examples of topics which will be explored are the evolution of vision, photosynthetic energy production, circadian rhythms, phototoxicity and bioluminescence.

Prerequisite(s): BIOL 120; and 15 credit units of senior BIOL or permission of the instructor.

Note: Students with credit for BIOL 498: Photobiology may not take BIOL 440 for credit.

Instructor(s): Dr. Ken Wilson

Rationale: Light plays a critical role in how plants and animals perceive and interact with their environment, however there is currently no course offering covering this topic. This course will therefore broaden the department's offerings in the field and will make a critical connection between the plant- and animal-based courses which currently exist. This course is also a reflection of the research interests of the proposed instructor.

This course is being offered as a BIOL 498 Special Topics course in term 2 of 2013-14.

However, the Department wishes to include this course in its regular course offerings.

#### **Chemistry**

##### **Minor Program Revisions**

##### **Bachelor of Science Double Honours in Chemistry**

The format of the program entry is being changed so that students will more clearly understand how two disciplines are combined in a single Double Honours degree program. Students must complete the Specialization 1 requirements for their first discipline (the discipline for which students must complete the Distribution requirements) and Specialization 2 requirements for their second discipline. There are no changes to the program requirements.

## **Computer Science**

### **Adding a Lower Level of Concentration**

#### **Bachelor of Science Double Honours in Computer Science**

Though students have been allowed to pursue a Double Honours with Computer Science as one of the two disciplines for some time, the program requirements have never been explicit in the Program Catalogue. The requirements will now be listed which will improve clarity and consistency for students.

#### **Computer Science - B.Sc. Double Honours - Specialization 1**

Double Honours Programs may be taken in combinations of two subjects. 42 credit units in Computer Science will normally be taken.

The prerequisite structure of courses in C6 of this program assumes 9 credit units of Mathematics or Statistics, 6 credit units of which are required in C4. Students wishing to combine this program with another double honours program will need at least 3 additional credit units in Mathematics or Statistics (STAT 245.3 recommended).

Students wishing to combine this program with a Double Honours Specialization 2 in a Type C program that requires additional Mathematics or Statistics beyond those stated in C4 will be able to meet all prerequisites of courses in C7 of this program. However, students in specializations with minimal mathematics requirements may not be able to meet the prerequisites for courses in C7 without taking additional Mathematics or Statistics. For these students, the recommended courses are MATH 110.3, MATH 266.3 or MATH 264.3, STAT 245.3.

Students interested in entering an Honours program should consult advisors in the department concerned before registering for their second year. Of the 120 credit units required for the B.Sc. Honours degree, at least 66 credit units must be at the senior level. Application for admission to Honours is not considered until successful completion of at least 60 credit units with a Cumulative Weighted Average of at least 70% overall and at least 70% in the subject of Honours. For further details, please see the [Academic Information and Policies](#) section.

#### **C1 Science Requirement (minimum 15 credit units)**

Choose **6 credit units** from the following:

- [CMPT 111.3](#) or [CMPT 116.3](#)
- [CMPT 115.3](#) or [CMPT 117.3](#)

Remaining credit units to be selected from the following areas, such that no more than 6 credit units are from any one area:

##### **Biology**

- [BIOL 120.3](#)
- [BIOL 121.3](#)

##### **Chemistry**

- [CHEM 112.3](#)
- [CHEM 115.3](#)
- [CHEM 250.3](#)

##### **Earth Sciences**

- [GEOG 120.3](#)
- [GEOL 121.3](#)
- [GEOL 122.3](#)

**Physics & Astronomy**

- [ASTR 103.3](#)
- [PHYS 115.3](#)
- [PHYS 117.3](#) or [PHYS 125.3](#) (formerly PHYS 111 and PHYS 121)
- [PHYS 127.3](#) (formerly PHYS 128)

**C2 Humanities Writing Requirement (6 credit units)****C3 Social Science Requirement (6 credit units)****C4 Mathematics and Statistics Requirement (6 credit units)**

- [MATH 110.3](#)
- [MATH 264.3](#) or [MATH 266.3](#)

**C5 General Requirement (6 credit units)****C6 Major Requirement (36 credit units)**

- |   |                              |
|---|------------------------------|
| • <a href="#">CMPT 214.3</a>                              | • <a href="#">CMPT 280.3</a> |
| • <a href="#">CMPT 215.3</a> or <a href="#">CME 331.3</a> | • <a href="#">CMPT 360.3</a> |
| • <a href="#">CMPT 260.3</a>                              | • <a href="#">CMPT 400.3</a> |
| • <a href="#">CMPT 270.3</a>                              |                              |

Choose **3 credit units** from the following:

- |                              |                              |
|------------------------------|------------------------------|
| • <a href="#">CMPT 317.3</a> | • <a href="#">CMPT 370.3</a> |
| • <a href="#">CMPT 320.3</a> | • <a href="#">CMPT 385.3</a> |
| • <a href="#">CMPT 350.3</a> | • <a href="#">CMPT 394.3</a> |
| • <a href="#">CMPT 355.3</a> |                              |

Choose **3 credit units** of CMPT courses with number 410 or higher

*Note: Courses numbered 400 - 409 may not be used to fulfill this requirement*

- [400-Level CMPT Courses](#)

Choose **3 credit units** from the following:

- [300-Level or 400-Level CMPT Courses](#)
- [BINF 300.3](#)
- one of [EE 332.3](#), [CME 433.3](#), [CME 435.3](#), [CME 451.3](#), [CME 462.3](#)

Choose at least **3 credit units** from the following:

- [CMPT 332.3](#)
- [CMPT 340.3](#)

Choose at most **3 credit units** from:

- [CMPT 364.3](#)
- [CMPT 461.3](#)
- [CMPT 463.3](#)

**C7 Electives Requirement (45 credit units)****Specialization 2 (36-42 credit units)**

- Double Honours requirements in second discipline

**Open Electives (3-9 credit units)**

Arts and Science courses, or those from other Colleges that have been approved for Arts and Science credit, to complete the requirements for 120 credit unit Double Honours program, of which at least 66 must be at the 200-level or higher.

If you require further assistance, please contact the Arts & Science Undergraduate Student Office.

## Computer Science - Double Honours - Specialization 2

Double Honours Programs may be taken in combinations of two subjects. 42 credit units in Computer Science will normally be taken.

The prerequisite structure of courses in C6 of this program assume 9 credit units of Mathematics or Statistics. The recommended courses are MATH 110.3, MATH 266.3 or MATH 264.3, STAT 245.3.

Students interested in entering an Honours program should consult advisors in the department concerned before registering for their second year. Of the 120 credit units required for the B.A. Honours degree, at least 66 credit units must be at the senior level. Application for admission to Honours is not considered until successful completion of at least 60 credit units with a Cumulative Weighted Average of at least 70% overall and at least 70% in the subject of Honours. For further details, please see the [Academic Information and Policies](#) section.

### **Requirements (42 credit units)**

- [CMPT 214.3](#)
- [CMPT 215.3](#) or [CME 331.3](#)
- [CMPT 260.3](#)
- [CMPT 270.3](#)
- [CMPT 280.3](#)
- [CMPT 360.3](#)
- CMPT 400.3

Choose **6 credit units** from the following:

- [CMPT 111.3](#) or [CMPT 116.3](#)
- [CMPT 115.3](#) or [CMPT 117.3](#)

Choose **3 credit units** from the following:

- [CMPT 317.3](#)
- [CMPT 320.3](#)
- [CMPT 350.3](#)
- [CMPT 355.3](#)
- [CMPT 370.3](#)
- [CMPT 385.3](#)
- [CMPT 394.3](#)

Choose **3 credit units** of CMPT courses with number 410 or higher

*Note: Courses numbered 400 - 409 may not be used to fulfill this requirement*

- [400-Level CMPT Courses](#)

Choose **3 credit units** from the following:

- [300-Level or 400-Level CMPT Courses](#)
- [BINF 300.3](#)
- one of [EE 332.3](#), [CME 433.3](#), [CME 435.3](#), [CME 451.3](#), [CME 462.3](#)

Choose at least **3 credit units** from the following:

- [CMPT 332.3](#)
- [CMPT 340.3](#)

Choose at most **3 credit units** from:

- [CMPT 364.3](#)
- [CMPT 461.3](#)
- [CMPT 463.3](#)

Rationale: The requirements specified have been derived from the requirements that have been used on a student-by-student basis for many years.

Computer Science is a “math-heavy” science. The four-year degree programs in Computer Science require 15cu of Math/Stats for accreditation purposes, and pre-requisite structures. For the Double Honours program (Specialization 1 and 2), we’ve reduced the requirements to the bare minimum to meet the pre-requisite structure of our major (i.e., CMPT 260 requires MATH 110, and CMPT 360 requires 6cu of 200-level MATH/STAT).

Typically, students seeking double honours in Computer Science combine it with another math-heavy honours program, such as Math or Physics. These students easily meet the pre-requisites for C6 in these programs. We did not wish to discourage students from other “math-light” programs, though these are much less common. We feel it is reasonable to inform these students that extra math/stat credits will be needed, rather than to forbid the combination outright.

### **Minor Program Revisions**

#### **Bachelor of Science Honours in Computer Science**

This revision changes the requirement (C7 Cognate Mathematics) for MATH 266 to MATH 266 or MATH 264 (MATH 266 recommended).

#### **C7 Electives Requirement (33 credit units)**

##### **Required Cognate Courses**

- [MATH 266.3](#) or [MATH 264.3](#) (MATH 266.3 recommended)
- [STAT 241.3](#)

*No further changes.*

Rationale: Currently, C7 of the B.Sc. Honours - Computer Science program requires MATH 266.3, but the B.Sc Four-Year Computer Science program requires MATH 264.3 or MATH 266.3. These are best taken in second year of our program, before students can apply to the honours program. Students who are unclear on the requirements of the honours program, or who decide to apply for honours later, sometimes have credit for MATH 264.3 instead of MATH 266.3. Since MATH 266 and MATH 264 cannot both be taken for credit, a student with credit for MATH 264 who wants an honours degree in computer science currently has to take MATH 266, without credit. The department has allowed students to substitute MATH 264 for MATH 266, in the Honours program, in the past. This change will formalize that substitution.

### **Mathematics**

#### **Minor Program Revisions**

#### **Bachelor of Science Double Honours in Mathematics**

The format of the program entry is being changed so that students will more clearly understand how two disciplines are combined in a single Double Honours degree program. Students must complete the Specialization 1 requirements for their first discipline (the discipline for which students must complete the Distribution requirements) and Specialization 2 requirements for their second discipline. There are no changes to the program requirements.

#### **Minor Course Revisions**

#### **MATH 102.3 Precalculus Mathematics**

Change to lecture/lab hours:

Currently this course has 3 hours of lecture each week. A 1.5 hour math laboratory will be added, each week.

Rationale: This course exists in order to allow students to increase their preparedness for MATH 110, 121, 123 or 125 (clears deficiencies in high school 30-level mathematics courses). As such, adding a laboratory tutorial component will increase the chances of student success in this class and improve their preparedness for subsequent MATH classes. As with other MATH labs, the laboratory will be used as a tutorial session.

## **Microbiology & Immunology**

### **Adding a Lower Level of Concentration**

#### **Bachelor of Science Double Honours in Microbiology & Immunology**

Though students have been allowed to pursue a Double Honours with Microbiology & Immunology as one of the two disciplines for some time, the program requirements have never been explicit in the Program Catalogue. Only specific combinations with Anatomy & Cell Biology and Biochemistry are available. The requirements for these combinations will now be listed in the Program Catalogue under both disciplines, which will improve clarity and consistency for students.

#### **Microbiology & Immunology and Anatomy & Cell Biology – B.Sc. Double Honours - Specializations 1 and 2**

See Anatomy & Cell Biology section above (same program will be listed on both the Microbiology & Immunology and the Anatomy & Cell Biology pages so students may find it in either discipline).

#### **Microbiology & Immunology and Biochemistry – B.Sc. Double Honours - Specializations 1 and 2**

See Biochemistry section above (same program will be listed on both the Microbiology & Immunology and the Biochemistry pages so students may find it in either discipline).

## **Physics**

### **Minor Program Revisions**

#### **Bachelor of Science Double Honours in Physics**

Standard Double Honours program is not being changed at this time. The combination of Physics and Biochemistry will be added to the Program Catalogue to indicate the requirements for this specific pairing of disciplines, only.

#### **Physics and Biochemistry – B.Sc. Double Honours - Specializations 1 and 2**

See Biochemistry section above (same program will be listed on both the Physics and the Biochemistry pages so students may find it in either discipline).

### **New Course(s)**

#### **EP 428.3 Computational Engineering Physics**

2 This course introduces students to practical engineering physics problems that cannot be solved analytically and the numerical approaches and computational techniques used to estimate their solutions. Problems will typically be taken from mechanics, thermodynamics, electricity and magnetism, and solid state with examples such as n-body orbits, fields in complicated boundaries, electronic structures of atoms, thermal profile of a nuclear waste rod, and non-linear chaotic systems. The computational techniques introduced to solve these problems include Runge-Kutta methods, spectral analysis, relaxation and finite element methods, and Monte Carlo simulations. A brief introduction to the issues of using high performance computing and parallel computing techniques is also included.

Prerequisite(s): EP 228, PHYS 223, PHYS 356, and PHYS 383

Instructor(s): Adam Bourassa, Michael Bradley, Doug Degenstein

Rationale: This course is one of two new EP electives required for the new EP program. They will replace the electives EP 431.3 and EP 464.3 of the old EP program (which is currently being phased out).

### **EP 440.3 Space Systems Design**

2 This course takes the students through the entire process of designing and implementing a real space based mission. Space based missions include satellites, rockets, and balloons. Emphasis is placed on satellite missions and the design of subsystems to meet mission requirements and specifications. Also included is a detailed discussion of orbital mechanics, spacecraft attitude and pointing, spacecraft propulsion and the launch vehicles required to place the spacecraft into the desired orbit.

Prerequisite(s): EP 313.3 or ME 313.3

Instructor(s): Glenn Hussey, Doug Degenstein, Adam Bourassa

Rationale: This course is one of two new EP electives required for the new EP program. They will replace the electives EP 431.3 and EP 464.3 of the old EP program (which is currently being phased out).

The Institute of Space and Atmospheric Studies within the Department of Physics and Engineering Physics has extensive expertise in the design of space based missions and is excited about the transfer of this knowledge to the Engineering Physics students. Students within our program have consistently requested a specialized course in space based systems and this offering will fulfill that demand.

### **Minor Course Revisions**

Rationale: To clarify equivalent/mutually exclusive relationships between 100-Level PHYS courses, to help students better understand what combination of courses may be taken.

### **PHYS 115.3 Physics and the Universe**

Change to Note:

Old Note: Students with credit for PHYS 111 or 121 may not take this course for credit.

New Note: Students with credit for PHYS 111 or 121 may not take this course for credit.

Students may only obtain credit for one of PHYS 115 or PHYS 155.

### **PHYS 117.3 Physics for the Life Sciences**

Change to Note:

Old Note: Students with credit for PHYS 111 or 121 may not take this course for credit.

New Note: Students with credit for PHYS 111 or 121 may not take this course for credit.

Students may only obtain credit for one of PHYS 117 or PHYS 125.

### **PHYS 125.3 Physics and Technology**

Change to Note:

Old Note: Students may only obtain credit for one of PHYS 117 and PHYS 125.

New Note: Students with credit for PHYS 111 or 121 may not take this course for credit.

Students may only obtain credit for one of PHYS 117 or PHYS 125.

### **PHYS 155.3 Introduction to Electricity and Magnetism**

Change to Note:

Old Note: Students with credit for EP 155 may not take PHYS 117, 125, or 155 for credit. EP 155 was last offered in 2004.

New Note: Students can have credit for only one of PHYS 115 or PHYS 155. Students with credit for EP 155 may not take PHYS 155 for credit. EP 155 was last offered in 2004.

## **Statistics**

### **Minor Program Revisions**

#### **Bachelor of Science Double Honours in Statistics**

The format of the program entry is being changed so that students will more clearly understand how two disciplines are combined in a single Double Honours degree program. Students must complete the Specialization 1 requirements for their first discipline (the discipline for which students must complete the Distribution requirements) and Specialization 2 requirements for their second discipline. Minor changes are made to the program requirements (in red).

#### **Statistics – B.Sc. Double Honours – Specialization 1**

##### **C6 Major Requirement (36 credit units)**

- [MATH 238.3](#)
- [MATH 266.3](#)
- [MATH 276.3](#)
- [MATH 301.0](#)
- [MATH 401.0](#)
- [STAT 241.3](#)
- [STAT 242.3](#)
- [STAT 341.3](#)
- [STAT 342.3](#)
- [STAT 442.3](#)
- [STAT 443.3](#)

#### **Statistics and a Second Discipline- Double Honours – Specialization 2**

##### **Course Requirements (42 credit units)**

- [MATH 110.3](#)
- [MATH 116.3](#)
- [MATH 238.3](#)
- [MATH 266.3](#)
- [MATH 276.3](#)
- [MATH 301.0](#)
- [MATH 401.0](#)
- [STAT 241.3](#)
- [STAT 242.3](#)
- [STAT 341.3](#)
- [STAT 342.3](#)
- [STAT 442.3](#)
- [STAT 443.3](#)

Choose **6 credit units** from the following:

- [STAT 344.3](#)
- [STAT 345.3](#)
- [STAT 348.3](#)

Choose **3 credit units** from the following:

- [STAT 346.3](#)
- [STAT 349.3](#)

~~Students must take 6 credit units from the following:~~

#### **Recommended Electives**

- [CMPT 111.3](#)
- [CMPT 115.3](#)

#### **Statistics and a Second Discipline- Double Honours – Specialization 2**

Double Honours Programs may be taken in combinations of two subjects. In this program at least 36 credit units will normally be taken in each subject. ~~The two departments together may specify up to 84 credit units.~~ For further details, please see the [Academic Information and Policies](#) section.

Students who wish to complete a Double Honours in Mathematics and Statistics must follow the requirements for that specific combination of disciplines, listed separately on this page.



Students who are admitted to a Double Honours program (Statistics and another subject) must be advised in both departments. Students will fulfill the Statistics portion of the program as follows:

~~Course~~ **Requirements (42 credit units)**

~~Students are required to take at least 42 credit units of courses in Mathematics and Statistics including:~~

- [MATH 110.3](#)
- [MATH 116.3](#)
- [MATH 238.3](#)
- [MATH 266.3](#)
- [MATH 276.3](#)
- [MATH 301.0](#)
- [MATH 401.0](#)
- [STAT 241.3](#)
- [STAT 242.3](#)
- [STAT 341.3](#)
- [STAT 342.3](#)
- [STAT 442.3](#)
- [STAT 443.3](#)

Choose **6 credit units** from the following:

- [STAT 344.3](#)
- [STAT 345.3](#)
- [STAT 348.3](#)

Choose **3 credit units** from the following:

- [STAT 346.3](#)
- [STAT 349.3](#)

~~Students must take 6 credit units from the following:~~

**Recommended Electives** [CMPT 111.3](#) [CMPT 115.3](#)

If you require further assistance, please contact the Arts & Science Undergraduate Student Office.

~~Mathematics and~~ **Statistics and Mathematics – B.Sc. Double Honours – Specializations 1 and 2**

See Mathematics section above (same program will be listed on both the Statistics and the Mathematics pages so students may find it in either discipline).

## **Toxicology**

### **Minor Program Revisions**

#### **Bachelor of Science Honours and Four-year in Toxicology**

Within C6 raise the "Choose 18 credit units from the following:" to "Chose 21 credit units from the following" and then to drop C7 from 24 to 21 credit units.

#### **Bachelor of Science Four-year (B.Sc. Four-year) - Toxicology**

##### **C6 Major Requirement (54 57 credit units)**

- ...

Choose **18-21 credit units** from the following:

[TOX 480.3](#) and [TOX 481.6](#) are only open to Honours students in the fourth year of their program, unless special permission has been received from the Toxicology Academic Advisor. [TOX 461.3](#) and [TOX 470.3](#) are recommended for students wishing to pursue graduate studies in toxicology.

- [200-Level, 300-Level or 400-Level TOX Courses](#)
- [BIOL 475.3](#)
- [EVSC 420.3](#) (formerly SLSC 420)
- [EVSC 421.3](#)

- [GEOG 386.3](#)

### **C7 Electives Requirement (24 21 credit units)**

Arts and Science courses, or those from other Colleges that have been approved for Arts and Science credit, to meet the requirements for a 120 credit unit Four-year program, of which at least 66 credit units must be at the 200-level or higher.

If you require further assistance, please contact the Arts & Science Undergraduate Student Office.

### **Bachelor of Science Honours (B.Sc. Honours) - Toxicology**

#### **C6 Major Requirement (54 57 credit units)**

- ...

Choose **18-21 credit units** from the following:

[TOX 480.3](#) and [TOX 481.6](#) are only open to Honours students in the fourth year of their program, unless special permission has been received from the Toxicology Academic Advisor. [TOX 461.3](#) and [TOX 470.3](#) are recommended for students wishing to pursue graduate studies in toxicology.

- [200-Level, 300-Level or 400-Level TOX Courses](#)
- [BIOL 475.3](#)
- [EVSC 420.3](#) (formerly SLSC 420)
- [EVSC 421.3](#)
- [GEOG 386.3](#)

#### **C7 Electives Requirement (24 21 credit units)**

*No change to information in C7.*

Rationale: This change allows students to take the proposed TOX 200.3 course as an elective in C6 while maintaining the number of 300/400-level courses currently required. This will allow students access to the new course without reducing the academic rigor of the program.

### **Minor in Toxicology**

Add TOX 200 (Poisons and Pollutants), TOX 461 (Applied Toxicology) and GEOG 386 (Environmental Impact Assessment) to the lists of courses counted toward the Minor in Toxicology.

Rationale: TOX 461 and GEOG 386 are courses included in the C6 Major Requirements of the Toxicology degree programs and it is reasonable to include them in the list of course options for the minor as well. TOX 200 is a newly proposed course which will be used in the C6 Major Requirements of the Toxicology degree programs, if approved, and is also appropriate for use in the minor.

### **New Course(s)**

#### **TOX 200.3 Poisons and Pollutants**

1 This unique course provides an overview of the history of toxicology told through stories and case studies covering pivotal and transformative events and discoveries through time. Topics include high profile poisonings in ancient and modern times, natural poisons, classical examples of industrial and environmental pollution, current issues, and important discoveries that led to the development of the field of toxicology and the creation of national regulatory agencies and guidelines. The use of case studies provides students with exciting and memorable examples of how poisons and pollutants have changed history and had important influences at regional, national and international scales. No previous knowledge of toxicology is required.

Prerequisite(s): 18 credit units of university courses

Instructor(s): Dr. Paul Jones (with contributions from other Toxicology Program faculty)

Rationale: Toxicology as a science has steadily been gaining prominence in Canadian society. People today are increasingly concerned about contaminants and pollutants in their food, water and in the general environment, and about how chemicals influence human health and ecological systems. This course will serve as an introduction to the field of toxicology and will provide valuable knowledge to students from many other disciplines who may want to better understand risks associated with natural and synthetic chemicals and industrial activities. There is currently no entry-level course available in the Toxicology Program that serves to prepare students for upper-level toxicology courses; this course would serve that need. TOX 200 would also provide undeclared students with information on the discipline of toxicology earlier in their academic career. Thirdly, this course would be a desirable elective for students enrolled in many other programs who may want to develop a better understanding of how poisons and pollutants have influenced history, and continue today to affect people, the natural environment, and public policy in Canada and world-wide.

## **DIVISION OF SOCIAL SCIENCES**

### **Course Deletion(s)**

#### **LUES 400.3 Field Training in Environmental Management**

The Land Use and Environmental Studies program was deleted years ago, but this course was retained to allow students to complete the program. The course is no longer necessary as students in the program have completed, or other appropriate courses are available as substitutes. With the deletion of this course, the "LUES" subject code will cease to be used. Special Topics courses will no longer be available in this subject.

### **Anthropology**

#### **Bachelor of Arts Double Honours in Anthropology**

The format of the program entry is being changed so that students will more clearly understand how two disciplines are combined in a single Double Honours degree program. Students must complete the Specialization 1 requirements for their first discipline (the discipline for which students must complete the Distribution requirements) and Specialization 2 requirements for their second discipline. There are no changes to the program requirements.

### **Course Deletion(s)**

#### **ANTH 220.3 Introduction to Ethnological Theory and Social Structure**

Rationale: This course has not been offered for many years and it had a very low enrolment on its last offering. Ethnographic theory, rather than ethnological theory, is now favoured in Anthropology, and we intersperse ethnographic theory throughout all our courses at the 200- and 300- levels, better preparing students for the 400-level theory courses.

#### **ANTH 309.3 Motherhood and Maternal Care: Anthropological Perspectives**

Rationale: As part of our Department's curriculum renewal process, we are identifying courses that do not fit with the emphases and direction of the Anthropology program. Since its transfer

to the Department of Archaeology & Anthropology (from Women's & Gender Studies), this course has never been taught and there are no plans to offer it in the future.

### **ANTH 322.3 Visual Anthropology**

Rationale: This course has not been offered for many years. Although there is some expertise in visual ethnographic methodologies in the Department and among our Associate Members, there is not sufficient commitment to keeping this course as part of our curriculum. As part of the Department's curriculum renewal process, we are updating our course offerings to ensure that core anthropology offerings remain robust and that our curriculum better aligns with our two areas of specialization: Medical anthropology and environmental anthropology. This course is an outlier and we have decided that it is best to delete it.

## **Archaeology**

### **Minor Program Revisions**

#### **Bachelor of Arts Double Honours in Archaeology**

The format of the program entry is being changed so that students will more clearly understand how two disciplines are combined in a single Double Honours degree program. Students must complete the Specialization 1 requirements for their first discipline (the discipline for which students must complete the Distribution requirements) and Specialization 2 requirements for their second discipline.

Program revisions are included to distinguish between the Science (B.Sc.) and Social Sciences (B.A.) options.

#### **Archaeology – B.A. Double Honours – Specialization 1**

Double Honours Programs may be taken in combinations of two subjects. In this program at least 36 credit units will normally be taken in each subject. For further details, please see the [Academic Information and Policies](#) section.

No more than 6 credit units from one subject may be used in Requirements B1 to B4.

#### **B1 Basic Social Science Requirement (12 credit units)**

Choose **6 credit units** from the following:

- [ANTH 111.3](#)
- [ARCH 112.3](#)
- [ARCH 116.3](#)

Remaining credit units must be selected from the area of Social Sciences outside major subject area.

- |                              |  |
|------------------------------|--|
| • <a href="#">ECON 111.3</a> | • <a href="#">POLS 112.3</a>   |
| • <a href="#">ECON 114.3</a> | • <a href="#">PSY 100.3</a>  |
| • <a href="#">GEOG 130.3</a> | • <a href="#">PSY 120.3</a> and <a href="#">PSY 121.3</a> (formerly PSY 110) |
| • <a href="#">LING 111.3</a> | • <a href="#">SOC 111.3</a>  |
| • <a href="#">LING 112.3</a> | • <a href="#">SOC 112.3</a>  |
| • <a href="#">NS 107.3</a>   | • <a href="#">WGST 112.3</a>   |
| • <a href="#">POLS 111.3</a> |  |
- Any senior-level social science course provided that the prerequisite is met and not more than 6 credit units in one subject are used for the Social Science Requirement.
  - Statistics courses in social sciences are not accepted for credit toward the Social Science Requirement (eg. [ECON 204.6](#), [PSY 233.3](#), [PSY 234.3](#), [SOC 225.3](#) and [SOC 325.3](#)).

- Certain WGST courses may be considered a Humanities and/or Social Science. Refer to the course descriptions.

**[B2 Humanities Requirement \(6 credit units\)](#)**

**[B3 Science Requirement \(6 credit units\)](#)**

**[B4 Language Requirement \(6 credit units\)](#)**

**[B5 General Requirement \(6 credit units\)](#)**

**[B6 Major Requirement \(30 credit units\)](#)**

- [ARCH 361.6](#)
- [ARCH 462.3](#)

Choose **9 credit units** from the following:

- [200-Level ARCH Courses](#)
- [CLAS 247.3](#)
- [CLAS 248.3](#)

Choose **12 credit units** from the following:

- [300-Level or 400-Level ARCH Courses](#)
- [CLAS 356.3](#)
- [CLAS 357.3](#)

**[B7 Electives Requirement \(54 credit units\)](#)**

**Specialization 2 (36 - 42 credit units)**

- Double Honours requirements in second discipline

**Open Electives (12 – 18 credit units)**

Arts and Science courses, or those from other Colleges which have been approved for Arts and Science credit, to complete the requirements for 120 credit unit Double Honours program. Of the 120 credit units required at least 66 must be at the 200-level or higher and no more than 60 credit units may be in one subject.

If you require further assistance, please contact the Arts & Science Undergraduate Student Office.

**[Archaeology – Double Honours – Specialization 2 \(Social Sciences option\)](#)**

~~Archaeology may be combined with other disciplines in a Double Honours program. Students wishing to complete such a program must consult with an advisor in Archaeology and the other discipline involved.~~

Double Honours Programs may be taken in combinations of two subjects. In this program at least 36 credit units will normally be taken in each subject. ~~The two departments together may specify up to 84 credit units.~~ For further details, please see the [Academic Information and Policies](#) section.

**~~Minimum~~ Requirements (36 credit units)**

Choose **6 credit units** from the following:

- [ANTH 111.3](#)
- [ARCH 112.3](#)
- [ARCH 116.3](#)

Required Courses:

- [ARCH 361.6](#)
- [ARCH 462.3](#)

Choose **9 credit units** from the following:

- [200-Level ARCH Courses](#)

- [CLAS 247.3](#)
- [CLAS 248.3](#)

Choose 12 **credit units** from the following:

- [300-Level or 400-Level ARCH Courses](#)
- [CLAS 356.3](#)
- [CLAS 357.3](#)

~~36 credit units in Archaeology including:~~

- ~~○ 6 credit units at the 100 level (ANTH 111.3 may be taken for part of these 6 credit units)~~
- ~~○ 9 credit units at the 200 level ARCH~~
- ~~○ ARCH 361.6~~
- ~~○ ARCH 462.3~~
- ~~○ 12 additional credit units at the 300 level and higher ARCH~~
- ~~○ CLAS 247.3, CLAS 248.3, CLAS 356.3 and CLAS 357.3 may also be considered as satisfying the archaeology component of the Double Honours.~~

If you require further assistance, please contact the Arts & Science Undergraduate Student Office.

### **Bachelor of Science Double Honours in Archaeology**

The following represents a format change to the program entry in the Program Catalogue, such that students will more clearly understand how two disciplines are combined in a single Double Honours degree program. Program revisions are included to distinguish between the Science (B.Sc.) and Social Sciences (B.A.) options.

#### **Archaeology – B.Sc. Double Honours – Specialization 1**

Double Honours Programs may be taken in combinations of two subjects. In this program at least 36 credit units will normally be taken in each subject. For further details, please see the [Academic Information and Policies](#) section.

#### **C1 Science Requirement (minimum 15 credit units)**

- [BIOL 120.3](#)
- [BIOL 121.3](#)
- [CHEM 112.3](#)
- [GEOL 121.3](#)
- [GEOL 122.3](#)

#### **C2 Humanities Writing Requirement (6 credit units)**

#### **C3 Social Science Requirement (6 credit units)**

Choose **6 credit units** from the following:

- [ANTH 111.3](#)
- [ARCH 112.3](#)
- [ARCH 116.3](#)

#### **C4 Mathematics/Statistics Requirement (6 credit units)**

Choose **6 credit units** from the following:

- [STAT 245.3](#) is recommended
- [MATH 110.3](#)
- [MATH 112.3](#)
- [MATH 116.3](#)
- [MATH 264.3](#)
- [STAT 245.3](#)

- [STAT 246.3](#)

**C5 General Requirement (6 credit units)**

**C6 Major Requirement (36 credit units)**

- [ARCH 361.6](#)
- [ARCH 462.3](#)

Choose **9 credit units** from the following:

- [ARCH 250.3](#)
- [ARCH 251.3](#)
- [ARCH 270.3](#)
- [GEOG 235.3](#)
- [GEOL 245.3](#) (formerly GEOL 243)
- [GEOL 247.3](#) (formerly GEOL 246)

Choose 12 **credit units** from the following:

- |                              |                              |
|------------------------------|------------------------------|
| • <a href="#">ARCH 352.3</a> | • <a href="#">ARCH 465.3</a> |
| • <a href="#">ARCH 353.3</a> | • <a href="#">ARCH 470.3</a> |
| • <a href="#">ARCH 385.3</a> | • <a href="#">ARCH 471.3</a> |
| • <a href="#">ARCH 455.3</a> | • <a href="#">ARCH 472.3</a> |
| • <a href="#">ARCH 457.3</a> | • <a href="#">ACB 310.3</a>  |
| • <a href="#">ARCH 458.6</a> | • <a href="#">BIOL 324.3</a> |
| • <a href="#">ARCH 459.3</a> |                              |

**C7 Electives Requirement (45 credit units)**

**Specialization 2 (36 - 42 credit units)**

- Double Honours requirements in second discipline

**Open Electives (3 – 9 credit units)**

Arts and Science courses, or those from other Colleges which have been approved for Arts and Science credit, to complete the requirements for 120 credit unit Double Honours program. Of the 120 credit units required at least 66 must be at the 200-level or higher and no more than 60 credit units may be in one subject.

Students are encouraged to choose electives from the following list of recommended courses, according to their area of focus:

- |   |                              |
|---|------------------------------|
| • <a href="#">BIOL 222.3</a>            | • <a href="#">CHEM 115.3</a> |
| • <a href="#">BIOL 224.3/BMSC 224.3</a> | • <a href="#">CHEM 221.3</a> |
| • <a href="#">BIOL 226.3</a>            | • <a href="#">CHEM 231.3</a> |
| • <a href="#">BIOL 228.3</a>            | • <a href="#">CHEM 242.3</a> |
| • <a href="#">BIOL 302.3</a>            | • <a href="#">CHEM 250.3</a> |
| • <a href="#">BIOL 323.3</a>            | • <a href="#">CHEM 255.5</a> |
| • <a href="#">BIOL 325.3</a>            | • <a href="#">CHEM 353.3</a> |
| • <a href="#">BIOL 326.3</a>            | • <a href="#">EVSC 220.3</a> |
| • <a href="#">BIOL 361.3</a>            | • <a href="#">GEOG 222.3</a> |
| • <a href="#">BIOL 302.3</a>            | • <a href="#">GEOG 271.3</a> |
| • <a href="#">BIOL 424.3</a>            | • <a href="#">GEOG 322.3</a> |
| • <a href="#">BIOL 451.3</a>            | • <a href="#">GEOG 323.3</a> |
| • <a href="#">BIOL 455.3</a>            | • <a href="#">GEOG 335.3</a> |
| • <a href="#">BIOL 458.3</a>            | • <a href="#">GEOG 435.3</a> |
| • <a href="#">BIOL 470.3</a>            | • <a href="#">GEOL 206.3</a> |

- [GEOL 330.3](#)
- [GEOL 343.3](#)
- [GEOL 433.3](#)
- [GEOL 435.3](#)
- [GEOL 446.3](#)
- [PLSC 213.3](#)
- [PLSC 322.3](#)
- [SLSC 232.3](#)
- [STAT 103.3](#)
- [STAT 245.3](#)

If you require further assistance, please contact the Arts & Science Undergraduate Student Office.

### **Archaeology – Double Honours – Specialization 2 (Science option)**

Double Honours Programs may be taken in combinations of two subjects. In this program at least 36 credit units will normally be taken in each subject. For further details, please see the [Academic Information and Policies](#) section.

#### **Requirements (42 credit units)**

- [ARCH 361.6](#)
- [ARCH 462.3](#)

Choose **6 credit units** from the following:

- [ANTH 111.3](#)
- [ARCH 112.3](#)
- [ARCH 116.3](#)

Choose **9 credit units** from the following:

- [ARCH 250.3](#)
- [ARCH 251.3](#)
- [ARCH 270.3](#)
- [GEOG 235.3](#)
- [GEOL 245.3](#) (formerly GEOL 243)
- [GEOL 247.3](#) (formerly GEOL 246)

Choose **12 credit units** from the following:

- [ARCH 352.3](#)
- [ARCH 353.3](#)
- [ARCH 385.3](#)
- [ARCH 455.3](#)
- [ARCH 457.3](#)
- [ARCH 458.6](#)
- [ARCH 459.3](#)
- [ARCH 465.3](#)
- [ARCH 470.3](#)
- [ARCH 471.3](#)
- [ARCH 472.3](#)
- [ACB 310.3](#)
- [BIOL 324.3](#)

If you require further assistance, please contact the Arts & Science Undergraduate Student Office.

### **Business Economics**

#### **Minor Program Revision**

#### **Bachelor of Arts Honours and Four-year in Business Economics**

Revision to now require COMM 203 and make COMM 304 optional.

#### **Bachelor of Arts Four-year (B.A. Four-year and Honours) - Business Economics**

#### **B6 Major Requirement (minimum 54 credit units)**

- [COMM 201.3](#)
- [COMM 210.3](#) (formerly COMM 301 or COMM 302)
- ~~COMM 304.3 (formerly COMM 208)~~ **COMM 203.3\***



- [ECON 204.6](#) or equivalent (see Statistics Course Regulations in Policies and Regulations in the Arts and Science section of the Calendar.)
- [ECON 211.3](#) or [ECON 213.3](#)
- [ECON 214.3](#)

\*Students who have declared International Studies as their major may use MATH 104 (instead of MATH 110 or MATH 125) as a prerequisite for COMM 203. Students are responsible for approaching the Department of Economics for necessary prerequisite overrides.

Choose **6 credit units** from the following:

- [COMM 105.3](#) (formerly COMM 202)
- ~~COMM 203.3~~ **COMM 304.3 (Formerly COMM 208)**
- [COMM 204.3](#)
- [COMM 381.3](#)
- [COMM 211.3](#)
- [COMM 345.3](#)

### **Senior Economic Electives**

*No additional changes.*

Rationale: The application of economic principles is becoming increasingly important for working in and with the business world and a good understanding of the workings of financial markets is becoming an essential component of education in business economics. This is already reflected in the course selections of our Business Economics students, almost all of whom are currently taking COMM 203.3 to satisfy a 'restricted electives' requirement for their degree. With the proposed change, 'knowledge of financial markets' will satisfy a program requirement, while making COMM 304.3 a 'restricted elective' will create programming flexibility for our students (since other courses may then be chosen instead).

## **Economics**

### **Minor Program Revisions**

#### **Bachelor of Arts Double Honours in Economics**

The format of the program entry is being changed so that students will more clearly understand how two disciplines are combined in a single Double Honours degree program. Students must complete the Specialization 1 requirements for their first discipline (the discipline for which students must complete the Distribution requirements) and Specialization 2 requirements for their second discipline. There are no changes to the program requirements.

### **New Course(s)**

#### **ECON 264.3 Chinese Economic Development**

1 or 2 This course focuses on modern China's economic development, especially in the post-1979 reform period, and its relationship to the economic development of the Greater China Circle: China, Hong Kong and Taiwan.

Prerequisite(s): ECON 111 and ECON 114

Instructor(s): Jingang Zhao

Rationale: China is playing an increasingly important role in the world economy. The Economics department has the expertise to offer students the opportunity to understand this development and its importance.

## **Environment & Society**

### **Minor Program Revision**

#### **Bachelor of Arts and Science Honours and Four-year in Environment & Society**

Add ENVS 401 to major requirements (J3) required courses. Remove GEOG 392 and LUEST 400.

Add ANTH 240.3, 244.3, 329.3; INCC 310; POLS 328; and GEOG 342 to major requirements (J3), Social Science or Humanities component, under "Choose **15 credit units** from the following:"

#### **J3 Major Requirement (63 credit units)**

Some senior courses may require prerequisites that are not listed among the required courses.

- [GEOG 222.3](#)
- [GEOG 280.3](#)
- [GEOG 302.3](#)
- [GEOG 322.3](#)
- ~~ENVS 401.3~~ ~~GEOG 392.3~~ ~~or~~ ~~LUEST 400.3~~

#### **Sciences (24 senior credit units)**

*No change to Science component.*

#### **Social Sciences or Humanities (24 senior credit units)**

~~24 senior credit units~~

At least 9 credit units must be at the 300 level or above.

- [POLS 226.3](#)
- [HIST 290.3](#) or [PHIL 226.3](#)
- [POLS 256.3](#) or [SOC 232.3](#)

Choose **15 credit units** from the following:

- |                              |                              |
|------------------------------|------------------------------|
| • <del>ANTH 240.3</del>      | • <a href="#">ECON 277.3</a> |
| • <del>ANTH 244.3</del>      | • <a href="#">GEOG 240.3</a> |
| • <del>ANTH 329.3</del>      | • <a href="#">GEOG 340.3</a> |
| • <a href="#">GEOG 385.3</a> | • <a href="#">GEOG 341.3</a> |
| • <a href="#">GEOG 386.3</a> | • <del>GEOG 342.3</del>      |
| • <a href="#">GEOG 364.3</a> | • <del>ENVS 201.3</del>      |
| • <a href="#">GEOG 381.3</a> | • <del>INCC 310.3</del>      |
| • <a href="#">GEOG 485.3</a> | • <del>POLS 328.3</del>      |
| • <a href="#">GEOG 486.3</a> |                              |

Or other classes approved by ~~your undergraduate~~ the program advisor.

Rationale: These additions and changes are required due to deletion of other courses currently in the program. These courses will also offer students more flexibility. These changes are consistent with the stated, approved, and published Program Goals of the Environment & Society major.

## **Geography**

### **Deletion of a Lower Level of Concentration**

#### **Bachelor of Arts Double Honours in Geography**

#### **Bachelor of Science Double Honours in Geography**

The Double Honours options in Geography have not attracted significant numbers of students since their creation in 1998 (total of 2 graduates from both programs combined in the past 5 years). As such the Department of Geography does not feel that it is necessary to maintain these options.

## **International Studies**

### **Minor program revision**

Collapse the 3 remaining streams of concentration in the International Studies program into a single program option.

### **International Studies**

Administrative Committee: A. Akkerman (Geography & Planning), **C. Echevarria** (Economics), P. Elabor-Idemudia (Sociology), ~~J. Gareea~~ **H. Michelmann** (Political Studies - *ex officio*), J. Handy (History), **C. Holroyd (Political Studies)**, M. Lovrod (Women's & Gender Studies), **S. Rahimi** (Archaeology & Anthropology), ~~C. Holroyd (Political Studies)~~, J. Torres (Languages & Linguistics), **W. Wheeler (Native Studies)** and ~~a one or two~~ student representatives ~~of from~~ the International Studies Students' Association (ISSA).

~~This program is designed to meet the requirements for a B.A. Four-year or Honours degree based on Program Type B in the College of Arts & Science. It will provide a broad introduction to the field of International Studies and a strong grounding in one of the four required streams: Development Studies, International Cooperation and Conflict, and Latin American Studies.~~

The core departments participating in the International Studies Program are Archaeology & Anthropology, Economics, Geography, History, Political Studies, and Sociology. Native Studies and Women's and Gender Studies also contribute courses in the program (~~but are not "core" departments~~).

**Students must choose 3 to 6 credit units of in-100-level courses from 5 of the 6 core areas: ANTH, ECON, GEOG, HIST, POLS and SOC departments.**

### **Major Average**

The major average in International Studies programs includes the grades earned in:

- All courses listed in the Major Requirement B6. (A maximum of 6 credit units of courses at the 400-level from a core department but not explicitly listed in the Major Requirement will be used in the calculation of the major average.)

### **Residency Requirements in the Major**

To receive a degree in International Studies, students must complete at least two-thirds of the following coursework (to the nearest highest multiple of 3 credit units) from the University of Saskatchewan.

- Minimum requirements in Major Requirement B6.

See [Residency](#) for additional details.

### **Bachelor of Arts Four-year (B.A. Four-year) – International Studies**

No more than 6 credit units from one subject may be used in Requirements B1 to B4.

#### **B1 Basic Social Science Requirements (12 credit units)**

- [ANTH 111.3](#) or [SOC 112.3](#)
- [ECON 111.3](#)
- [ECON 114.3](#)
- [POLS 112.3\\*](#)

\*Students who have declared International Studies as their major require only POLS 112.3 (not POLS 111.3 and POLS 112.3) as a prerequisite for senior POLS courses. Students are responsible for approaching the Department of Political Studies for necessary prerequisite overrides.

#### **B2 Humanities Requirement (6 credit units)**

Choose **6 credit units** from the following:

- [100-Level HIST Courses](#)

### **B3 Science Requirement (6 credit units)**

### **B4 Language Requirement (6 credit units)**

Choose 6 credit units in ONE modern language other than English: French, German, Russian, Spanish, Ukrainian; or a language approved by the Program Coordinator. It is recommended that students take additional language courses.

Note: International Studies requires a total of 12 credit units in one modern language other than English – see also requirement B6 below.

#### **French**

- [100-Level, 200-Level, 300-Level or 400-Level FREN Courses](#)

#### **German**

- [100-Level, 200-Level, 300-Level or 400-Level GERM Courses](#)

#### **Russian**

- [100-Level, 200-Level, 300-Level or 400-Level RUSS Courses](#)

#### **Spanish**

- [100-Level, 200-Level, 300-Level or 400-Level SPAN Courses](#)

#### **Ukrainian**

- [100-Level, 200-Level, 300-Level or 400-Level UKR Courses](#)

### **B5 General Requirement (6 credit units)**

### **B6 Major Requirement (60 credit units)**

- |                              |   |
|------------------------------|---|
| • <a href="#">ECON 254.3</a> | • <a href="#">IS 402.3</a>                                |
| • <a href="#">GEOG 208.3</a> | • <a href="#">POLS 256.3</a> or <a href="#">SOC 232.3</a> |
| • <a href="#">HIST 289.6</a> | • <a href="#">POLS 261.3</a>                              |
| • <a href="#">IS 200.6</a>   | • <a href="#">POLS 262.3</a>                              |
| • <a href="#">IS 401.3</a>   |   |

#### **Modern Language**

Choose **6 credit units** in ONE modern language other than English and must be the same language used to meet requirement B4 above. Students may choose one of the languages listed below or another language approved by the Department.

#### **French**

- [100-Level, 200-Level, 300-Level or 400-Level FREN Courses](#)

#### **German**

- [100-Level, 200-Level, 300-Level or 400-Level GERM Courses](#)

#### **Russian**

- [100-Level, 200-Level, 300-Level or 400-Level RUSS Courses](#)

#### **Spanish**

- [100-Level, 200-Level, 300-Level or 400-Level SPAN Courses](#)

#### **Ukrainian**

- [100-Level, 200-Level, 300-Level or 400-Level UKR Courses](#)

Choose **21 credit units** from the following:

At least 6 credit units must be at the 300-level or above.

- |              |              |
|--------------|--------------|
| • ANTH 231.3 | • GEOG 340.3 |
| • ANTH 232.3 | • HIST 229.3 |
| • ANTH 310.3 | • HIST 245.6 |
| • ECON 256.3 | • HIST 271.6 |
| • ECON 314.3 | • HIST 308.6 |

- HIST 488.3
- NRTH 321.3
- NRTH 322.3
- NRTH 331.3
- NRTH 332.3
- NS 366.6
- POLS 246.6
- POLS 341.3
- POLS 342.3
- POLS 375.3
- POLS 461.3
- SOC 205.3
- One of PSY 379.3 or SOC 379.3 or ECON 379.3 or GEOG 379.3 or POLS 379.3 or ANTH 379.3
- One of POLS 383.3 or POLS 384.3 or ECON 387.3 or SOSOC 320.6 or SOC 322.3 or POLS 482.6

#### B7 Electives Requirement (24 credit units)

It is recommended that this requirement be fulfilled with courses from the following list, selected for their international content. A minor in one of the participating disciplines (economics, political sciences, anthropology, geography, native studies); a minor in other interdisciplinary studies such as Women's and Gender Studies or Northern Studies; or a minor or recognition in a Language are also recommended as good complements to this degree.

- ANTH 231.3
- ANTH 232.3
- ANTH 235.3
- ANTH 332.3
- ANTH 310.3
- ECON 221.3
- ECON 256.3
- ECON 272.3
- ECON 270.3
- ECON 387.3
- ECON 314.3
- GEOG 340.3
- HIST 210.3
- HIST 229.6
- HIST 245.6
- HIST 271.6
- HIST 303.3
- HIST 308.6
- HIST 388.3
- HIST 488.3
- LAW 457.3
- LING 247.3
- NRTH 321.3
- NRTH 322.3
- NRTH 331.3
- NRTH 332.3
- NS 366.6
- POLS 246.6
- POLS 253.3
- POLS 254.3
- POLS 341.3
- POLS 342.3
- POLS 346.3
- POLS 362.3
- POLS 364.3
- POLS 370.3
- POLS 375.3
- POLS 376.3
- POLS 383.3
- POLS 384.3
- POLS 446.3
- POLS 447.3
- POLS 448.3
- POLS 460.3
- POLS 461.3
- POLS 462.3
- POLS 465.3
- POLS 466.3
- POLS 471.3
- SOC 204.3
- SOC 205.3
- SOC 260.3
- SOC 305.3
- SOC 344.3
- SOC 360.3
- SOC 386.3
- SOC 409.3
- SOSOC 320.6

- SOSC 322.3
- SPAN 309.3
- WGST 411.3

### **Bachelor of Arts Honours (B.A. Honours) – International Studies**

Students interested in entering an Honours program should consult advisors in the department concerned before registering for their second year. Of the 120 credit units required for the B.A. Honours degree, at least 66 credit units must be at the senior level. Application for admission to Honours is not considered until successful completion of at least 60 credit units with a Cumulative Weighted Average of at least 70% overall and at least 70% in the subject of Honours. For further details, please see the [Academic Information and Policies](#) section. No more than 6 credit units from one subject may be used in Requirements B1 to B4.

#### **B1 Basic Social Science Requirements (12 credit units)**

#### **B2 Humanities Requirement (6 credit units)**

#### **B3 Science Requirement (6 credit units)**

#### **B4 Language Requirement (6 credit units)**

#### **B5 General Requirement (6 credit units)**

*B1 - B5 requirements are identical to the Four-year program above.*

#### **B6 Major Requirement (63 credit units)**

- [ECON 254.3](#)
- [GEOG 208.3](#)
- [HIST 289.6](#)
- [IS 200.6](#)
- [IS 401.3](#)
- [IS 402.3](#)
- [POLS 256.3](#) or [SOC 232.3](#)
- [POLS 261.3](#)
- [POLS 262.3](#)

### **Modern Language**

Choose **6 credit units** in ONE modern language other than English and must be the same language used to meet requirement B4 above. Students may choose one of the languages listed below or another language approved by the Department.

#### **French**

- [100-Level, 200-Level, 300-Level or 400-Level FREN Courses](#)

#### **German**

- [100-Level, 200-Level, 300-Level or 400-Level GERM Courses](#)

#### **Russian**

- [100-Level, 200-Level, 300-Level or 400-Level RUSS Courses](#)

#### **Spanish**

- [100-Level, 200-Level, 300-Level or 400-Level SPAN Courses](#)

#### **Ukrainian**

- [100-Level, 200-Level, 300-Level or 400-Level UKR Courses](#)

Choose **24 credit units** from the following:

At least 6 credit units must be at the 400-level

- ANTH 231.3
- ANTH 232.3
- ANTH 310.3
- ECON 256.3
- ECON 314.3
- GEOG 340.3
- HIST 229.3
- HIST 245.6
- HIST 271.6
- HIST 308.6
- HIST 488.3
- NRTH 321.3
- NRTH 322.3
- NRTH 331.3

- NRTH 332.3
- NS 366.6
- POLS 246.6
- POLS 341.3
- POLS 342.3
- POLS 375.3
- POLS 461.3
- SOC 205.3
- One of PSY 379.3 or SOC 379.3 or ECON 379.3 or GEOG 379.3 or POLS 379.3 or ANTH 379.3
- One of POLS 383.3 or POLS 384.3 or ECON 387.3 or SOSOC 320.6 or SOC 322.3 or POLS 482.6

#### B7 Electives Requirement (21 credit units)

*Information identical to B7 for the Four-year program above.*

Rationale: The International Studies program currently has three streams of concentration: Development Studies, International Conflict & Cooperation and Latin American Studies. The Latin American stream has been suspended for two years. After much discussion, the International Studies committee and the Department of Political Studies, in which International Studies is housed, decided that it would be best if the streams were merged into one. This came out of a belief that IS students needed to have a good understanding of both development and international conflict and cooperation. Past experience had shown that when students arrived in IS 401 (the capstone course for ICC) and IS 402 (the capstone course for Development) they demonstrated strength in their area of focus but a very limited understanding of the other area. These changes will make the program clearer for students to follow and allow administration of the program to be carried out in more efficient ways.

### **Native Studies**

#### **Minor Program Revisions**

##### **Bachelor of Arts Double Honours in Native Studies**

The format of the program entry is being changed so that students will more clearly understand how two disciplines are combined in a single Double Honours degree program. Students must complete the Specialization 1 requirements for their first discipline (the discipline for which students must complete the Distribution requirements) and Specialization 2 requirements for their second discipline. There are no changes to the program requirements.

### **Northern Studies**

#### **Minor Program Revision**

##### **Bachelor of Arts Honours, Four-year and Three-year in Northern Studies**

The proposed change relates to the courses that constitute the Advanced Emphasis in Aboriginal Public Administration (under B6), specifically replacing POLS 383.3 Career Internship with POLS 384.3 Aboriginal Administrative Internship. In addition, GEOG 485 and 486 are being removed.

B6 Major Requirement (section of program shown is the same for all levels)

#### **Stream One: Aboriginal Public Administration**

Choose **15 credit units** from the following:

- [POLS 222.3](#)
- [POLS 322.3](#)
- [POLS 323.3](#)
- ~~POLS 383.3~~ ~~POLS 384.3~~
- [POLS 422.3](#)

## **Stream Two: Environmental Impact Assessment**

Choose **9 credit units** from the following:

- [GEOG 280.3](#)
- [GEOG 381.3](#)
- [GEOG 386.3](#)

Choose **6 credit units** from the following:

- |                              |   |
|------------------------------|---|
| • <a href="#">ARCH 250.3</a> | • <a href="#">GEOG 290.3</a>            |
| • <a href="#">ARCH 350.3</a> | • <a href="#">GEOG 329.3</a>            |
| • <a href="#">ARCH 360.3</a> | • <a href="#">GEOG 385.3</a>            |
| • <a href="#">EVSC 220.3</a> | • <del><a href="#">GEOG 485.3</a></del> |
| • <a href="#">EVSC 430.3</a> | • <del><a href="#">GEOG 486.3</a></del> |
| •                            |   |

Rationale: POLS 384.3 (Aboriginal Administrative Internship) is a better fit for the program than POLS 383.3 (Career Internship). GEOG 485 is closed. GEOG 486 is moribund, and there is no intent to offer it in the foreseeable future.

## **Political Studies**

### **Minor Program Revisions**

#### **Bachelor of Arts Double Honours in Political Studies**

The format of the program entry is being changed so that students will more clearly understand how two disciplines are combined in a single Double Honours degree program. Students must complete the Specialization 1 requirements for their first discipline (the discipline for which students must complete the Distribution requirements) and Specialization 2 requirements for their second discipline. There are no changes to the program requirements.

## **Psychology**

### **Bachelor of Arts Double Honours in Psychology**

#### **Bachelor of Science Double Honours in Psychology**

The format of the program entry is being changed so that students will more clearly understand how two disciplines are combined in a single Double Honours degree program. Students must complete the Specialization 1 requirements for their first discipline (the discipline for which students must complete the Distribution requirements) and Specialization 2 requirements for their second discipline.

The revised catalogue entry also notes the following:

**Students may not combine the B.A. Double Honours in Psychology with the B.Sc. Double Honours in Psychology.**

## **Sociology**

### **Minor Program Revisions**

#### **Bachelor of Arts Double Honours in Sociology**

The format of the program entry is being changed so that students will more clearly understand how two disciplines are combined in a single Double Honours degree program. Students must complete the Specialization 1 requirements for their first discipline (the discipline for which students must complete the Distribution requirements) and Specialization 2 requirements for their second discipline. There are no changes to the program requirements.



---

## **College of Arts and Science Items for Information**

The curricular revisions listed below were approved through the Arts & Science College Course and Program Challenge and are now submitted to the University Course Challenge for information.

### **DIVISION OF HUMANITIES AND FINE ARTS**

#### **English**

##### **Course split:**

**ENG 221.6 Shakespeare** into:

**ENG 224.3 Shakespeare Comedy and History**

**ENG 225.3 Shakespeare Tragedy and Romance**

##### **Minor course revisions**

**ENG 253.6 Canadian Literature in English**

Change to equivalence:

Old Note: Students with credit for ENG 351 or 352 or 353 may not take this course for credit.

New Note: Students with credit for ENG 353 may not take this course for credit.

**ENG 393.3 Medieval Devotional Literature**

Prerequisite Change:

Old prerequisite: 6 credit units of 200-level English

New prerequisite: 6 credit units of 100-level ENG; or 3 credit units 100-level ENG and INTS 101.

New Course Number: **ENG 293.3**

#### **History**

##### **Course splits**

**HIST 201.6 Ancient Rome** into:

**HIST 208.3 The Roman Republic Growth of a Mediterranean State 753 to 27 BCE**

**HIST 209.3 The Roman Empire Politics Society and Culture Augustus to Constantine**

**HIST 213.6 Medieval England to 1520** into:

**HIST 221.3 Sub-Roman Anglo-Saxon and Viking Britain 400 to 1066**

**HIST 222.3 Medieval England 1000 to 1500**

**HIST 215.6 Byzantine Empire 330 to 1453** into:

**HIST 217.3 The Early Byzantine Empire circa 285 to 565 CE From Constantine to Justinian**

**HIST 218.3 Byzantium and the World 565 to 1453**

**HIST 226.6 Early Modern Europe 1555 to 1789** into:

**HIST 224.3 Early Modern Europe 1555-1560**

**HIST 232.3 Europe's Long Eighteenth Century, 1660-1789**

**HIST 229.6 Twentieth Century Europe** into:  
**HIST 234.3 Europe from 1870 to 1939 War Politics and Culture in Modern Mass Society**  
**HIST 235.3 Europe since 1939: From the Second World War to the Creation of the European Union and Beyond**

**HIST 270.6 A History of the United States** into:  
**HIST 274.3 A History of the United States to 1865**  
**HIST 275.3 History of the United States after 1865**

## **DIVISION OF SCIENCE**

### **Microbiology & Immunology**

#### **Minor Course Revisions**

##### **MCIM 416.3 Microbial Physiology**

Prerequisite Change:

Old prerequisite: MCIM 487.3

New prerequisite: MCIM 326.3

Change to Note:

Old Note: Students with credit for MICR 211 or MICR 416 may not take this course for credit.

New Note: MCIM 487.3 is recommended. Students with credit for MICR 416.3 may not take this course for credit.

Rationale: Changes in prerequisite reflects the moving of MCIM 487.3 to fourth year from third year (previously MCIM 387.3). Content of MCIM 326.3 has been modified to ensure prerequisite content is delivered in the third year.

### **Computer Science**

#### **Minor Course Revisions**

##### **CMPT 405.3 Project Design and Implementation**

Prerequisite Change:

Old prerequisite: In the final year of an Honours Program; or a cumulative percentage average of at least 70% in 24 credit units in computer science.

New prerequisite: In the final year of an Honours Program; or in the final year of the Interactive Systems Design program; or a cumulative percentage average of at least 70% in 24 credit units in computer science.

Rationale: CMPT 405 is a required course in the Interactive Systems Design (ISD) program, whose home is Computer Science.

However, the pre-requisites to CMPT 405 have never been corrected to reflect the creation of the ISD program. The current revision makes it clear that ISD students are allowed to take this course.

CMPT 405 provides the administrative structure for students working on projects under the guidance of a faculty member. Because the projects are independent, students in the ISD program can be evaluated according to ISD program standards, and are not compared to other students in the course (e.g., students in the BSc Honours Computer Science (Software Engineering Option)).

## **DIVISION OF SOCIAL SCIENCES**

### **Anthropology**

#### **Minor Course Revisions**

Rationale: As part of Department of Archaeology and Anthropology's curriculum renewal process, we are updating and revising course titles, descriptions, and prerequisites to align them with our approved learning outcomes and to reflect current trends within the disciplines.

**ANTH 224.3 North American Plains Ethnography**

**ANTH 230 Introduction to Cultural Dynamics**

**ANTH 231 Cross-Cultural Perspectives on Health Systems**

**ANTH 240 Cultural Landscapes and Environments**

**ANTH 302 The Practice of Ethnography**

**ANTH 310 Anthropology of Gender**

**ANTH 332 Anthropology of Contagion and Infectious Disease: Critical Race and Gender Perspectives**

**ANTH 311 Selected Topics in Ethnology**

**ANTH 321 Myth Ritual and Symbolism**

**ANTH 326 Principles of Applied Anthropology**

**ANTH 328 Political and Legal Anthropology**

**ANTH 329 Environmental Anthropology**

**ANTH 330 Oral History and Storytelling: Anthropological Perspectives**

**ANTH 337 Economic Anthropology and Economic Development**

**ANTH 339 Cultural Change**

**ANTH 421 Historical Perspectives of Ethnological Theory**

**ANTH 422 Contemporary Ethnological Theory**

### **International Studies**

**Course split:**

**IS 200.6 International Studies into:**

**IS 211.3 Introduction to International Studies Development**

**IS 212.3 Introduction to International Studies Cooperation and Conflict**

---

## ***College of Dentistry***

### **Changes to Dentistry program requirements**

Due to the adoption of the 2+2 program in the College of Medicine, the following course changes are required by the College of Dentistry:

DENT 292.1/MED 102.1 General Pathology will be deleted with relevant content included in DENT 291.18 Principles of Biomedical Science for Dentistry Students, effective 2014-05

DENT 293.4/MED 108.4 Introductory Neuroanatomy will be deleted and replaced with ACB 334.3 Introductory Neuroanatomy, effective 2014-05

DENT 294.19/MED 109.19 Form and Function of the Human Body for Dental Students will be deleted and replaced with DENT 291.18 Principles of Biomedical Science for Dentistry Students and PHSI 208.6 Human Body Systems, effective 2014-05

DENT 391.4/MED 201.4 Pharmacology will be deleted effective 2015-05. Replacement courses are being developed and will be approved in due course.

### **New course**

DENT 291.18 Principles of Biomedical Science for Dentistry Students  
[same content as MEDC 115.18 Principles of Medical Science] This course will provide basic concepts related to biomedical sciences to include: Introduction to Homeostasis, Anatomy & Histology, & Physiology; the Cell, Genetics & Neoplasia; Nutrition; and Pharmacology, Therapeutics & Toxicology. To be offered in Term One.  
Weekly Hours: 11 hrs [Lecture 4 hrs Seminar 5 hrs]

In addition to the changes listed above, the College of Dentistry is also proposing a change in admission requirements, to require a human physiology course for admission. This is going to the December meeting of University Council for approval, with confirmation also required by Senate.

---

## ***College of Education***

**Prerequisite changes** that affect other colleges:

### **ECUR 327.3 Methods in Secondary Life Sciences**

**From: Prerequisite(s):** BIOL 228 (formerly BIOL 253), BIOL 263 or PLSC 213 and 9 other credit units in BIOL. **Prerequisite(s) or Corequisite(s):** ECUR 200.

**To: Prerequisite(s):** 12 credit units Biology

### **ECUR 386.3 Methods in Secondary Social Studies**

**From: Prerequisite(s):** 12 credit units in HIST, GEOG, ECON, POLS, or NS **Prerequisite(s) or Corequisite(s):** ECUR 200.

**To: Prerequisite(s):** 12 credit units in Social Studies/Social Sciences

**Teaching area changes** that affect other colleges:

### **Elementary Science**

Add the following to the list of courses which students may use toward this teaching area

- HSC 350.3
- PHPY 301.3
- PHPY 302.3
- PHPY 303.3
- PHPY 304.3
- PHPY 305.3
- PHPY 306.3
- PHPY 307.3
- PHPY 401.3
- PHPY 403.3
- PHPY 405.3
- PHPY 432.6
- TOX 300.3

### **Secondary Biology**

Add the following to the list of courses which students may use toward this teaching area

- HSC 350.3
- PHPY 301.3
- PHPY 302.3
- PHPY 303.3
- PHPY 306.3
- PHPY 403.3
- PHPY 432.6
- PHPY 401.3
- PHPY 405.3

### **Secondary Chemistry**

Add the following to the list of courses which students may use toward this teaching area

- PHPY 302.3
- PHPY 304.3
- PHPY 305.3
- PHPY 306.3
- PHPY 307.3
- PHPY 432.6
- TOX 300.3

### **Elementary Social Sciences/Social Studies**

Add the following to the list of courses which students may use toward this teaching area

- NS 281.3
- NS 280.6

### **Secondary Social Sciences/Social Studies**

Add the following to the list of courses which students may use toward this teaching area

- COMM 347
- NS 281.3
- NS 280.6

## ***Edwards School of Business***

### **Minor program changes to the Accounting major**

Add EE 216.3 to the list of statistics courses permitted in the program.

Rationale: EE 216 has been accepted as an equivalent for COMM 104 in the B.Comm. program for the past number of years, but does not appear in the course and program catalogue as an option of an equivalent for COMM 104. This is simply an addition to the course and program catalogue of a class that has been an accepted equivalent for several years in the B.Comm.

Delete PSY 100.3 and add PSY 120.3 and 121.3 to the list of Social Science electives.

Rationale: PSY 120 and PSY 121 were created after the deletion of PSY 110.6...these classes do not appear as Social Science options in the course and program catalogue but should be options as PSY 110.6 was. PSY 100 has not been a Social Science option in the B.Comm. program following the information included in the class description...”This course does not count towards the major requirements for a Bachelor’s degree in Psychology. PSY 100 may not be used as a prerequisite for senior PSY courses.”

## ***College of Engineering***

### **Engineering Physics**

Add the following courses to the list of approved engineering electives for the Engineering Physics Program:

- PHYS 404 Techniques of Experimental Physics
- EP 428 Computational Engineering Physics
- EP 440 Space Systems Design

**Rationale:** EP 428 and EP 440 are newly created and approved EP courses specifically designed as focused elective choices for EP students. Course proposal forms are attached. PHYS 404 is an existing course that is uniquely tailored to the application of high tech engineering physics techniques to hands-on problem solving situations in teamwork scenarios.

### **Environmental Engineering**

Change the prerequisites or co-requisites of CHE 223 to “Prerequisite(s) or Corequisite(s) CHEM 242 or ENVE 201” and add a note to the University Course and Program Catalogue that ‘Students in the Chemical Engineering Undergraduate Program cannot use ENVE 201 as a substitute for CHEM 242.

**Rationale:** CHE 223 (Chemical Thermodynamics) is a required course in the Environmental Engineering (ENVE) undergraduate program. In the current University Course and Program Catalogue, CHEM 242 is listed as the only “prerequisite or corequisite” of CHE 223. CHE 223 provides necessary material for the ENVE program but neither this course nor CHEM 242 is required for any upper year ENVE core courses or electives. As such CHEM 242 is not needed in the ENVE program. Eliminating the requirement for CHEM 242 would free up a slot in the ENVE program and thus enable improved flexibility in program planning. As CHEM 242 is a mandatory course in the Chemical Engineering program, it still remains to be a prerequisite or corequisite in CHE 223. Having ENVE 201 as a replacement insures that the ENVE students have started their program and can place CHE 223 in context of Environmental Engineering.

### **Computer Engineering**

Change the prerequisites of CME 331 (Microprocessor Based Embedded Systems)

From: EE 232

To: CMPT 116 and EE 232

**Rationale:** The course now uses the C programming language which is introduced in CMPT 116.

Change the prerequisites of CME 332 (Real Time Computing)

From: EE 232 and CME 331

To: [CMPT 115 or CMPT 117] , CME 331 , and CME 341 (taken)

**Rationale:** Students require the knowledge of C/C+++ programming (from CMPT 115) in order to do certain CME 332 assignments and labs. Also, CME 332 will cover the concept of hardware accelerator which requires students to have basic understanding of FPGAs from CME 341. EE 232 is redundant since it is a prerequisite of CME 331.

Change the prerequisites of EE 202 (Electrical and Magnetic Circuits)

From: MATH 123 , MATH 124 , and PHYS 155

To: [MATH 123 or MATH 110] , [MATH 124 or MATH 116] , and  
[PHYS 155 or PHYS 115]

**Rationale:** EE 202 is a required course in the Geophysics program. The equivalent alternate courses for each prerequisite allow Geophysics majors to register for EE 202 without overrides.

Change the prerequisites of EE 301 (Electricity Magnetism and Fields)

From: EE 202 , MATH 223 , and MATH 224

To: EE 202 , [MATH 223 or MATH 225 or MATH 276] , and  
[MATH 224 or MATH 226 or MATH 238]

**Rationale:** EE 301 is an optional course in the Geophysics program. The equivalent alternate courses for each prerequisite allow Geophysics majors to register to register for EE 301 without overrides.

## ***College of Graduate Studies and Research***

### **Food and Bioproduct Sciences**

#### **Graduate Course Modification**

#### **APMC 830.3 – Advanced Environmental Microbiology**

**Current Prerequisites:** FABS 212 or BMSC 210; CMPT 100 or AGRC 290

**Proposed Prerequisites:** FABS 212 or BMSC 210 or permission of the instructor

**Contact:** Phyllis.Shand@usask.ca

**Approval:** December 7<sup>th</sup>, 2013 by CGSR

### **Large Animal Clinical Sciences**

#### **New Graduate Course**

#### **VLAC 808.3 – Introduction to Veterinary Epidemiology**

**Prerequisites/ Restrictions:** None.

**Catalogue Description:** This course will introduce students to the concepts and basic methods of epidemiology used to evaluate the distribution and determinants of disease and health interventions. The course will have a specific focus on epidemiology, as it pertains to animal health issues.

**Rationale:** The graduate program within the Western College of Veterinary Medicine focused on epidemiology is housed within the Large Animal Clinical Sciences department. A goal set out in the integrated plan for the department and college has been to grow both the faculty research and the student enrollment per year which focus on epidemiology as a discipline. With changes across campus since the formation of the School of Public Health, the traditional integrated teaching model of human and animal epidemiologists has changed. Class sizes and focus on public health aspects have made it difficult for students working on animal health issues to access and gain meaningful instruction out of the introductory epidemiology courses offered. In order to provide consistency and relevance of epidemiology in our college as a viable option for

graduate training veterinary faculty specifically engaged in epidemiology teaching and research met to discuss the future options. After careful consideration, it was deemed important to develop a course on introductory epidemiology that could service 2 areas of need within the college; basic instruction for all graduate students engaged in animal health research projects/theses, and students specifically engaged in epidemiologic projects of animal health focus or significance. Specific components of epidemiology of importance to animal health are not covered in courses that do exist across campus in both the School of Public Health and the Department of Community Health and Epidemiology. This course would solidify our college as a viable option for any veterinarian or animal health specialist wanting to return for graduate training in epidemiology.

**Contact:** Tasha.epp@usask.ca

**Approval:** December 7<sup>th</sup>, 2013 by CGSR

### ***Psychology***

#### **Program Modification – Masters of Psychology (Culture and Human Development) and Transfer from M.A. to Ph.D. Psychology (Culture and Human Development)**

##### **Change to Required Courses**

**Rationale:** PSY 802.3: The Culture and Human Development Program has decided to remove PSY 802.3 from the list of required courses for the M.A. Program and the Transfer from Master's to Ph.D. Program after receiving comments from students through the years about the fact that the course is too redundant with the content of other courses that they have taken at the B.A. level (like PSY 323 and PSY 324 that many of our graduate students who got their B.A. in our department have taken) or at the graduate level (like PSY 803 and PSY 809) and, as such, they felt that the course didn't contribute much to their program of study.

Since PSY 802.3 could be useful for some students with a different background that the students graduating with a B.A. in Psychology from the UofS, it was decided to include that course in the list of recommended elective courses for the Transfer from Master's to Ph.D. Program.

These changes have been approved at both the Stream and Department of Psychology Graduate Committee levels.

PSY 805.3 and PSY 809.3: It was decided that both PSY 805.3 and PSY 809.3 could be replaced by "other approved qualitative or quantitative methods courses".

With regards to PSY 809.3, the reason was to facilitate the access to qualitative methods courses, since PSY 809.3 is not offered every year and students may wish or need to have exposure to a variety of qualitative courses (PSY 809.3 deals with narrative analysis).

With regards to PSY 805.3, the reason was to take into account the diversity of the background of our students and the fact that most of them are conducting qualitative research in the context of their program of study. Based on their background, it was judged that some students would have benefited more from taking a quantitative methodology course while others would not. With this modification, students will be oriented to the kind of quantitative methods course which will fit with their background, needs and preference.

These changes have been approved at both the Stream and Department of Psychology Graduate Committee levels.



MA Psychology- Culture and Human Development	
Current Required Courses	Proposed Required Courses
GSR 960.0	GSR 960.0
GSR 961.0 if research involves human	GSR 961.0 if research involves human
GSR 962.0 if research involves animal	GSR 962.0 if research involves animal
PSY 802.3	
PSY 805.3 or PSY 809.3	One of PSY 805.3, PSY 810.3, ERES 840.3, ERES 841.3, EPSE 843.3, PSY 809.3, ANT 802.3, ERES 845.3, NURS 893.3, or another quantitative/ qualitative research methods course, as approved by the
Electives (6 credit units)	Electives (9 credit units)
PSY 900.0	PSY 900.0
PSY 994.0	PSY 994.0
Transfer from MA to PHD Psychology- Culture and Human Development	
Current Required Courses	Proposed Required Courses
GSR 960.0	GSR 960
GSR 961.0 if research involves human	GSR 961.0 if research involves human
GSR 962.0 if research involves animal	GSR 962.0 if research involves animal
PSY 802.3	
PSY 803.3	PSY 803.3
PSY 805.3	PSY 805.3, PSY 810.3, ERES 840.3, ERES 841.3, EPSE 843.3, or another qualitative research methods course, as approved by the
PSY 809.3 (or other approved quantitative or qualitative methods courses)	PSY 809.3, ANT 802.3, ERES 845.3, NURS 893.3, or another quantitative research methods course, as approved by the department.
Electives (9 credit units)	Electives (12 credit units)
PSY 900.0	PSY 900.0
PSY 994.0/PSY 996.0	PSY 994.0/PSY 996.0

**Contact:** Melanie.morrison@usask.ca

**Approval:** October 17<sup>th</sup>, 2013 by CGSR

### **School Of Environment and Sustainability**

#### **New Graduate Course**

#### **ENVS 809.3 – Doctoral Seminar in Environment and Sustainability**

**Prerequisites/ Restrictions:** Enrolment in the SENS Ph.D. program. Course will be made available to students in Ph.D. programs of other units by permission from instructor.

**Catalogue Description:** This seminar course will examine ideas and assumptions that underpin attempts to achieve “sustainability” and explore different strategies aimed at advancing sustainability objectives. Students will examine fundamental conflicts in values and choices, governance options and challenges, and scientific and societal uncertainty about human-environment interactions.

**Rationale:** After extensive review of the SENS curriculum, completion of a curriculum mapping exercise, and adoption of seven graduate attributes, SENS has introduced four new courses into

its three graduate programs. Specific to the PhD program, ENVS 809.3 is introduced as a requirement for students. Our new graduate attributes require that students attain a deep understanding of sustainability; however, this learning objective was not well supported. They also sought an advanced seminar that would allow them to build cohort with other interdisciplinary scholars-in-the-making. Hence, the purpose of this seminar is to work with senior graduate students (e.g., PhD cohort) in meeting their learning goals with respect to sustainability. It is being taught for the first time as an 898.3 in Fall-Winter 2013-14. It is taught as a full year course to allow students time to distill their readings and to use them in oral and written presentations. PhD students outside of SENS may also take this course.

At present, PhD students are required to write one comprehensive exam (of 3) that relates sustainability to their own field of study. However, some faculty members felt they were not qualified to assess this exam component. We have dropped this third exam requirement in favour of a required course in which students have an opportunity to conduct multiple exercises requiring them to read, distill, analyze, synthesize, discuss, present, and write about sustainability, guided by a faculty member whose research explicitly includes “sustainability”. For students and faculty, this solution appeared to better fulfill our mandate to be a School of Environment *and Sustainability*. This course offers a richer academic experience than our present program, while reducing the burden on some faculty to become sustainability experts in addition to their present fields of study. Having this deeper understanding of sustainability and the emerging field of sustainability science will also prepare our PhD graduates to compete for jobs with academic and other employers who seek experts that demonstrate competence in working with others to address interdisciplinary concepts and practice.

### **Program Modification – Doctor of Philosophy (Ph.D.)**

#### **Change to Required Courses**

**Rationale:** The Ph.D. program was launched In 2008 after the School of Environment and Sustainability was created in 2007. Objectives, need, demand and other required information for the program were provided at that time. The original proposal formed the School’s first integrated plan. The School has grown in faculty complement and student numbers. New faculty have been introduced via joint appointments with other units on campus, through the establishment of the Global Institute for Water Security, and with new appointments dedicated to the School’s mission. Student numbers have also grown, from 9 in 2008 to 80 (in all 3 programs) in 2013. Following direction from the Provost’s Committee on Integrated Planning, we aim to increase this enrollment to 100 by 2015-16. Approximately 1/3 of our students are enrolled in the PhD program.

Since its inception, SENS has completed annual reviews of all its programs. In 2012, SENS obtained support from the Curriculum Innovation Fund to learn about and revise the curriculum to foster innovation. At that time, we initiated systematic learning about all team-taught courses, with an emphasis on required courses in SENS’ programs. Additionally, in 2012-13, SENS faculty completed a curriculum mapping exercise and articulated 7 graduate attributes for all of its programs (see Appendix 1). After completing a SENS program, we expect graduates to: think holistically with ethical intent, deeply understand sustainability, integrate a range of perspectives and ways of knowing, be ambassadors for sustainability and agents of change, have research expertise, demonstrate collaborative leadership and professional skills in knowledge sharing, and have a substantive area of expertise in keeping with their program of study. A comparative review reveals that these attributes are consistent with graduate learning outcomes developed by

the College of Graduate Studies and Research. Implementation of the proposed program is intended to instill the attributes more effectively into program offerings. In this past year, we have worked hard as a collective and with direct assistance from a curriculum design specialist of the Gwenna Moss Centre for Teaching Effectiveness to redesign the curriculum. Faculty in SENS have sought to achieve the aspiration of becoming a model of excellence and the ‘go-to’ place for interdisciplinary problem-focused, issue-driven, and experience-based learning about environment and sustainability at the U of S and beyond.

<b>Current Requirements</b>	<b>6 cu</b>	<b>Proposed Requirements</b>	<b>6 cu</b>
<b>Core Classes:</b> ENVS 801.3 <i>or</i> ENVS 802.3	<b>3 cu</b>	<b>Core Classes:</b> EVNS 809.3	<b>3 cu</b>
Three credit units of electives	<b>3 cu</b>	a minimum of three credit units of electives	<b>3 cu</b>
ENVS 996.0	<b>0 cu</b>	ENVS 996.0	<b>0 cu</b>
ENVS 990.0	<b>0 cu</b>	ENVS 990.0	<b>0 cu</b>
GSR 960.0 GSR 961.0 if research involves human subjects GSR 962.0 if research involves animal subjects	<b>0 cu</b>	GSR 960.0 GSR 961.0 if research involves human subjects GSR 962.0 if research involves animal subjects	<b>0 cu</b>

**Contact:** maureen.reed@usask.ca

**Approval:** December 3rd, 2013, by CGSR

---

## ***College of Kinesiology***

### **Program change**

KIN 255.3 Program Planning and Design for Leisure and Sport will be an elective instead of a required course in the Exercise and Sport Studies program.

These changes will not affect the number of credit units Kinesiology students are required to take but rather where these courses are taken. College required electives will reduce to a total credit unit count of 30 from 33 and college electives will increase to 27 credit units from 24 in the Exercise and Sport Studies route.

In the Exercise and Sport Studies Route (Honours) the college required credit units count will decrease to 39 from 42 credit units and the college electives credit unit count will increase to 18 from 15 credit units.

*Rationale for making this change* KIN 255 is a required course for students in the Exercise and Sport Studies route. This course is an artifact from a time when the College had dedicated resources in the recreation and planning area.; and many students were pursuing this area of study. This course is moving to an elective to respond to the changing nature of our students and the professions they will pursue.

*Date of Implementation* September 2013

*Contact person and phone number* Mrs. Keeran Wagner 306-966-1101

---

## ***College of Nursing***

### **Anatomy and Physiology Requirement course equivalents**

(BSN program, and Post-Degree BSN admission requirements)

This requirement can be met by the following course or course combinations:

PHSI 208; HSC 208; PHPY 302 and 303; BIOL 317 and 318; or nine credit units in ACB 221 + KIN 225 + KIN 226; BMSC 224 + PHPY 302 + ACB 221; BMSC 224 + PHPY 303 + ACB 221; BMSC 224 + PHPY 303 + ACB 310; BMSC 224 + PHPY 302 + ACB 310.

### **Statistics Requirement course equivalents**

Previously we used the same statistics course equivalents as the College of Arts and Science. This is no longer the case. In October 2012, Professor O'Shaughnessy met with three Nursing Research teachers to determine what type of foundational skills they wanted their students to have from their stats course prior to coming into Nursing Research. After this meeting, we determined that STAT 244, PLSC 214 and their equivalents would meet the Nursing Research requirements. Listed below are the Stats courses from the University of Saskatchewan that the College of Nursing will accept to meet the stats requirement:

STAT 244; STAT 245; STAT 246; PLSC 214; COMM 104 + COMM 207; PSY 233 + PSY 234; ECON 204; SOC 225 + SOC 325.

---

## ***Western College of Veterinary Medicine***

### **New Course**

#### **VASC 477.1 Topics in Feline Internal Medicine Elective**

Prerequisites and Restrictions: Successful completion of Year 2 of the Doctor of Veterinary Medicine (DVM) Program. Enrollment will be limited to 12 students

This 1 credit course will allow students with an interest in feline medicine to expand on their current knowledge and skills. Emphasis will be placed on common feline health problems and on disorders that are not well covered in the current curriculum.

#### **Rationale for this Course**

Cats continue to be America's most popular pet, outnumbering dogs by 15 million, however, they are only half as likely to be taken to the veterinarian for preventive care as their canine counterparts. A recent study by the American Veterinary Medical Association found that cat visits to the veterinarian have actually dropped by 30% in the past five years. Meanwhile, preventable health issues like obesity, obesity-related diabetes, ear infections and dental disease are on the rise. While the reasons for declining cat visits are multifactorial and complex at least part of the answer lies in the lack of feline specific handling skills and efforts to educate owners on the importance of preventative health care measures.