DATE: Tuesday 15 February 2022
TIME: 12:30 p.m. – 2:30 p.m.
PLACE: Teams – See meeting invitation or contact the secretary

Open Session

<table>
<thead>
<tr>
<th>Item</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Declarations of Conflict of Interest - Excerpt from Senate Bylaw 1* ..........</td>
<td>Information</td>
</tr>
<tr>
<td>2. Approval of the 11 January 2022 Minutes* and Business Arising ..........</td>
<td>UGC</td>
</tr>
<tr>
<td>3. Curricular Items for Approval &amp; Information</td>
<td></td>
</tr>
<tr>
<td>a. Arts* .................................................................</td>
<td>4.2 SEC-C; rest UGC</td>
</tr>
<tr>
<td>b. Environment* ......................................................</td>
<td>10 SEN-C; rest UGC</td>
</tr>
<tr>
<td>c. Mathematics* .....................................................</td>
<td>UGC</td>
</tr>
<tr>
<td>d. SSO – Global Experience Certificate* ................................</td>
<td>Information</td>
</tr>
<tr>
<td>4. Registrar’s Office</td>
<td></td>
</tr>
<tr>
<td>a. Posthumous Degrees and Certificates* ..................................</td>
<td>SEN-R</td>
</tr>
<tr>
<td>b. Undergraduate Scholarships, Awards and Bursaries ..................</td>
<td>Information</td>
</tr>
<tr>
<td>5. Academic Program Reviews</td>
<td></td>
</tr>
<tr>
<td>a. FAR Business Administration and Mathematics Double Degree* (Ilham Akhundov)</td>
<td>UGC</td>
</tr>
<tr>
<td>b. PR Architecture * (Anne Bordeleau) ................................</td>
<td>UGC</td>
</tr>
<tr>
<td>6. Other Business</td>
<td></td>
</tr>
<tr>
<td>7. Next Meeting: Tuesday 8 March 2022, 12:30 to 2:30 p.m. via Teams</td>
<td></td>
</tr>
</tbody>
</table>

*material attached/to be distributed**

“SEN-C” to be recommended to Senate for approval (consent agenda)
“SEN-R” to be recommended to Senate for approval (regular agenda)
“UGC” to be approved on behalf of Senate & sent to Senate for information

8 February 2022

Rebecca Wickens
Associate University Secretary
### Excerpt from Senate Bylaw 1

#### 8. Declarations of conflict of interest

| 8.01 | At the beginning of each meeting of Senate or any of Senate’s committees or councils, the chair will call for members to declare any conflicts of interest with regard to any agenda item. For agenda items to be discussed in closed session, the chair will call for declarations of conflict of interest at the beginning of the closed portion of the meeting. Members may nonetheless declare conflicts at any time during a meeting. |
| 8.02 | A member shall be considered to have an actual, perceived or potential conflict of interest, when the opportunity exists for the member to use confidential information gained as a member of Senate, or any of Senate’s committees or councils, for the personal profit or advantage of any person, or use the authority, knowledge or influence of the Senate, or a committee or council thereof, to further her/his personal, familial or corporate interests or the interests of an employee of the university with whom the member has a marital, familial or sexual relationship. |
| 8.03 | Members who declare conflicts of interest shall not enter into debate nor vote upon the specified item upon which they have declared a conflict of interest. The chair will determine whether it is appropriate for said member to remove themselves from the meeting for the duration of debate on the specified item(s). |
| 8.04 | Where Senate or a committee or council of Senate is of the opinion that a conflict of interest exists that has not been declared, the body may declare by a resolution carried by two-thirds of its members present at the meeting that a conflict of interest exists and a member thus found to be in conflict shall not enter into debate on the specified item upon which they have declared a conflict of interest. The chair will determine whether it is appropriate for said member to remove themselves from the meeting for the duration of debate on the specified item(s). |

Resources/Guests: Steven Bednarski, Angela Christelis, Jennifer Coghlin, Mathieu Doucet, Shelley Hulan, Danielle Jeanneault, Andrea Kelman, Amanda McKenzie, David Porreca, Gerald Voorhees, Dan Wolczuk

Regrets: Taylor Harris, Bruce MacVicar, Christina Vester

Organization of Meeting: David DeVidi took the chair, and Rebecca Wickens acted as secretary. The secretary advised that a quorum was present. The agenda was approved without formal motion.

The chair invited new members to introduce themselves, and provided an overview of the meeting protocols.

1. DECLARATIONS OF CONFLICTS OF INTEREST
No conflicts of interest were declared.

2. APPROVAL OF THE 11 MAY 2021 AND 9 NOVEMBER 2021 MINUTES AND BUSINESS ARISING

The 11 May 2021 minutes were accepted as distributed. Charbonneau requested the following revision to the 9 November 2021 minutes: (underline = new)

“Charbonneau went through the consequences of implementing the CS 136/146 and CS 136L course changes to a number of academic plans on campus, noting that if other equivalent CS courses are allowed in the plan, CS 136L is not being added a plan requirement, whereas CS 136L is being added a plan requirement when CS 136/146 is a requirement (and not part of a choice list), with the exception of the computing minor where CS 136L is added as a plan requirement for those students taking CS 136/146. There was a motion to approve these changes on behalf of Senate.”

Subject to that revision, the 9 November 2021 minutes were approved without formal motion.

University Jurisdiction. Members heard that this text is undergoing further review before final approval.

3. CURRICULAR ITEMS FOR APPROVAL & INFORMATION
Arts. Following an overview of the course changes, there was a motion to approve these items on behalf of Senate. Cooke and Barra. Carried. Cooke spoke to the rationales for course inactivations. There was a motion to approve those items on behalf of Senate. Cooke and Ferries. Carried. Cooke spoke to the minor plan modifications, including: the proposed changes to the experience requirements for the French teaching specialization to reduce the total number of hours, recognize different types of experience and supervision, and mandate hours with K-12 children and in a classroom setting; and a minor change to the International Studies Minor to correct the course code of one of the listed electives. Discussion included: the meaning of “qualified professional” in the new supervisory requirements of the French teaching specialization; other than a classroom
setting, the types of experience acceptable for the French teaching specialization; whether experience while on a co-op workterm would count towards the experience hours; adding approval by the French studies supervisor for experience that is not overseen by a certified teacher in a classroom setting. Subject to adding the aforementioned requirement for the French studies supervisor to approve certain types of experience, there was a motion to approve the minor modifications as presented. Cooke and Charbonneau. Carried.

Science. Following an overview of the rationales for course changes and inactivations, there was a motion to approve these items on behalf of Senate. Barra and Cooke. Carried. Barra took members through related major and minor modifications to life physics and biophysics plans, including: the inactivation of honours life physics, honours life physics, biophysics specialization, and honours life physics, medical physics specialization plans due to low enrollment; the anticipated benefits for students, plan administration and enrollment of creating a new honours biological and medical physics plan from the existing curriculum, minus unique, low enrollment courses; to reflect the foregoing changes in the biophysics minor. There was a motion to: (a) recommend that Senate approve the creation of the honours biological and medical physics plan and the inactivation of the honours life physics, honours life physics, biophysics specialization, and honours life physics, medical physics specialization plans; and (b) subject to Senate’s approval of the foregoing, approve the minor modifications to the biophysics minor as presented. Barra and Ferries. Carried.

4. REGISTRAR’S OFFICE
Revisions to Academic Calendar Dates for 2021-2022. Newell Kelly indicated that the dates that were to be determined in the previously approved version have been finalized. Coghlin informed members that this was approved by Senate Graduate and Research Council on 10 January 2022. There was a motion to recommend that Senate approve the revised academic calendar dates for 2021-2022 as presented. Newell Kelly and Charbonneau. Carried.

5. ACADEMIC PROGRAM REVIEWS
Item 5(h) was deferred to the next meeting because the representative could not attend.

FAR Medieval Studies. Discussion included: the challenges with program governance and collaboration when there are many departments and disciplines involved; further challenges presented by the pandemic; the number of students enrolled in majors and minors; high enrollment courses, including a recently created online course; plans for the experiential learning component.

PR Mathematics/Business Administration, Mathematics/Chartered Professional Accountancy, Mathematics/Financial Analysis and Risk Management. Discussion included: the composition of the department and current governance structure; options being discussed for organization and governance.

PR Mathematical Studies. Discussion included: strategies for addressing perceptions of the program; the role students and graduates of the program can play; parallels to the Liberal Studies program in the Faculty of Arts.

FAR Speech Communications. Discussion included: the impact of the name change on the visibility of and interest in the program; discussions around the course code given the name change; the goal to maintain a better than 2:1 ratio of tenure line faculty to lecturers – drivers behind this goal, how introduction of teaching stream professors might impact this goal; progress with mentoring recommendations.

PR Philosophy. Discussion included: the feasibility of the recommendations regarding teaching assistants; the relationship between the department on main campus and at St. Jerome’s University; the impact of the pandemic and changes in department administration on timeline for addressing recommendations; co-operative education opportunities and numbers.

PR Classical Studies. This item was accepted with no further need for discussion.
PR English Language and Literature. Discussion included: TA training, mentorship and assignment of responsibilities; ensuring the department can deliver both core and service teaching for the university; lecturers at the forefront of introducing experiential education components.

Charbonneau withdrew from the meeting. There was a motion to approve the two year performance report for Mathematics/Business Administration, Mathematics/Chartered Professional Accountancy, Mathematics/Financial Analysis and Risk Management. Macri and Davison. Carried. Charbonneau rejoined the meeting. There was a motion to approve the remaining final assessment and two year progress reports. Barra and Ferries. Carried.

6. OTHER BUSINESS.
There was no further business.

7. NEXT MEETING
The next meeting is Tuesday 15 February 2022 12:30 – 2:30 p.m. via Teams.

8 February 2022

Rebecca Wickens
Associate University Secretary
1. **NEW COURSES** [for approval]
   - Anthropology: ANTH
   - English Language and Literature: ENGL
   - Renison University College: ASL

2. **COURSE CHANGES** [for approval]
   - Renison University College: SDS
   - Religious Studies: RS
   - Sociology and Legal Studies: SOC

3. **COURSE INACTIVATIONS** [for approval]
   - Political Science: PSCI

4. **ACADEMIC PLAN CHANGES – MAJOR MODIFICATIONS** [for approval]
   - 4.1 Renison University College
     - Diploma in East Asian Studies

5. **ACADEMIC PLAN CHANGES – MINOR MODIFICATIONS** [for approval]
   - 5.1 Philosophy
     - Cognitive Science Minor
NEW COURSES  (for approval)

Anthropology

Effective  01-SEP-2022

ANTH  251  (0.50)  PRJ  Doing Ethnography

This course will provide students with experiential learning in collaborative
ethnography. Through participation in a group project, students will learn the
practice and craft of ethnography, developing skills in interviewing, observation,
collaboration, giving presentations, and writing reports. Readings address
ethnographic methods, multidisciplinary collaboration, and applied ethnography in
work settings.

Requisites : Antireq: ANTH 289 taken fall 2019
Rationale : We are putting forward this course to develop our departmental offerings in
experiential learning. While students in biological anthropology and
archaeology have various fieldwork and lab-based courses that give them
hands on experience with doing anthropology, opportunities for experiential
learning in the sociocultural stream are currently largely limited to
senior honours thesis projects.

Effective  01-SEP-2022

ANTH  331  (0.50)  LEC  Anthropology of Childhood

Through engaging with anthropological research on children and youth, students will
develop their understanding of key anthropological theories while strengthening their
communication skills. By examining work across subfields, including psychological
anthropology, the anthropology of education, language socialization, and
cross-cultural approaches to ethnography, students will learn to evaluate different
methodologies and apply them in their writing while assessing how research in this
area has developed over time.

Requisites : Prereq: ANTH 202
Rationale : A substantial body of literature on the anthropology of children and youth
examines how children are raised in different societies. Ethnographic
research on the Ivory Coast, the Canadian north, Sri Lanka, Japan, China,
and the U.S. has documented the wide range of beliefs about how
children/youth develop and how best to raise them. These include ideas
about the kind of language that children should be exposed to, their
supposedly natural tendencies, and the duties and obligations of caregivers
in the realms of moral and emotional development. The course will examine
how incorporating research on this age group has broadened our
understanding of humanity across contexts.

English Language & Literature
Effective 01-SEP-2022
ENGL 101C (0.50) LEC Introduction to Literature and Rhetoric
This course examines the interrelationships between literature and rhetoric through the study of a range of literary and rhetorical genres and elements.

Rationale: Literature and Rhetoric is one of our most popular plans, but we don't have a first-year course introducing students to this topic. This course addresses this gap. Short title: Intro Literature & Rhetoric.

Effective 01-SEP-2022
ENGL 232 (0.50) LEC Graphic Narrative
A study of graphic narrative (such as comics, graphic novels, and alternative modes) from the eighteenth century to the present. This course addresses issues such as the history and formal conventions of the medium as well as the unique rhetoric of comics-based storytelling. Topics of interest may include graphic memoir, multimodality, cross-cultural influence, and the comics-as-literature movement.

Rationale: Graphic narrative is a well-established literary form widely taught at other universities, yet the University of Waterloo does not currently offer a course on the topic. This course also integrates the study of textual, graphic, and rhetorical communication, which is an important aspect of our mandate. We think the topic will be attractive to students in other programs, which will enhance elective offerings for all Waterloo students. This course meets the following learning objectives of our plans in Literature; Literature and Rhetoric; and Rhetoric, Media, and Professional Communication: demonstrate broad understanding of cultures, demonstrate historical awareness, engage in the critical analysis of communications, communicate clearly and persuasively, argue effectively, cite and document sources correctly.

Renison University College

Effective 01-SEP-2022
ASL 201R (0.50) LAB, LEC, TUT American Sign Language 3
This course enables students to rehearse conversation and to correct information to minimize misunderstandings. Major topics will include family and occupations, attributing qualities to others, and discussing routines. Cultural notes and videotapes provide information on Deaf Culture and Community. Grammar is introduced in context.

Requisites: Prereq: ASL 102R
Rationale: This course will enable students to develop their communicative competence in American Sign Language (ASL). Building on the skills learned in the 100-level ASL courses, this course moves students beyond simple
conversations about everyday concrete topics and introduces students to the more complex skills required to speak about others and to clarify and confirm information. Student attention will be drawn to grammatical features of the language in use as a way of identifying the connections between grammar and communicative function.

Effective 01-SEP-2022

ASL 202R (0.50) LAB, LEC, TUT American Sign Language 4
This course refines the skills learned and retained from ASL 201R. Students learn to communicate the locations of items around the house, complain, and make suggestions and requests. Advanced exploration of Deaf Culture and Community is incorporated. Grammar is introduced in context with emphasis on question and answer skills.

Requisites: Prereq: ASL 201R
Rationale: This course builds on the American Sign Language communicative competence acquired in ASL 201R by facilitating the move to extended conversational turns. Students enlarge their functional repertoire by learning how to complain in ways that are contextually appropriate, make requests and suggestions, and be responsive to feedback. These skills support the course's advanced-level focus on questioning and responding. Deeper knowledge of the Deaf Culture and Community prepare students to engage meaningfully with Deaf individuals.

COURSE CHANGES (for approval)

Current Catalog Information
SDS 242R (0.50) LEC Religious Diversity and Social Development
Religious traditions and beliefs contribute both positively and negatively to social development. This course explores the interrelationship of religious diversity, multiculturalism, and attitudes towards social issues.
No Special Consent Required
Cross-listed as: RS 242R
Effective 01-SEP-2022
Rationale: To remove attribute. The removal of the attribute will help standardize these with SDS courses that do not have “Offered at Renison University College” attribute. The “R” code is an alternative sign of a Renison-offered course. Both participating units are in agreement with this change.

Current Catalog Information
SDS 288R (0.50) LEC International Organizations
This course introduces students to major international organizations, focusing on intergovernmental organizations. The course explores the following major issues relating to international organizations: their origins, their functions, their impact.
in various policy areas, and their role in international cooperation on addressing various global issues.

No Special Consent Required  

**Effective  01-SEP-2022**

Rationale : To remove attribute. The removal of the attribute will help standardize these with other SDS courses that do not have "Offered at Renison University College" attribute. The "R" code is an alternative sign of a Renison-offered course.

**Current Catalog Information**  

**SDS  310R  ( 0.50 )  LEC**: Disability and Society  
This course examines disability through a social justice lens. Engaging with key texts in critical disability studies, students will explore how dominant ideas of embodiment, difference, expertise, and social value produce (dis)ableism and inequity. Through the social model of disability, it introduces concepts of access, inclusion, disability culture/justice, and universal design.  
No Special Consent Required  
Requisites : Prereq: Level at least 2A. Antireq: SOCWK 356R  

**Effective  02-SEP-2022**

Rationale : To remove attribute. The removal of the attribute will help standardize these with other SDS courses that do not have "Offered at Renison University College" attribute. The "R" code is an alternative sign of a Renison-offered course.

**Current Catalog Information**  

**SDS  330R  ( 0.50 )  LEC**: International Public Policy  
This course introduces students to major international public policies, including macroeconomic and fiscal policies, public transport and infrastructure policies, health care and social welfare policies, educational policies, and energy and environmental policies. Through a comparative and cross-cultural examination of major public policies, students will acquire better understanding of the major policy issues that affect the everyday lives of citizens.  
No Special Consent Required  
Requisites : Prereq: Level at least 2A

**Effective  01-SEP-2022**

Rationale : To remove attribute. The removal of the attribute will help standardize these with other SDS courses that do not have "Offered at Renison University College" attribute. The "R" code is an alternative sign of a Renison-offered course.

**Current Catalog Information**  

**SDS  345R  ( 0.50 )  LEC**: Self-Development and Identity Formation: A Sociocultural Perspective  
This course examines interdisciplinary approaches (sociological, developmental, psychological, critical, sociocultural perspectives) to identity formation, development, and maintenance. Relevant theories, literature, and research will showcase diverse approaches to understanding social and cultural factors that impact
identity formation.
No Special Consent Required
Requisites : Prereq: SOC 101/101R, PSYCH 101/101R; Level at least 2A. Antireq: SOC 209, SOC 235

Effective 02-SEP-2022
Rationale : To remove attribute. The removal of the attribute will help standardize these with other SDS courses that do not have "Offered at Renison University College" attribute. The "R" code is an alternative sign of a Renison-offered course.

Current Catalog Information
SDS 367R (0.50) LEC Aging and Social Development
This course examines aging from the perspective of human and social development. On individual, group, family, community, and systemic levels, it analyzes interventions for enhancing the well-being of the elderly, emphasizing the roles of social justice and civic engagement in Canadian society.
No Special Consent Required
Requisites : Prereq: Level at least 2A

Effective 02-SEP-2022
Rationale : To remove attribute. The removal of the attribute will help standardize these with other SDS courses that do not have "Offered at Renison University College" attribute. The "R" code is an alternative sign of a Renison-offered course.

Current Catalog Information
SDS 410R (0.50) SEM Queer and Trans Studies
Centering 2SLGBTQ+ cultural and political contributions, this course examines the ways in which sexualities, bodies, relationships, and identities have been regulated and transformed. Topics include colonialism, education, family, HIV/AIDS, psychiatry, incarceration, violence, popular culture, immigration, neoliberalism, and homonormativity.
No Special Consent Required
Requisites : Prereq: Level at least 3A

Effective 02-SEP-2022
Rationale : To remove attribute. The removal of the attribute will help standardize these with other SDS courses that do not have "Offered at Renison University College" attribute. The "R" code is an alternative sign of a Renison-offered course.

Current Catalog Information
SDS 421R (0.50) SEM (Re)framing Indigenous-Settler Relations
Interactions between Indigenous and Settler peoples are influenced by historical and contemporary stories told about each other. This course will examine the ideologies, knowledge, beliefs, values, and assumptions behind these stories, within the context of Canada’s current Truth & Reconciliation process. It will be taught using Indigenous pedagogy in a sharing-circle format.
No Special Consent Required
Requisites : Prereq: Level at least 3A. Antireq: SDS 450R (001) taken spring 2018, spring 2019

Effective 02-SEP-2022
Rationale : To remove attribute. The removal of the attribute will help standardize these with other SDS courses that do not have "Offered at Renison University College" attribute. The "R" code is an alternative sign of a Renison-offered course.

Current Catalog Information
SDS 435R (0.50) SEM Restorative Approaches to Education
This course aims to develop understandings and skills in restorative approaches to education through dialogue, communication, and relational pedagogy. Through examining the current state of schools and communities engaging with restorative approaches for children and youth, this course will explore transformative options for promoting sustainable equity and inclusion.
No Special Consent Required
Requisites : Prereq: Level at least 3A

Effective 01-SEP-2022
Rationale : To remove attribute. The removal of the attribute will help standardize these with other SDS courses that do not have "Offered at Renison University College" attribute. The "R" code is an alternative sign of a Renison-offered course.

Current Catalog Information
SDS 441R (0.50) SEM Popular Culture and Social Change in the Radical Imagination
This course examines the role of popular culture in movements for social and political change. Students will explore both historical contributions and contemporary realities where popular culture becomes a site that fosters the radical imagination.
No Special Consent Required
Requisites : Prereq: Level at least 3A

Effective 01-SEP-2022
Rationale : To remove attribute. The removal of the attribute will help standardize these with other SDS courses that do not have "Offered at Renison University College" attribute. The "R" code is an alternative sign of a Renison-offered course.

Current Catalog Information
SDS 445R (0.50) SEM Pedagogies of Democratic Education
Engaging pedagogies for democratic education is a central goal of public and parapublic organizations, particularly schools. Yet such democratic engagement is understood in varying ways based on diverse identities. This course draws on experiential education to critically examine democratic education, including civic knowledge, values, and action.
No Special Consent Required

Requisites: Prereq: Level at least 3A

Effective 02-SEP-2022

Rationale: To remove attribute. The removal of the attribute will help standardize these with other SDS courses that do not have "Offered at Renison University College" attribute. The "R" code is an alternative sign of a Renison-offered course.

Religious Studies

Current Catalog Information
RS  242R  (0.50)  LEC Religious Diversity and Social Development

Religious traditions and beliefs contribute both positively and negatively to social development. This course explores the interrelationship of religious diversity, multiculturalism, and attitudes towards social issues.

No Special Consent Required

Cross-listed as: SDS 242R

Effective 01-SEP-2022

Rationale: To remove attribute. The removal of the attribute will help standardize these with SDS courses that do not have "Offered at Renison University College" attribute. The "R" code is an alternative sign of a Renison-offered course. Both participating units are in agreement with this change.

Current Catalog Information
RS  462  (0.50)  SEM Religion and Spirituality in the Social and Legal World

This course examines key substantive, theoretical, and methodological issues of the sociology of religion through the detailed study of a series of high-profile media and legal cases surrounding the role of religion, spirituality, and non-religion in Canadian society. [Note: This course fulfils an Area 3 requirement for Religious Studies majors.]

No Special Consent Required

Requisites: Prereq: Level at least 4A Religious Studies majors

Cross-listed as: SOC 402

Effective 02-SEP-2022

Description Change: This course examines key substantive, theoretical, and methodological issues in the field of sociology of religion. Students will critically analyze high-profile media and legal cases surrounding the role of religion, spirituality, and secularity in Canadian society. Students will also further their knowledge by completing their own projects in this thematic area, developing both their research and written skills. [Note: This course fulfils an Area 3 requirement for Religious Studies majors.]

Rationale: To change description and prerequisites (SOC offering only). We are updating 400-level SOC course descriptions to better reflect student learning outcomes. Sociology minors have been allowed to take 400-level SOC
courses as part of their plan requirements for many years now. Yet, the current (very outdated) prerequisites create an unnecessary barrier for our level 4A and higher Sociology minor students to take their desired 400-level courses. Religious Studies has been consulted and are in agreement with these changes.

Sociology and Legal Studies

Current Catalog Information

SOC  402  ( 0.50 )  SEM  Religion and Spirituality in the Social and Legal World

This course examines key substantive, theoretical, and methodological issues of the sociology of religion through the detailed study of a series of high-profile media and legal cases surrounding the role of religion, spirituality, and non-religion in Canadian society. [Note: This course fulfils an Area 3 requirement for Religious Studies majors.]

No Special Consent Required

Requisites : Prereq: Level at least 4A Sociology majors

Cross-listed as: RS  462

Effective  02-SEP-2022

Description Change:

This course examines key substantive, theoretical, and methodological issues in the field of sociology of religion. Students will critically analyze high-profile media and legal cases surrounding the role of religion, spirituality, and secularity in Canadian society. Students will also further their knowledge by completing their own projects in this thematic area, developing both their research and written skills. [Note: This course fulfils an Area 3 requirement for Religious Studies majors.]

Requisite Change :

Prereq: Level at least 4A Sociology students

Rationale :

To change description and prerequisites (SOC offering only). We are updating 400-level SOC course descriptions to better reflect student learning outcomes. Sociology minors have been allowed to take 400-level SOC courses as part of their plan requirements for many years now. Yet, the current (very outdated) prerequisites create an unnecessary barrier for our level 4A and higher Sociology minor students to take their desired 400-level courses. Religious Studies has been consulted and are in agreement with these changes.

Current Catalog Information

SOC  416  ( 0.50 )  SEM  Educational Theory and Practice

An examination of the major theoretical explanations and practices in education. Topics include an analysis of the various social processes that have been developed to define and transmit knowledge, skills, attitudes, values, and power relations from one generation to the next. The role of state-sponsored formal education systems in the context of world economic systems will be explored.

No Special Consent Required

Requisites : Prereq: Level at least 4A Sociology majors

Effective  01-SEP-2022
Requisite Change: Prereq: Level at least 4A Sociology students
Rationale: To change prerequisites. Sociology minors have been allowed to take 400-level SOC courses as part of their plan requirements for many years now. Yet, the current (very outdated) prerequisites create an unnecessary barrier for our level 4A and higher Sociology minor students to take their desired 400-level courses.

Current Catalog Information
SOC 417 (0.50) SEM Sociology of Higher Education
This course examines the relationship between higher education and society. Topics include: major trends, student culture, how and why students are stratified across fields of study and various kinds of postsecondary institutions, and the relationship between education and the labour market.
No Special Consent Required
Requisites: Prereq: Level at least 4A Sociology majors
Effective 01-SEP-2022
Requisite Change: Prereq: Level at least 4A Sociology students
Rationale: To change prerequisites. Sociology minors have been allowed to take 400-level SOC courses as part of their plan requirements for many years now. Yet, the current (very outdated) prerequisites create an unnecessary barrier for our level 4A and higher Sociology minor students to take their desired 400-level courses.

Current Catalog Information
SOC 420 (0.50) SEM Seminar in Social Inequality
Analysis of social stratification and inequality in industrial societies, with emphasis on Canada. Issues of class, power, wealth, and occupational structure will be examined.
No Special Consent Required
Requisites: Prereq: Level at least 4A Sociology majors
Effective 02-SEP-2022
Description Change: This course provides students with the tools and vocabulary to understand inequality - how it is produced, how it is experienced and how it is contested in Canada and globally. Students will acquire knowledge about the historic foundations of contemporary inequalities, such as settler colonialism, and will examine proposed technological, political, and institutional solutions that sometimes mitigate inequalities of race, gender, and social class, and sometimes wind up reproducing them instead. Students will deepen their knowledge and expertise of these topics via discussion, research, writing, and class presentations.
Requisite Change: Prereq: Level at least 4A Sociology students
Rationale: To change description and prerequisites. We are updating 400-level SOC course descriptions to better reflect student learning outcomes. Sociology minors have been allowed to take 400-level SOC courses as part of their plan requirements for many years now. Yet, the current (very outdated)
prerequisites create an unnecessary barrier for our level 4A and higher Sociology minor students to take their desired 400-level courses.

Current Catalog Information
SOC  424  ( 0.50 )  SEM  Seminar in Sociology of Health
Current issues and debates within health care, including the social organization of the health care system and the socio-cultural determinants of health and illness, are examined from a sociological perspective.
No Special Consent Required
Requisites :
Effective  02-SEP-2022
Description Change: This interdisciplinary course will cover current issues and debates in health, health care, health care systems, and the socio-cultural aspects of population health and wellbeing. Students will 1) examine health, illness, and health care through a social determinants of health perspective; 2) gain a thorough understanding of the Canadian health care system, especially its strength and shortcomings with a global perspective; and 3) learn to compare and critically analyze different nations' health care policies.
Requisite Change :
Rationale :
To change description and prerequisites. We are updating 400-level SOC course descriptions to better reflect student learning outcomes. Sociology minors have been allowed to take 400-level SOC courses as part of their plan requirements for many years now. Yet, the current (very outdated) prerequisites create an unnecessary barrier for our level 4A and higher Sociology minor students to take their desired 400-level courses.

Current Catalog Information
SOC  430  ( 0.50 )  SEM  Special Topics in Sociology
An in-depth analysis of research in selected topics in sociology. [Note: This is a repeatable course, subject to different content; it may be completed a total of two times.]
No Special Consent Required
Requisites :
Effective  02-SEP-2022
Description Change: In this seminar course, students will have the opportunity to learn about a particular topic in the area of sociology or an interdisciplinary field. Students will gain in-depth analysis skills in this selected area of research. [Note: This is a repeatable course, subject to different content; it may be completed a total of two times.]
Requisite Change :
Rationale :
To change description and prerequisites. We are updating 400-level SOC course descriptions to better reflect student learning outcomes. Sociology minors have been allowed to take 400-level SOC courses as part of their plan requirements for many years now. Yet, the current (very outdated) prerequisites create an unnecessary barrier for our level 4A and higher
Sociology minor students to take their desired 400-level courses.

**Current Catalog Information**

SOC 432  (0.50)  SEM  Social Policy Analysis

Students will learn how to use sociological perspectives to critically review, evaluate, and critique social policy and will consider the social equity implications of public policy.

No Special Consent Required

**Requisites :**  
Prereq: Level at least 4A Sociology majors

**Effective  01-SEP-2022**

**Description Change:**

In this interdisciplinary course, students will examine social policy and learn how to conduct policy analysis. Students will develop an understanding of the importance of social policy and evidenced-based policymaking, a familiarity with key concepts in the field of social policy (including social justice, social equity and equality, and distributional issues and stakeholders), and how to effectively apply sociological perspectives and interdisciplinary approaches in policy content analysis. Students will also acquire and apply critical thinking and debate skills in social policy analysis and policy critique, as well as in research-policy translation.

**Requisite Change:**

Prereq: Level at least 4A Sociology students

**Rationale:**

To change description and prerequisites. We are updating 400-level SOC course descriptions to better reflect student learning outcomes. Sociology minors have been allowed to take 400-level SOC courses as part of their plan requirements for many years now. Yet, the current (very outdated) prerequisites create an unnecessary barrier for our level 4A and higher Sociology minor students to take their desired 400-level courses.

**Current Catalog Information**

SOC 440  (0.50)  SEM  Computational Social Science

The explosion of digital data is revolutionizing the way we learn about the world. This course focuses on the knowledge and skills necessary for doing high-quality social scientific research with digital data. Students will be introduced to the programming language Python, and will learn to collect and analyze digital data using computational methods. [Note: Previous knowledge of computer programming is not required.]

No Special Consent Required

**Requisites :**  
Prereq: Level at least 4A Sociology majors. Antireq: INTEG 475 (LEC 001) taken Winter 2018

**Cross-listed as:**

INTEG 440

**Effective  01-SEP-2022**

**Requisite Change:**

Prereq: Level at least 4A Sociology students. Antireq: INTEG 475 (LEC 001) taken winter 2018

**Rationale:**

To change prerequisites (SOC offering only). Sociology minors have been allowed to take 400-level SOC courses as part of their plan requirements for many years now. Yet, the current (very outdated) prerequisites create
Current Catalog Information

SOC  451 ( 0.50 )  SEM
Global Development
This course explores theoretical perspectives on development through an examination of the social and cultural consequences of development efforts across the globe. It offers an approach through cases and themes that may include conflict and inequalities, cultural constructions of peoples and places, global aid governance, and alternative approaches to development.
No Special Consent Required
Requisites :
Prereq: Level at least 4A Sociology majors
Effective  01-SEP-2022
Requisite Change :
Prereq: Level at least 4A Sociology students
Rationale :
To change prerequisites. Sociology minors have been allowed to take 400-level SOC courses as part of their plan requirements for many years now. Yet, the current (very outdated) prerequisites create an unnecessary barrier for our level 4A and higher Sociology minor students to take their desired 400-level courses.

Current Catalog Information

SOC  452 ( 0.50 )  SEM
Humanitarianism
This course explores the theoretical and historical background of humanitarianism, and offers an approach to this field through specific cases and themes that may include: the paradoxes of humanitarian intervention, war and humanitarianism, genocide and refugees, gendered bodies, and social justice activism.
No Special Consent Required
Requisites :
Prereq: Level at least 4A Sociology majors
Effective  01-SEP-2022
Requisite Change :
Prereq: Level at least 4A Sociology students
Rationale :
To change prerequisites. Sociology minors have been allowed to take 400-level SOC courses as part of their plan requirements for many years now. Yet, the current (very outdated) prerequisites create an unnecessary barrier for our level 4A and higher Sociology minor students to take their desired 400-level courses.

Current Catalog Information

SOC  459 ( 0.50 )  SEM
Sociology of Work and Occupations
This seminar examines major theoretical perspectives and issues in the sociology of work.
No Special Consent Required
Requisites :
Prereq: Level at least 4A Sociology majors
Effective  01-SEP-2022
Requisite Change :
Prereq: Level at least 4A Sociology students
Rationale :
To change prerequisites. Sociology minors have been allowed to take 400-level SOC courses as part of their plan requirements for many years now. Yet, the current (very outdated) prerequisites create an unnecessary barrier for our level 4A and higher Sociology minor students to take their desired 400-level courses.
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**COURSE INACTIVATIONS**

(For approval)

**Political Science**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Effective Date</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSCI 190</td>
<td>Special Studies</td>
<td>01-SEP-2022</td>
<td>The department already offers two quite rigorous courses at the 100-level that cover a range of topics. We therefore, do not anticipate needing to teach a special topics at the 100-level. Moreover, PSCI degree requirements require students to take 14 courses above the 200-level, so beyond PSCI 100 and PSCI 150, it is unlikely that students will need to or be interested in also taking PSCI 190. This course has not been offered in the last five years.</td>
</tr>
<tr>
<td>PSCI 350</td>
<td>Political Economy of Development</td>
<td>01-SEP-2023</td>
<td>This course has not been taught in the last five years and the department does not have the instructor resources to mount this course on a regular basis. The content is taught in other PSCI courses and in similar courses such as INDEV 200. The Political Economy of Development, which is an antirequisite to this course. Therefore, an interested student has the option of taking a similar course.</td>
</tr>
<tr>
<td>PSCI 434</td>
<td>Comparative Public Administration</td>
<td>01-SEP-2023</td>
<td>This course has not been taught in the last five years and the department does not have the instructor resources to mount this course on a regular basis. The content will be taught in a repeatable topics course in public administration that is likely to be taught more and will provide flexibility in both course content and also in who teaches it.</td>
</tr>
<tr>
<td>PSCI 451</td>
<td>Comparative Political Systems: Eastern Europe</td>
<td>01-SEP-2023</td>
<td>This course has not been taught in the last five years because none of our current faculty members has enough regional expertise to teach this course. The content is being covered in courses such as PSCI 355, Russia and its Neighbours, so a separate 400-level course is no longer needed.</td>
</tr>
<tr>
<td>PSCI 454</td>
<td>Topics in Politics in the Global South</td>
<td>01-SEP-2023</td>
<td></td>
</tr>
</tbody>
</table>

University of Waterloo
Undergraduate Catalog Report
Faculty of Arts

Page No. 13
Run Date 10-FEB-2022
Meeting Number(s) 53
Rationale: This course has not been taught in the past five years and the department does not have the instructor resources to mount this course on a regular basis. The content is taught in other PSCI courses and in similar INDEV courses. Therefore, an interested student has the option of taking similar courses.

Effective 01-SEP-2022
PSCI 458 (0.50)
Rationale: This course has not been taught in over five years and the department will not have the expertise in teaching to mount this course in the foreseeable future.

End of Report
4. Academic Plan Changes – Major Modifications [for approval]

4.1. Academic Unit: Renison University College – Culture and Language Studies

Effective Date: 01 September 2023

Plan Title(s): Diploma in East Asian Studies

Rationale: With the redefinition of diplomas, the East Asian Studies diploma is out of step with the University of Waterloo practice. The current version is identical to the East Asian Studies minor. The new version proposed here realigns with current practice, reducing the number of courses to four. Appropriate language courses may be used but are no longer required, as some students may wish to take a different path to the diploma. The note about EASIA 250R is no longer relevant and thus is removed.

Calendar text, including additions and deletions:

Students enrolled in any degree program or non- or post-degree academic plan may pursue the Diploma in East Asian Studies.

The Diploma in East Asian Studies requires successful completion of a minimum of four two academic course units (eight four courses) with a minimum cumulative diploma average of 65%, including:

- EASIA 100R
- four language courses (2.0 units) from CHINA, JAPAN, KOREA (not in the student’s first language)
- two courses (1.0 unit) from EASIA (see Note)
- one three courses (1.5 0.5 units) from the following:
  - any other EASIA course
  - any CHINA course
  - any JAPAN course
  - any KOREA course
  - GEOG 215
  - HIST 239
  - PSCI 259, PSCI 358, PSCI 479
  - RS 100, RS 204

Note

Students taking EASIA 250R are required to complete only one additional plan elective (0.5 unit) from the last section EASIA 250R is 1.0 unit and therefore counts as two EASIA courses.

Further Information

For further information, visit the East Asian Studies website.
5. Academic Plan Changes – Minor Modifications [for approval]

5.1. Academic Unit: Philosophy

Effective Date: 01 September 2023

Plan Title(s): Cognitive Science Minor

Rationale: The updated language reflects the current administrative structure of the Cognitive Science Minor (since it moved into the Philosophy department) and addresses some clarity issues. The entrance average was changed from 70% to 65% to match the average needed to earn the minor. The rationale for deleting the “must be approved” note is that, in practice, no students in the program have had their courses approved. The second note has been reworded and moved to the requirements list for clarity.

In the summer of 2021, the cognitive science advisor conducted a review of the required and elective courses for the cognitive science minor, with two goals: (1) add to the list of pre-approved electives courses with substantial cognitive-science content, and (2) remove courses that were no longer being offered, or were offered only irregularly with substantial cognitive-science content. The undergraduate chair of the philosophy department, the previous cognitive science advisor, and the undergraduate chairs of the four departments whose courses are included in the proposals below (computer science, kinesiology, management sciences, and psychology) were consulted.

No courses ended up being removed. Several proposed additions are more advanced treatments of topics that also appear in courses at the 200- or 300-level. The motivation for adding these courses also includes giving students greater flexibility in completing the cognitive science minor while navigating “counting” restrictions. For example, consider a student majoring in psychology, minoring in medical physiology and cognitive science, and interested in pursuing a career in neuroscience. The student takes PSYCH 307 (Human Neuropsychology), which could contribute to requirements of all three programs individually, but cannot count it towards all three due to counting restrictions. However, the student also took PSYCH 461 (Honours Seminar in Cognitive Neuroscience) because of their focus on neuroscience. By having PSYCH 461 on the list of pre-approved electives for the Cognitive Science Minor, we give this student more options for meeting the requirements; and the option is fully legitimate because PSYCH 461’s content is just as central to cognitive science as PSYCH 307’s.

The courses being added are as follows:

- CS 479: Neural Networks
- CS 480: Introduction to Machine Learning
- KIN 255: Fundamentals of Neuroscience
- KIN 357: Motor Learning
- KIN 359: Cognition, Cognitive Dysfunction, and Movement
- KIN 459: Cognitive, Emotional, and Motor Assessment
- MSCI 446: Introduction to Machine Learning
- PSYCH 458: Honours Seminar in Cognition
- PSYCH 461: Honours Seminar in Cognitive Neuroscience
Calendar text, including additions and deletions:

Admission

Applications may be submitted to the director cognitive science advisor at any time, and should include a transcript of grades and a brief (one-page) statement of the student's interest in cognitive science. Students applying should have at least a 65-70% average, and should have successfully taken completed at least one of the required courses.

Requirements

Students enrolled in any degree program may pursue a minor designation in Cognitive Science.

The Cognitive Science Minor requires successful completion of a minimum of four academic course units (eight courses) with a minimum cumulative average of 65%, including:

- PHIL 256/PSYCH 256
- three of
  - PHIL 447/PSYCH 447 (strongly recommended)
  - one of PSYCH 207, PSYCH 261
  - one of ENGL 306A, FR 303
  - one of COGSCI 300/PHIL 356; CS 486; ECE 457A; PSYCH 420; SYDE 522, SYDE 552/BIOL 487, SYDE 556
- four electives to be chosen, with no more than two in the same discipline, from the remaining courses in the list above or from the following:
  - ANTH 204
  - CS 349, CS 449, **CS 479, CS 480**, CS 484, CS 485
  - ECE 457B, ECE 486
  - ENGL 309A, ENGL 392B, ENGL 409A
  - INTEG 220/PHIL 290, INTEG 251
  - **KIN 255**, KIN 354, KIN 356, **KIN 357**, KIN 359, KIN 459
  - MSCI 343, **MSCI 446**, MSCI 452
  - PHIL 255, PHIL 363
  - PSYCH 101/PSYCH 101R, PSYCH 306, PSYCH 307, PSYCH 314, PSYCH 320, PSYCH 335, PSYCH 353, **PSYCH 458, PSYCH 461**
  - SYDE 533, SYDE 543, SYDE 548, SYDE 572
  - Relevant advanced seminars and topics courses in the participating academic units, approved by the director of the cognitive science Advisory Board advisor or the philosophy department undergraduate officer.

Notes

1. Course selection must be approved by the director of the Cognitive Science Minor or by the Philosophy Department undergraduate officer.
2. Courses in the "three of" category above can also be counted as electives if they are not counted toward the "three of" requirement.
Approval agenda

Courses
1. New (attachment 1)
2. Revised (attachment 1)

Academic Plan revisions (minor)
3. Business Option (attachment 2)
4. Climate and Environmental Change, Geography and Environmental Management, and Geomatics (Honours) (attachment 3)
5. Environment and Business (Honours) (attachment 4)
6. Environment, Resources and Sustainability (Honours) (attachment 5)
7. Geomatics (Honours and Joint) (attachment 6)
8. International Development, Practice and Research Specialization (Honours) (attachment 7)
9. Knowledge Integration (Honours) (attachment 8)

Academic Regulation revisions
10. Internal Transfer Credits – calendar text (attachment 9)

Information agenda
11. Editorial 2022/23 calendar changes (attachment 10)
NEW COURSES (for approval)

Environment, Enterprise & Development - School of

Effective 01-SEP-2023
INDEV 478 (0.50) SEM Governing the Commons

This course revolves around the definition, concepts, evolution, and approaches of 'commons' as an interdisciplinary field of study. 'Governing the Commons' focuses directly on the theory, practice, and policy pertaining to the commons and highlights the significance of collective action across multiple scales in responding to the complex sustainability and governance challenges facing our environment and society.

Requisites: Prereq: Level at least 4A. Antireq: INDEV 475/ERS 675/SUSM 675 Topic: Governing the Commons.
Rationale: The course has been jointly offered as a reading course, Governing the Commons (SUSM 675 / INDEV 475 / ERS 675), since 2016 with solid student interest. Short title: Governing the Commons

COURSE CHANGES (for approval)

Dean of Environment

Current Catalog Information
ENVS 210 (0.50) LEC, SEM Future Studies

Different ways of thinking about the future are considered by looking across genres, disciplines, and modes of expression. The course is structured into two parts: the first concentrates on representations of the future ranging from utopian to dystopian visions including their influence on collective perceptions and policy-making; the second centres on methods relied upon to anticipate the future.

No Special Consent Required
Requisites: Prereq: Level at least 2A
Rationale: The course is being offered as a topics course W22.

Effective 01-SEP-2023
Requisite Change: Prereq: Level at least 2A. Antireq: ENVS 274 003 W2022
Rationale: Course is being offered as a topics course W22.

Current Catalog Information
ENVS 474 (0.50) LAB, PRJ, SEM, TUT Special Topics in Environmental Studies

This course allows for additions to the program on a short-term basis, and for the development of future permanent courses. [Note: Field trip fee may be required]

Instructor Consent Required

Effective 01-SEP-2023
Title Change: Special Topics in Environment
Rationale: ENVS-labelled courses are now being referred to as Environment only. SUC approval April 13, 2021. Short title was changed and approved at October 2021 SUC (Env Special Topics).

Geography & Environmental Management

Current Catalog Information
GEOG 403 (0.50) DIS, LEC Eutrophication: From Process to Water-Quality Management
Eutrophication, caused by excess nutrients (phosphorus and nitrogen) entering water bodies, results in nuisance and harmful algal blooms, and is a major global threat to water quality and water security. This course explores eutrophication drivers, pressures, and impacts on the quality of freshwater systems, from watershed to global scales. Students will learn about the sources and biogeochemical cycling of nutrients along the aquatic (stream-river-lake) continuum, and ecological responses in receiving water bodies. Environmental thresholds for setting water-quality standards and nutrient criteria will be discussed. Students will learn about agricultural beneficial management practices and wastewater management to reduce nutrient inputs to freshwaters. Students will examine the benefits and challenges of sustainable nutrient stewardship in combating eutrophication, and learn about how this knowledge is used in water-quality management, through international examples.
No Special Consent Required
Requisites: Prereq: One of GEOG 201, GEOG 205, GEOG 209
Effective 01-SEP-2023
Component Change: DIS, LAB, LEC
Requisite Change: Prereq: One of GEOG 201, GEOG 205, GEOG 209. Antireq: GEOG 474
Rationale: The course was initially offered for the first time under Covid-19 restrictions (under the temporary course code GEOG 474), meaning that no in-person lab component was permitted. When the course was revised with its own course code, the lab component was not included. The experiential learning component provided by field and lab work is a core component of water-quality science. Adding the lab section to the course will provide students with the hands-on learning experience that was initially intended with the design of the course.

Environment, Enterprise & Development - School of

Current Catalog Information
ENBUS 211 (0.50) LEC Principles of Marketing for Sustainability Professionals
This course explores the principles of marketing with a focus on sustainability issues. Topics that will be explored include green consumerism; greenwashing, the incorporation of environmental considerations into successful products and services; the role of social marketing, government regulations, and other incentives related to green marketing. [Note: Formerly ENBUS 311]
No Special Consent Required
Requisites: Antireq: ENBUS 311, ECON/MGMT 344/ARBUS 302
Effective 01-SEP-2023
Requisite Change: Antireq: BUS 352W, ENBUS 311, MGMT/ECON 344, MGMT 244/ARBUS 302
Rationale: ECON/MGMT 344 was renumbered to 244. This list of antireqs for ENBUS 211 aligns with those listed for MGMT 244/ARBUS 302, except for GBDA 304, as it was deemed not necessary to list this course as it is only open to GBDA students. GBDA also saw value in leaving ENBUS 211 open as an elective to their students to further explore sustainability marketing. ECON and GBDA have been consulted.

Current Catalog Information
ENBUS 402A (1.00) PRJ, WSP Environment and Business Project
The application of the principles learned in earlier courses will focus on a particular project. Applications may include group projects of sufficient scope to demonstrate mastery of problem-solving, integration, and communication on a selected topic related to environment and business, or on selected environmental issues related to a specific business operation. [Note: An all-day retreat will be scheduled for the first Friday of term. Instructor must be informed if student is unable to attend.]
No Special Consent Required
Requisites: Prereq: ENBUS 302 or ENBUS 306; Level at least 4A Environment and Business or International Development students only. Antireq: ENBUS 403A

Effective 01-SEP-2023
Description Change: The application of the principles learned in earlier courses will focus on a particular project. Applications may include group projects of sufficient scope to demonstrate mastery of problem-solving, integration, and communication on a selected topic related to environment and business, or on selected environmental issues related to a specific business operation.

Requisite Change: Prereq: Level at least 4A Environment and Business or International Development students only. Antireq: ENBUS 403A
Rationale: The note has been removed from the description as the one-day retreat is no longer being held. Content taught in ENBUS 302 and 306 is no longer deemed to be required to be successful in ENBUS 402A/B. ENBUS 302 and 306 are normally taken in year three of the plan, but students have successfully completed them concurrently. This change aligns the prereqs for ENBUS 402A/B and ENBUS 403 A/B which are listed antireqs.
Agenda item 3:
Business Option - revision

Effective: September 2023

Rationale: ENBUS 211 is an antireq to MGMT 244 (see SA catalog item 2).

Revision: http://ugradcalendar.uwaterloo.ca/page/ENV-Business-Option

Requirements
One of: AFM 101, BUS 127W
One of: AFM 131, BUS 111W
One of: **ENBUS 211**, MGMT 244, BUS 352W
One of: HRM 200, MSCI 211, PSYCH 238
One of: ENBUS 102, ENBUS 302
Three of: AFM 102, one other AFM course, BET 350, BET 430, BET 450, BUS 452W, ECON 101, one other ECON course, ENBUS 112, ENBUS 211, ENBUS 314, ENVS 201, ENVS 401, PHIL 215, SPCOM 223
Agenda item 4: Climate and Environmental Change, Geography and Environmental Management, and Geomatics (Honours) - Revision

Effective: September 2023

Rationale: Institutional procedure for transferring between regular and co-op is to complete the Plan Modification form. Interviews and work experience related to the major do not have any bearing on this transfer process and have not been utilized in the past when considering transfers. The removal of this text from these plans aligns with the faculty’s current practices.

Remove note from:
http://ugradcalendar.uwaterloo.ca/page/ENV-Honours-Climate-Environmental-Change
http://ugradcalendar.uwaterloo.ca/page/ENV-Honours-Geomatics

Students are admitted to the co-op academic plan in first year based on secondary school grades. Interested students enrolled in first-year regular Geomatics at the University of Waterloo may be considered for admission (if space is still available in the co-op plan) at the end of first year based on university academic performance, an interview, and work experience related to Geomatics. The Honours Geomatics co-op plan has the same course requirements as the honours regular plan.
Agenda item 5: Environment and Business (Honours) - Revision

Effective: September 2023

Rationale: Moving ENBUS 405 (formerly ENBUS 307) from 2nd and 3rd year to 4th year to align with course number change (approved SUC April 2021).


Year two and year three

- One course from the following:
  - ENBUS 405 Introduction to Life Cycle Assessment
  - ENBUS 308 Sustainability Management Standards and Auditing
  - ENBUS 309 Applied Social Marketing
  - ENBUS 310 Introduction to Sustainable Finance
  - ENBUS 314 Sustainable Business Models
  - ENBUS 375 Special Topics in Environment and Business
  - HRM 200 Basic Human Resources Management
  - INDEV 308 Introduction to Social Entrepreneurship
  - PHIL 215 Professional and Business Ethics

Year four

- One of the following two options:
  - Option one: Two courses from the following:
    - ENBUS 405 Introduction to Life Cycle Assessment
    - ENBUS 406 Industrial Ecology: Sustainable Materials
    - ENBUS 407 Corporate Sustainability Accounting and Reporting
    - ENBUS 408 Best Practices in Regulations
    - ENBUS 410 Engaging Stakeholders
    - ENBUS 411 International Corporate Responsibility in Practice
    - ENBUS 475 Special Topics in Environment and Business
    - ENVS 401 Canadian Law, Indigenous Peoples, and Natural Resource Development
  - Option two:
    - GEOG 459 Energy and Sustainability (1.0 unit)
Agenda item 6: Environment, Resources and Sustainability (Honours) - revision

Effective: September 2023

Rationale: This rule no longer aligns with school and faculty practice.

Remove note: http://ugradcalendar.uwaterloo.ca/page/ENV-Honours-Environment-Resources-Sustainability

Transfer from Environment, Resources and Sustainability Co-op to Regular
Students will be permitted to transfer from co-op to the regular honours academic plan if all requirements of the co-op academic plan have been met up to the time of transfer.
Effective: September 2023

Rationale: MATH 136 and MATH 136L are co-requisites effective September 2022 (approved SUC November 2021). MATH 136L is not a requirement for these plans but is a requirement if enrolled in MATH 136. The note explains the implications of choosing MATH 136 and how it will affect plan averages.

Revision – Geomatics Honours: http://ugradcalendar.uwaterloo.ca/page/ENV-Honours-Geomatics

Year One

- **GEOG 101** Human Geographies: People, Space and Change
- **GEOG 102** Global Environmental Systems: Processes and Change
- **GEOG 181** Designing Effective Maps
- **GEOG 187** Geospatial Data Science
- **GEOG 281** Introduction to Geographic Information Systems (GIS)
- **ENVS 178** Environmental Applications of Data Management and Statistics
- One of:
  - **ENGL 109** Introduction to Academic Writing
  - **EMLS 129R** Written Academic English
- One of:
  - **CS 115** Introduction to Computer Science 1
  - **CS 135** Designing Functional Programs
- One of:
  - **CS 116** Introduction to Computer Science 2
  - **CS 136** Elementary Algorithm Design and Data Abstraction (see note 5)
- One of:
  - **MATH 106** Applied Linear Algebra 1
  - **MATH 114** Linear Algebra for Science

Revision – Geomatics Joint Honours: http://ugradcalendar.uwaterloo.ca/page/ENV-Joint-Honours-Geomatics

Requirements

- One of:
  - **GEOG 181** Designing Effective Maps
  - **GEOG 187** Geospatial Data Science
- All of:
  - **GEOG 271** Earth from Space Using Remote Sensing
- **GEOG 281** Introduction to Geographic Information Systems (GIS)
- **GEOG 310** Geodesy and Surveying
- **GEOG 371** Advanced Remote Sensing Techniques
- **GEOG 381** Advanced Geographic Information Systems
- **GEOG 387** Spatial Databases
- **GEOG 471** Remote Sensing Project (1.0 unit)
- **GEOG 481** Geographic Information Systems Project (1.0 unit)
- **CS 234** Data Types and Structures
- **CS 338** Computer Applications in Business: Databases
- **ENVS 278** Applied Statistics for Environmental Research

  - One of:
    - **CS 115** Introduction to Computer Science 1
    - **CS 135** Designing Functional Programs

  - One of:
    - **CS 116** Introduction to Computer Science 2
    - **CS 136** Elementary Algorithm Design and Data Abstraction (see note 3)

  - One of:
    - **MATH 106** Applied Linear Algebra 1
    - **MATH 114** Linear Algebra for Science

Additional note for both plan sections:

New note:

**CS 136**

Students who opt to take CS 136 are required to take CS 136L as they are listed corequisites. CS 136L will be included in the cumulative special average (see note 2) and used towards the total unit requirement (see note 1). A passing grade in CS 136L is not a requirement for this plan.
Agenda item 8:
International Development, Practice and Research Specialization (Honours) -Revision

Effective: September 2023

Rationale: Addition of ENBUS 403A and 403B gives INDEV students the additional option to develop an entrepreneurship project as their capstone project. Changes to the Year Three requirements and removal of the note reflects the prerequisite change for ENBUS 402A (see attachment 1).


Year Three

- **INDEV 200** The Political Economy of Development
- **INDEV 308** Introduction to Social Entrepreneurship
- **INDEV 387** Global Cities in Global Development
- **ENBUS 309** Applied Social Marketing
- **ERS 315** Environmental and Sustainability Assessment 2
- **MSCI 211** Organizational Behaviour
- One of:
  - **INDEV 300** Culture and Ethics
  - **INTEG 221** The Social Nature of Knowledge
  - **PHIL 202/GSJ 222** Gender Issues
- One of:
  - **Option one:**
    - **ENBUS 306** Research Design
    - Electives totaling 1.0 unit
  - **Option two:**
    - Electives totaling 1.5 units

**Electives totaling 1.5 units**

Total of 5.0 units

Note: Students opting to complete **ENBUS 402A** and **ENBUS 402B** in Year Four for the Research Specialization must successfully complete **ENBUS 306** prior to enrolment.

Year Four

*Practice Specialization*

- **INDEV 401** International Development Placement 1 (1.5 units)
- **INDEV 402** International Development Placement 2 (1.5 units)
- **INDEV 476** Contemporary Issues in Development Practice
- Electives totaling 1.5 units

Total of 5.0 units.

Note: The International Development capstone event is a mandatory component of **INDEV 402**. The event is scheduled during the last week of April and first week of May.

**Research Specialization**

- **INDEV 404** International Development Theory
- **INDEV 475** Contemporary Development Issues
- One of:
  - **INDEV 490A** and **INDEV 490B** Honours Thesis Project (1.5 units)
  - **ENBUS 402A** and **ENBUS 402B** Environment and Business Project (1.5 units)
  - **ENBUS 403A** and **ENBUS 403B** Sustainable Entrepreneurship Project (1.5 units)
- Electives totaling 2.5 units

Total of 5.0 units
Agenda item 9:
Knowledge Integration (Honours) - Revision

Effective: September 2023

Rationale: Clarifying the process for substituting the Research Design and Methods requirement.

Revision: http://ugradcalendar.uwaterloo.ca/page/ENV-Honours-Knowledge-Integration

Year Three

- INTEG 10 Knowledge Integration Seminar (0.0 unit)
- NTEG 320 The Museum Course: Research and Design
- INTEG 321 The Museum Course: Practicum and Presentation (0.75 unit)
- INTEG 340 Research Design and Methods (see Note 4)
- Electives or Breadth Course requirements* totaling 3.5 units

Total of 5.25 units

Year Four

- INTEG 10 Knowledge Integration Seminar (0.0 unit)
- INTEG 420A and INTEG 420B Senior Research Project (see Note 5-6) (1.5 unit)
- Electives or Breadth Course requirements* totaling 3.5 units

Total of 5.0 units

Notes

4. Research Methods Course Requirement
   INTEG 340 can be substituted with an alternative research methods course with approval from the associate chair undergraduate, Knowledge Integration.

6. Senior Honours Project
   Students completing a joint or concurrent degree that includes an equivalent senior research project may request that the associate chair, undergraduate studies, Knowledge Integration, approve the associated courses as equivalent to INTEG 420A and INTEG 420B.
   Note that there may be additional requirements involved in such an arrangement, which is required to be formally organized in advance of taking the equivalent course sequence.
Agenda item 10:
Internal transfer credit – Revision

Effective: September 2023

Rationale: Aligning calendar text with practice. Clearing after an absence doesn’t happen unless the absence was the result of a failed standing.


A student transferring to a Faculty of Environment academic plan from within the University, or former Faculty of Environment students returning after an absence a failed standing, will have their previous Waterloo courses assessed for internal transfer credit. If it is determined to be in the student’s best interest, their prior University of Waterloo record will be cleared; all courses will remain on the student’s academic record, but the grades achieved will not be included in the calculation of cumulative plan averages. Cleared courses with a grade of 50% or better will contribute credits towards a degree up to the University maximum allowance.
### Plan / Calendar section

<table>
<thead>
<tr>
<th>Plan / Calendar section</th>
<th>Course change</th>
<th>Action</th>
<th>Reason</th>
<th>effective date</th>
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<td>Parks Minor</td>
<td>BIOL 490</td>
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<td>course number change approved SUC April 13, 2021</td>
<td>1-Sep-22</td>
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<tr>
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<td>no longer offered</td>
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<td></td>
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<td>this information is contained in the ENV course, enrolment and grades section (<a href="http://ugradcalendar.uwaterloo.ca/page/ENV-Courses-Enrolment-and-Grades">http://ugradcalendar.uwaterloo.ca/page/ENV-Courses-Enrolment-and-Grades</a>) of the calendar.</td>
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<td>course number and title change approved SUC April 13, 2021</td>
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<td>mirrors the name of the specialization (theme)</td>
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<td>PLAN 471</td>
<td>update course description: Ontario Municipal Board to Ontario Land Tribunal</td>
<td>name change</td>
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</table>
1. Course Changes
   1.1. CS 135
   1.2. CS 476, CS 479, CS 482
   1.3. CS 116, CS 230, CS 231, CS 234, CS 330, CS 335

2. Academic Plan Changes - Minor Modifications
   2.1. Computing Minor
COURSE CHANGES (for approval)

Computer Science - David R. Cheriton School of

Current Catalog Information

CS 116 (0.50) LAB, LEC, TST, TUT Introduction to Computer Science 2
This course builds on the techniques and patterns learned in CS 115 while making the
transition to use of an imperative language. Generative and structural recursion.
Mutation (assignment) and its role in an imperative language. Primitive types and
basic I/O. Sequencing, selection, looping. Function definition and use. File and
console I/O. Issues in computer science. [Offered: F,W,S]
No Special Consent Required
Requisites:
Prereq: CS 115 or 135 or 145. Antireq: CS 136, 137, 138, 146, PHYS 236,
239, MSCI 240, NE 111
Effective 01-SEP-2023
Requisite Change: 
Prereq: CS 115 or 135 or 145. Antireq: CS 114, CS 136, 137, 138, 146, PHYS
236, 239, MSCI 240, NE 111
Rationale: CS 114 and CS 116, though not equivalent in depth of competence, have
enough overlap that they should be both antirequisite of each other. This
modification corrects an oversight that should have been addressed at the
creation of CS 114.

Current Catalog Information

CS 135 (0.50) LAB, LEC, TST, TUT Designing Functional Programs
An introduction to the fundamentals of computer science through the application of
elementary programming patterns in the functional style of programming. Syntax and
semantics of a functional programming language. Tracing via substitution. Design,
testing, and documentation. Linear and nonlinear data structures. Recursive data
definitions. Abstraction and encapsulation. Generative and structural recursion.
Historical context. [Note: See Note 2 above. Offered: F,W]
No Special Consent Required
Requisites:
Antireq: BME 121, CS 115, 137, 138, 145, CIVE 121, ECE 150, ME 101, MSCI
121, PHYS 236, SYDE 121
Effective 01-SEP-2023
Requisite Change: 
Antireq: AE 121, BME 121, CS 115, 137, 138, 145, CIVE 121, ECE 150, ME 101,
MSCI 121, PHYS 236, SYDE 121
Rationale: Add AE 121 as an antireq. AE121 is a new(ish) course which is very similar
to CIVE121. Engineering is already stopping students from counting CS135 if
they have taken AE121 and have asked us to consider adding AE121 to our
list of antirequisites. Note that AE121 is not a substitute for CS135.

Current Catalog Information
CS 230 (0.50) LAB, LEC, TST, TUT Introduction to Computers and Computer Systems
Basic computer architecture, organization, system services, and software. Typology of processors, memory, I/O devices and their performance. [Note: Lab is not scheduled and students are expected to find time in open hours to complete their work. Offered: W,S]
No Special Consent Required
Requisites:
Prereq: One of CS 116, 136, 138, 146; Not open to Computer Science students. Antireq: BME 292/393, CS 241, 251, SYDE 192
Effective 01-SEP-2023
Requisite Change:
Prereq: One of CS 116, 136, 138, 146, or (CS114 with at least 60%; CS 115 and CS 135); Not open to Computer Science students. Antireq: BME 292/393, CS 241, 251, SYDE 192
Rationale:
Add CS114 with >=60% and CS115/CS135 as a pre-req to any CS minor course which has the prerequisite CS116. This creates pathways for Science students to enrol into our programs if they are interested.

Current Catalog Information
CS 231 (0.50) LAB, LEC, TST, TUT Algorithmic Problem Solving
The study of the steps required to solve real-world problems on a computer, including problem specification, choice of algorithmic paradigm, analysis, and implementation. Topics include exhaustive search, divide and conquer, greedy, and dynamic programming approaches. [Note: Lab is not scheduled and students are expected to find time in open hours to complete their work. Offered: S]
No Special Consent Required
Requisites:
Prereq: One of CS 116, 136, 138, 146; Not open to Computer Science students. Antireq: BME 122, CS 341, ECE 250, MSCI 240, MTE 140, SYDE 223
Effective 01-SEP-2023
Requisite Change:
Prereq: One of CS 116, 136, 138, 146, or (CS 114 with at least 60%; CS 115 and CS 135); Not open to Computer Science students. Antireq: BME 122, CS 341, ECE 250, MSCI 240, MTE 140, SYDE 223
Rationale:
Add CS114 with >=60% and CS115/CS135 as a prerequisite to any CS minor course which has the prerequisite CS116. This creates pathways for Science students to enrol into our programs if they are interested.

Current Catalog Information
CS 234 (0.50) LAB, LEC, TST Data Types and Structures
Top-down design of data structures. Using representation-independent data types. Introduction to commonly used data types, including lists, sets, mappings, and trees. Selection of data representation. [Note: Lab is not scheduled and students are expected to find time in open hours to complete their work. Offered: F,S]
No Special Consent Required
Requisites:
Prereq: One of CS 116, 136, 138, 146; Not open to Computer Science students. Antireq: BME 122, CS 240, ECE 250, MSCI 240, MTE 140, SYDE 223
Effective 01-SEP-2023
Requisite Change:
Prereq: One of CS 116, 136, 138, 146, or (CS 114 with at least 60%; CS 115
and CS 135); Not open to Computer Science students.
Antireq: BME 122, CS 240, ECE 250, MSCI 240, MTE 140, SYDE 223
Rationale:
Add CS114 with >=60% and CS115/CS135 as a pre-req to any CS minor course which has pre-req CS116. This creates pathways for Science students to enrol into our programs if they are interested.

Current Catalog Information
CS 330 (0.50) LEC, TST Management Information Systems
An introduction to information systems and their strategic role in business. Topics include types of information systems, organizational requirements, systems development strategies, decision support systems, data and information management, and information systems management, control and implementation. [Offered: F,W,S]
No Special Consent Required
Requisites:
Effective 01-SEP-2023
Requisite Change:
Prereq: One of CS 106, 116, 136, 138, 146, or (CS 114 with at least 60%; CS 115 and CS 135); Level at least 2B; Not open to Computer Science students.
Antireq: AFM 241, BUS 415W, 486W, CS 480/490, MSCI 441
Rationale:
Add CS114 with >=60% and CS115/CS135 as a prerequisite to any CS minor course which has prerequisite CS116. This creates pathways for Science students to enrol into our programs if they are interested.

Current Catalog Information
CS 335 (0.50) LEC, TST Computational Methods in Business and Finance
No Special Consent Required
Requisites:
Prereq: (One of CS 116, 136, 138, 146); MATH 136 or 146, MATH 237 or 247, STAT 231 or 241; Not open to Computer Science students. Antireq: AMATH 242/CS 371, CS 370, MTE 204
Effective 01-SEP-2023
Requisite Change:
Prereq: (One of CS 116, 136, 138, 146, or (CS 114 with at least 60%; CS 115 and CS 135)); MATH 136 or 146, MATH 237 or 247, STAT 231 or 241; Not open to Computer Science students.
Antireq: AMATH 242/CS 371, CS 370, MTE 204
Rationale:
Add CS114 with >=60% and CS115/CS135 as a prerequisite to any CS minor course which has prerequisite CS116. This creates pathways for Science students to enrol into our programs if they are interested.

Current Catalog Information
CS 476 (0.50) LAB, LEC, TST Numeric Computation for Financial Modeling
The interaction of financial models, numerical methods, and computing environments.
Basic computational aspects of option pricing and hedging. Numerical methods for stochastic differential equations, strong and weak convergence. Generating correlated random numbers. Time-stepping methods. Finite difference methods for the Black-Scholes equation. Discretization, stability, convergence. Methods for portfolio optimization, effect of data errors on portfolio weights. [Note: Lab is not scheduled and students are expected to find time in open hours to complete their work. Students who receive a good grade in CS 335 may contact the instructor of CS 476 to seek admission without the formal prerequisites. Offered: W]

Requisites:

Prereq: (AMATH 242/CS 371 or CS 370) and STAT 231/241

Effective 01-SEP-2023

Requisite Change:

Prereq: (AMATH 242/CS 371 or CS 370) and (STAT 206 with at least 60% or STAT 231 or STAT 241)

Rationale:

Add "STAT 206 with at least 60%". This change makes it easier for Software Engineering (SE) students to take CS courses. SE students take STAT 206 instead of STAT 230/240 and STAT 231/241. Statistics was consulted to check how STAT 206 is related to the courses that BCS and Math students take and have adjusted the pre-requisites to reflect their recommendations.

Current Catalog Information

CS 479 (0.50) LAB, LEC, TST Neural Networks

No Special Consent Required

Requisites:

Prereq: STAT 230; One of CS 335, CS 370, CS 371/AMATH 242

Effective 01-SEP-2023

Requisite Change:

Prereq: One of CS 335, CS 370, CS 371/AMATH 242; and (STAT 206 with at least 60% or STAT 230 or STAT 240)

Rationale:

Add "STAT 206 with at least 60%" and STAT 240 to prerequisites. This change makes it easier for Software Engineering (SE) students to take CS courses. SE students take STAT 206 instead of STAT 230/240 and STAT 231/241. Statistics was consulted to check how STAT 206 is related to the courses that BCS and Math students take and have adjusted the pre-requisites to reflect their recommendations.

Current Catalog Information

CS 482 (0.50) LEC, TST, TUT Computational Techniques in Biological Sequence Analysis
Computer science principles and algorithms in biological sequence analysis. Topics include algorithms for sequence comparison, for large-scale database search in biological databases, for sequence assembly, for evolutionary tree reconstruction, for identifying important features in DNA and RNA sequences, and underlying
computational techniques for understanding strings and trees and for making probabilistic inferences. [Offered: W]

No Special Consent Required

Requisites:

Effective 01-SEP-2023

Prereq: CS 341, STAT 241 or at least 60% in STAT 231

Requisite Change:

Prereq: CS 341 and (STAT 206 with at least 70% or STAT 231 with at least 60% or STAT 241)

Rationale:

Add "STAT 206 or STAT 231 or STAT 241" and delete STAT 231/241 as prequisites. This change makes it easier for Software Engineering (SE) students to take CS courses. SE students take STAT 206 instead of STAT 230/240 and STAT 231/241. Statistics was consulted to check how STAT 206 is related to the courses that BCS and Math students take and have adjusted the pre-requisites to reflect their recommendations.

End of Report
2 Academic Plan Changes - Minor Modifications

2.1. Computing Minor

Effective Date: 1 September 2023

Background and Rationale: CS114 (Principles of Computing for Science) is a new course first offered in Fall 2021. It is a core part of the Physics curriculum and has been developed in consultation with the Physics department. Students taking this course can no longer take the Computing Minor without foregoing the CS 114 credit given it being antirequisite to CS 116. Adding CS 114 as a requirement to the Computing Minor, as an alternative to the “One of CS 116, CS 136, or CS 146” requirement, along with the course changes seen in this package (adding CS 114 as a potential prerequisite to many CS upper-year courses) improve science students access to the minor.

(http://ugradcalendar.uwaterloo.ca/page/MATH-Computing-Minor)
Memorandum

To: Rebecca Wickens, Associate University Secretary
CC: Chris Read, Associate Provost, Students

From: Pam Charbonneau, Director, Student Success Office (SSO)
Sacha Geer, Manager, International Mobility and Intercultural Learning, SSO
Sandra López-Rocha, Intercultural Learning Specialist, SSO

Date: January 31st 2022

RE: For your information – Course updates and cross-listing within the Global Experience Certificate (GEC)’s course listing for the 2022-2023 calendar

The following two edits were implemented to the GEC’s Global Learning course list to correspond with approved changes to the undergraduate calendar:

1) HRTS 202 became HRTS 302. This reflects a course name update.

2) RS 319 became RS 244. This reflects a course name update and, since this course was also cross listed with CNDST 244, it has also been listed as such in the GEC course list.

The changes above are shared for your information. They do not require further action.
1. REGULATIONS
   1.1. Posthumous Degrees and Certificates of Enrolment
1. REGULATIONS

1.1. Posthumous Degrees and Certificates of Enrolment

**Effective date:** May 1, 2022. The intention is that the new rule will be implemented for all current students as of the effective date – it is not tied to their program requirement term – and it will first appear in the 2021-2022 Undergraduate Studies Academic Calendar.

**Background and rationale:** New text for Posthumous Degrees and Certificates of Enrolment has been generated for the Undergraduate Studies Academic Calendar to formalize the University of Waterloo’s practices regarding the criteria for granting posthumous degrees and to offer certificates of enrolment for when posthumous degree criteria is not met. The University’s reputation was considered in the development of the criteria.

The new Certificate of Enrolment is considered as a certificate of participation, and as such will not be treated as an earned credential (see notes below). **Definitions** for certificate and credential will be updated to make this distinction clear.

The proposed wording is consistent with what has been approved for the Graduate Studies Academic Calendar and graduate-level posthumous degrees (i.e., percentage of coursework and possibility of degree enrolment certificate). Graduate-level criteria went into effect as of spring 2021 and will be published in the Graduate Studies Academic Calendar when the undergraduate-level criteria has been approved.

**Proposed Undergraduate Calendar text:**

**Section of Calendar:** University Policies, Guidelines, and Academic Regulations

**New Calendar page:** Posthumous Degrees and Certificates of Enrolment

Posthumous degrees can be granted to an undergraduate student who, at the time of their death, was pursuing the completion of a University of Waterloo undergraduate degree. If a student is terminally ill, similar criteria can be used, and the approval of the degree expedited.

Senate has delegated the authority to award posthumous degrees to the university registrar and the associate vice president, academic. Typically, the associate provost, students (or designate) and/or associate dean, undergraduate from the student’s home faculty, in collaboration with the relevant academic unit head, initiates the process for recommending a posthumous degree to the university registrar and associate vice president, academic.

**Criteria to grant a posthumous degree:**

- Normally, 50% or more of the degree’s total required units are completed successfully.

**Notes**

1. Any declared majors, minors, options, and specializations, with 50% or more units successfully completed, are also noted on the posthumous degree.
2. Certificates and diplomas will not be considered to be awarded posthumously.
3. If 50% or more of the declared program’s total required units have not been completed, but the student has completed a minimum of 50% of the total required units for a different program, that alternate credential will be noted on the awarded
posthumous degree. For example, granting Three-Year General Liberal Studies instead of Honours Anthropology.

4. Only the student’s transcript will indicate that the degree was granted posthumously.

Criteria to grant a posthumous Certificate of Degree Enrolment:

- When the 50% academic requirement threshold for a posthumous degree has not been met.

Notes

1. The Certificate of Degree Enrolment is not considered a credential and will not be recognized during formal convocation exercises.
2. The Certificate of Degree Enrolment will be noted on the transcript as transcript text.
NEW UNDERGRADUATE SCHOLARSHIPS, AWARDS, and BURSARIES

to be added to the Undergraduate Awards Database

- submitted for February 15, 2022 meeting of Senate Undergraduate Council -

ENTRANCE AWARDS

4KPi Award for Black and Indigenous Students in Mathematics
Two awards, valued at $12,566.37 each, will be provided annually to deserving Black or Indigenous students entering Year One of any co-op undergraduate degree program within the Faculty of Mathematics (excluding Software Engineering) in full-time studies. For the purpose of this scholarship, an Indigenous person is a person who self identifies as First Nations (Status/Non-Status), Métis, and/or Inuit. Candidates must be a Canadian citizen, permanent resident, or a protected person in Canada. Selection is based on an application statement wherein students are asked to describe the impact this award will have on their pursuit of post-secondary studies. Interested students should submit an online application by April 15. This fund was made possible by Jay Biskupski (BMath ’81) and Catherine Imrie. Their hope is to reduce financial stress for first-year marginalized students, giving them a more equitable playing field.

Method of Financing: annual donation (ten-year pledge)

Faculty of Arts Black Student Entrance Award
Two awards, valued at up to $20,000 paid over eight academic terms, will be provided to Black undergraduate students entering Year One of any full-time degree program in the Faculty of Arts. Selection will be based on a combination of academic achievement and community involvement through extracurricular and/or volunteer activities. Preference will be given to students who best describe what receiving this award would mean to their pursuit of post-secondary studies. To be considered, students must submit an online award application by April 15. Recipients will receive $2,500 per academic term for up to eight terms (1A-4B). Payments beyond Year One are dependent on maintaining a minimum overall average of 70% and full-time enrolment in the Faculty of Arts.

Method of Financing: Faculty funds (five-year commitment)

Faculty of Arts Indigenous Student Entrance Award
Two awards, valued at up to $20,000 paid over eight academic terms, will be provided to Indigenous undergraduate students entering Year One of any full-time degree program in the Faculty of Arts. For the purpose of this award, an Indigenous person is one who self-identifies as First Nations (Status/Non-Status), Métis, and/or Inuit. Selection will be based on a combination of academic achievement and community involvement through extracurricular and/or volunteer activities. Preference will be given to students who best describe what receiving this award would mean to their pursuit of post-secondary studies. To be considered, students must submit an online award application by April 15. Recipients will receive $2,500 per full-time academic term for up to eight terms (1A-4B). Payments beyond Year One are dependent on maintaining a minimum overall average of 70% and full-time enrolment.

Method of Financing: Faculty funds (five-year commitment)

Barji and Gulab Scholarship for Women in Computer Science
One scholarship, valued at $15,000, will be awarded to a female student, currently living in India, who is entering Year One of an undergraduate Computer Science program in the David R. Cheriton School of Computer Science (excluding Software Engineering), wherein women are underrepresented. Selection will be based on academic excellence combined with extracurricular and leadership involvement as assessed through the Mathematics Global Scholarship application. Interested students must submit an application by February 9th, 2022. This fund is made possible by a donation from Namrata, Juhie, Trisha, and Aditya Shivam Kothari (BCS ‘20) in honour of their grandmothers. Both women were pioneers in their time for encouraging higher education for their granddaughters in India.

Method of Financing: one-time award
Umra Vati Goyal Memorial Scholarship
A scholarship, valued at $5,000, will be awarded to an outstanding undergraduate female student entering Year One of an eligible STEM program (science, technology, engineering or math) wherein women are underrepresented. Selection is based on academic excellence. Depending on the program, consideration may also be given to extracurricular achievements as assessed through the Admission Information Form (Engineering and Mathematics), an online video interview (Engineering) as well as contest scores assessed through the Centre for Education in Mathematics and Computing (Mathematics). This fund is made possible by a donation from Amrit Goyal in honour of his mother, Umra Vati Goyal, and to support the next generation of women in STEM.

*Method of Financing: one-time donation (to support scholarship for two years)*

Grand Valley Mathematics Association Entrance Scholarship
A scholarship, valued at $2,000, will be awarded annually to a full-time undergraduate student entering Year One of any program in the Faculty of Mathematics. Selection is based on academic excellence, extracurricular activities as assessed through the Admission Information Form (AIF), and contest scores as assessed through the Centre for Education in Mathematics and Computing (CEMC). Eligible students must live in a jurisdiction represented by the GVMA at the time of admission. These counties include: Brant, Bruce, Dufferin, Grey, Halton, Huron, Norfolk, Oxford, Perth, Waterloo, Wellington, and Wentworth. This fund is made possible by a donation from Grand Valley Mathematics Association. The GVMA is a chapter of the Ontario Association for Mathematics Education (OAME). As a volunteer organization, GVMA's goal is to promote excellence in mathematics education through professional development conferences, seminars, research and publications, student competitions and scholarships.

*Method of Financing: annual donation (five-year pledge)*

Andrew Heunis Entrance Award
An award, valued at up to $3,000, will be provided annually to a full-time undergraduate student enrolled in Year One of Computer or Electrical Engineering. Selection will be based on academic excellence, the Admission Information Form, online interview, and demonstrated financial need as determined by Waterloo. To be considered, students must complete the University of Waterloo Entrance Bursary application by April 15. This fund is made possible by a donation from Will Jiang in honour of Professor Andrew Heunis, whose teachings had an instrumental impact, and continue to be used as foundational pillars in Will's life.

*Method of Financing: endowment*

Joyce Scholars Awards
Three awards, valued at up to $20,000 each over eight academic terms, will be awarded annually to deserving undergraduate students entering Year One of any program, in any Faculty. To be considered, students must be a Canadian citizen, permanent resident, or a protected person in Canada, as well as a resident of Ontario, and have graduated from high school within the last three years. Preference will be given to students from the Region of Waterloo. Selection will be based on a combination of demonstrated financial need, as determined by the University of Waterloo, a statement describing the impact this award will have on their ability to pursue their educational goals and a reference letter from an individual who is aware of the student’s personal circumstances and can speak to their resilience in the face of adversity and potential for success in their post-secondary studies. Selected students must commit to working with a mentor throughout their undergraduate studies. Interested students must complete the Joyce Scholars Award application as well as the University of Waterloo Entrance Bursary online application by April 15. This fund is made possible by a generous donation from The Joyce Family Foundation, which is committed to providing access to education for youth who face significant financial barriers and have demonstrated the ability to overcome obstacles and adversity.

*Method of Financing: endowment*
NEW UNDERGRADUATE SCHOLARSHIPS, AWARDS, and BURSARIES

to be added to the Undergraduate Awards Database

- submitted for February 15, 2022 meeting of Senate Undergraduate Council -

Rod Kuehn Memorial Scholarship
A scholarship, valued at $3,200, will be awarded annually to an outstanding full-time undergraduate student entering Year One of Chemical Engineering. This scholarship is made possible by donations from alumni of the Chemical Engineering class of 1982 who collectively wanted to honour the memory of their classmate and friend, Rod Kuehn, a passionate engineer and outdoor enthusiast.

Method of Financing: one-time donation (to support scholarship for five years)

June Lowe Entrance Scholarship
A scholarship, valued at $2,500, will be provided annually to a full-time undergraduate student entering Year One of any program in the Faculty of Engineering. This fund is made possible by a donation from June Lowe who taught first-year engineering students for over four decades at the University of Waterloo.

Method of Financing: one-time donation (to support scholarship for four years)

Noor Ming Entrance Award
An award, valued at $10,000, will be provided annually to a full-time undergraduate student enrolled in Year One of any program in the Faculty of Engineering. Selection will be based on a combination of academic excellence, extracurricular and leadership involvement as assessed through the Admission Information Form and online interview, and on demonstrated financial need as determined by Waterloo. To be considered, students must complete the University of Waterloo Entrance Bursary application by April 15. This fund is made possible by a donation from Hussain Sheikh (BASc ’13), in honour of his nephew Noor Ming, to inspire and support the next generation of engineers.

Method of Financing: annual donation (five-year pledge)

Ontario Professional Engineers Foundation for Education Entrance Scholarships
Two scholarships, valued at $1,500 each, will be provided annually to full-time undergraduate students enrolled in Year One of a CEAB-Accredited program in the Faculty of Engineering and who graduated with an Ontario Secondary School Diploma. At least one of the two scholarships will be provided to a female student enrolled in an Engineering program in which women are underrepresented. This fund is made possible by a donation from Ontario Professional Engineers Foundation for Education to acknowledge the hard work of engineering students and promote the relevancy of becoming a licensed professional engineer.

Method of Financing: renewal of annual donation (five-year pledge)

Robert Otway Scholarship
Two scholarships, valued at $2,500 each, will be awarded annually full-time undergraduate students entering Year One of Civil Engineering. This fund is made possible by a donation from Robert Otway (BASc ’85) who has enjoyed a fulfilling career in the construction industry and wishes to help the next generation of engineering students succeed.

Method of Financing: annual donation (five-year pledge)
AWARDS FOR CURRENT STUDENTS

Bradley Family Upper-Year Scholarship for Women in Mathematics
A scholarship, valued at $2,000, will be awarded annually to a full-time female undergraduate student enrolled in Year Three or Four of any program in the Faculty of Mathematics wherein women are underrepresented. Candidacy is limited to Canadian citizens and permanent residents of Canada. Selection is based on academic excellence (minimum 80% cumulative average) combined with an interest in research in the areas of data analytics, coding, computer science, or artificial intelligence. Interested students should submit an application by October 15. This fund is made possible by a donation from Paul Bradley, along with his daughter Leanne (BMath ’94), to encourage women to continue their interest in research.

*Method of Financing: annual donation (five-year pledge)*

Carson Family Scholarship in Computer Science
Three scholarships, valued at $10,000 each, will be awarded annually to full-time undergraduate students enrolled in Year Two, Three, Four, or Five of a co-op program in the David R. Cheriton School of Computer Science. Selection is based on academic excellence (minimum 80% cumulative average) combined with demonstrated leadership abilities in extracurricular activities, volunteer activities, mentorship, athletics, and/or public service. Applicants will also be asked to answer a creative writing question to demonstrate their communication skills. Interested students should submit an application by October 1. This fund is made possible by a donation by The Carson Family Charitable Foundation.

*Method of Financing: annual donation (ten-year pledge)*

Class of 1991 Systems Design Engineering Award
An award, valued at up to $1,900, will be provided annually to a full-time undergraduate student enrolled in Year Two of Systems Design Engineering. Selection is based on academic achievement (minimum 70% cumulative average) combined with contributions to the student experience through involvement in extracurricular or volunteer activities. Interested students should submit an application by February 15. This fund is made possible by a donation from the Systems Design Engineering Class of 1991 in celebration of their 30th anniversary and to support of the next generation of Systems Design Engineering students.

*Method of Financing: endowment*

Croatian Language Learning Award
Several awards, valued at $250 each, will be provided to undergraduate and/or graduate students who have successfully completed CROAT 101 or CROAT 102 in the Department of Germanic and Slavic Studies. Selection is made on the basis of academic achievement and the availability of funds in each fiscal year. Recipients must have achieved a minimum of 75% in the course.

*Method of Financing: endowment*

Ross and Doris Dixon Charitable Foundation Co-op Access Award
These awards are available to co-op students embarking on the first co-op work term which is deemed to be unpaid, underpaid and/or flexible according to Co-operative Education. Interested students are required to submit an application by April 1, 2022. Selection will be based on the level of need, as determined by an assessment of the salary and/or compensation as well as the student’s statement describing why they decided to pursue this co-op employment and how this award will enhance their work integrated learning. Awards are valued between $500 and $2,500, based on level of need. The Co-operative & Experiential Education selection committee will review applications and select recipients following the application deadline. Awards are limited.

*Method of Financing: one-time donation*
NEW UNDERGRADUATE SCHOLARSHIPS, AWARDS, and BURSARIES
to be added to the Undergraduate Awards Database
- submitted for February 15, 2022 meeting of Senate Undergraduate Council -

**Engineering Award for Peer Advocacy**
An award, valued at up to $1,200, will be provided annually to a full-time undergraduate student enrolled in Year Three or Four of any program in the Faculty of Engineering. Selection is based on academic achievement (minimum 75% cumulative average) combined with extracurricular involvement or participation in volunteer activities that help improve the student experience. Preference will be given to students who have been involved in initiatives related to mental health, student wellness, or the LGBTQ+ community. Interested students should submit an application by October 1. This fund is made possible by a donation from the Duqoum Family in memory of Natalie (Awn) Duqoum who was committed to improving the student experience on campus and making others feel welcome.

*Method of Financing: endowment*

**Jain Family Award for Entrepreneurship**
Two awards, valued at $5,000 each, will be provided annually to undergraduate or graduate students participating in Concept or Velocity programing at the University of Waterloo. Preference will be given to students pursuing this experience on a co-op term. Selection will be based on a merit-evaluation process including, but not limited to, the progress of the start-up's business model and viability for commercial success. Interested students or teams should submit an application by October 31 to Velocity. This fund is made possible by a donation from the Vijay Anand Foundation to support student entrepreneurship at Waterloo and to encourage more students to follow their passion in the start-up community.

*Method of Financing: annual donation (ten-year pledge)*

**Sharon Lamont Student Award**
Two awards, valued at $1,000 each, will be provided annually to full-time undergraduate or graduate students enrolled in any program who are employed by the University of Waterloo Library currently, or were so in the previous two academic terms. For the purpose this award, employment includes full- and part-time casual staff, co-op and work study positions, internships, and volunteer roles. Selection is based on extracurricular involvement or volunteer activities in the area of equity, diversity, and inclusion. Interested students should submit an application by February 15. This fund is made possible by a donation from Sharon and Stuart Lamont to support students working at the University of Waterloo Library.

*Method of Financing: one-time donation (to support award for five years)*

**Grace Chi Hung Leung Capstone Award**
Five awards, valued at $1,000 each, will be provided annually to undergraduate student teams enrolled in Year Four of Software Engineering and undertaking a fourth-year Capstone Design project. Selection will be based on projects, that in the opinion of the judges, demonstrate a combination of technical excellence, user engagement, and societal impact. Award funds will be divided equally among members of each winning team. This fund is made possible by a donation from James Leung in memory of his mother Grace Chi Hung Leung.

*Method of Financing: annual donation (two-year pledge)*

**MTE Capstone Design Pitch Awards**
Awards will be provided annually to undergraduate student teams enrolled in Capstone Design Project courses ENVE 400/GEOE 400 and CIVE 400. Six Environmental/Geological Engineering and six Civil Capstone Design teams, based on their course presentations, will be selected to pitch their designs to a committee in the Department of Civil and Environmental Engineering. One first-, second-, and third-place team for ENVE 400/GEO400 and one first-, second-, and third-place team for CIVE 400 will receive $3,000, $1,100, and $400 respectively. One additional team will be selected at the conclusion of the Capstone Design Symposium to receive $1,000. Award funds will be distributed equally among the winning team members. This fund is made possible by a generous donation from MTE Consultants Inc.

*Method of Financing: annual donation (four-year pledge)*
NEW UNDERGRADUATE SCHOLARSHIPS, AWARDS, and BURSARIES

to be added to the Undergraduate Awards Database

- submitted for February 15, 2022 meeting of Senate Undergraduate Council -

Ontario Professional Engineers Foundation for Education Undergraduate Scholarships

Eight scholarships, valued at $1,500 each, will be provided annually to full-time undergraduate students enrolled in CEAB-Accredited programs in the Faculty of Engineering. At least four of the scholarships will be provided to female students enrolled in an Engineering program in which women are underrepresented. These scholarships will recognize outstanding students entering each of the 2A, 3A, 4A and 4B study terms. Selection will be based on academic achievement (minimum 80% cumulative average) and demonstrated leadership through participation in professional affairs, volunteer, and/or extracurricular activities. Students may also include a statement describing the impact this award will have on their ability to pursue their educational goals. Interested students should submit an online application as well as a current resume during the 1B, 2B, 3B, and 4B terms. This fund is made possible by a donation from Ontario Professional Engineers Foundation for Education to acknowledge the hard work of engineering students and promote the relevancy of becoming a licensed professional engineer.

*Method of Financing: renewal of annual donation (five-year pledge)*

Ontario Professional Engineers Foundation for Education Gold Medal

An engraved medal will be awarded annually to a fourth-year undergraduate student graduating from an accredited Engineering program, who has the highest cumulative overall average upon graduation. This award is provided by the Ontario Professional Engineers Foundation for Education to acknowledge the hard work of engineering students and promote the relevancy of becoming a licensed professional engineer.

*Method of Financing: renewal of annual donation (five-year commitment)*

Planning Class of 1981 Award for Black and Indigenous Students

An award, valued at $2,500, will be provided annually to a Black or Indigenous undergraduate student enrolled in any year in the School of Planning. For the purpose of the award, an Indigenous person is a person who self-identifies as First Nations (Status/Non-Status), Métis, and/or Inuit. Selection will be based on academic achievement (minimum 70% cumulative average) combined with an essay wherein students describe the positive impact they have had on their community through extracurricular and/or volunteer involvement. Preference will be given to students who have demonstrated involvement in the School of Planning and/or the planning profession. Interested students should submit an application by March 15. This fund is made possible by a donation from School of Urban and Regional Planning (SURP) Class of 1981 in support of equity and inclusion.

*Method of Financing: one-time donation (additional funds expected)*

A.M. Snider Family Award for Excellence in Design

An award, valued at up to $1,500, will be provided annually to a full-time undergraduate student enrolled in Year Four in the School of Architecture. Selection will be based on academic achievement (minimum 80% average in studio courses) combined with excellence in design. The School of Architecture will invite 4A students to submit a portfolio of their best design projects throughout their education by February 1. This fund is made possible by a donation from A.M. Snider’s family.

*Method of Financing: endowment*

STUDENT-ATHLETE AWARDS

Paul Condon Waterloo Warriors Determined Athlete Award

One award, valued at $1,000 or more, is given to a student-athlete on any varsity team. Preference will be given to a student who has demonstrated the love of sport, and who has displayed grit and determination in overcoming adversity throughout their time as a varsity student-athlete. This fund is made possible by a donation from the Condon family, in memory of Paul Condon, who worked for the Department of Athletics and Recreation from 1966 – 1996 and is a member of the Warriors Hall of Fame.

*Method of Financing: endowment*
Cam Crosby Hockey Excellence Award
One or more awards, valued at $1,000 or more, are given to student-athletes who are members of the men’s varsity hockey team. These awards recognize athletic talent, contribution to Warriors Athletics and Recreation, and contribution to the team and school. This fund is made possible by a donation from Cam Crosby (BSc ’77), Michael Crosby (BA ’05), and the Crosby Auto Group companies.

Method of Financing: endowment

Dr. Stephen Garrett Men’s Basketball Athletic Excellence Awards
Awards, valued at up to $4,500, are provided annually to student-athletes that are members of the men’s varsity basketball team. These awards recognize athletic talent, contribution to Warrior Athletics and Recreation, and contribution to the team and school. This fund is made possible by a donation from Dr. H. Stephen Garrett, OD ’80.

Method of Financing: renewal of annual donation + matching funds (five-year pledge)

Catherine and Feridun Hamdullahpur Athletic Excellence Awards
Four awards, valued at $2,500 each, are provided annually to student-athletes who are members of any women’s varsity team. These awards recognize athletic talent, contribution to Warrior Athletics and Recreation, and contribution to the team and school. This fund is made possible by a donation from Catherine and Feridun Hamdullahpur, former president and vice-chancellor of the University of Waterloo.

Method of Financing: renewal of annual donation + matching funds (three-year pledge)

Feridun Hamdullahpur Athletic Excellence Award
One or more awards, valued at $1,000 or more, are given to student-athletes who are members of any women’s varsity team. These awards recognize athletic talent, contribution to Warriors Athletics and Recreation, and contribution to the team and school. This fund is made possible by a donation from Michael Steele (BASc ’81) and The Steele Family Foundation in honour of the sixth president and vice-chancellor of the University of Waterloo, Feridun Hamdullahpur, to recognize his impact at the University and around the world as a leader and changemaker.

Method of Financing: endowment

T. Litzen Sports Athletic Excellence Awards
Eight awards, valued at $4,500 each, are given annually - four to members of a women’s varsity team and four to members of a men’s varsity team. These awards recognize leadership, athletic talent, and contribution to Warrior Athletics and Recreation, their team and their community. This fund is supported by T. Litzen Sports Ltd., the official outfitter of Nike apparel for Warriors Athletics and Recreation.

Method of Financing: renewal of annual donation + matching funds (six-year pledge)

Reverend Graham Morbey Football Excellence Award
Multiple awards valued at up to $4,500, are given to members of the varsity football team. This award recognizes athletic talent, academic success, and contribution to Warriors Athletics and Recreation, their team, and the school. This fund is supported by Warrior football alumnus Jonathan Morbey (BA ’08), in honour of his father, Reverend Graham Morbey, who served as a chaplain at the University of Waterloo for over two decades from the early 1980s until the late 2000s.

Method of Financing: renewal of annual donation + matching funds (five-year pledge)
NEW UNDERGRADUATE SCHOLARSHIPS, AWARDS, and BURSARIES

to be added to the Undergraduate Awards Database

- submitted for February 15, 2022 meeting of Senate Undergraduate Council -

Waterloo Ravens Hockey Athletic Excellence Awards
Four awards, valued at $4,500 each, are provided annually to student-athletes - two to members of the women’s varsity hockey team and two to members of the men’s varsity hockey team. These awards recognize athletic talent, contribution to Warrior Athletics and Recreation, and contribution to the team and school. This fund is made possible by a donation from the Waterloo Girls Minor Hockey Association (WGMHA).

Method of Financing: renewal of annual donation + matching funds (three-year pledge)

INTERNATIONAL EXPERIENCE AWARDS

Croatian Travel Awards
Travel funds, valued at up to $1,500, are available for undergraduate and/or graduate students registered at the University of Waterloo who participate in a recognized Croatian language or cultural study abroad program, an exchange program, or an approved co-op term in Croatia. Selection will be based on a statement describing their intended Croatian experience and why they hope to receive this funding. Interested students may submit an international experience award application by March 15 or November 15 for an upcoming experience.

Method of Financing: endowment

Ronald C. Johnson International Experience Award
Up to five awards, normally valued at $1,000 each, are provided to undergraduate or graduate students registered full-time in any year and in any Faculty at the University of Waterloo. Students must be participating in an eligible exchange/study abroad program, an eligible international co-op work term, an internship opportunity, or be conducting research relevant to their program outside of Canada. Preference will be given to students with financial need for the term(s) abroad. Students should apply as soon as they are able to confirm the details of their intended experience by one of the following deadlines: March 15, July 15, or November 15. This fund is made possible by a donation from Catherine and Feridun Hamdullahpur, former president and vice-chancellor of the University of Waterloo, in support of Waterloo’s efforts to educate globally literate and world-ready graduates, and in memory of Catherine’s father, Ronald C. Johnson.

Method of Financing: renewal of annual donation (three-year pledge)
Summary of the Program Review:

In accordance with the University Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response and assessments of the Business Administration and Mathematics Double Degree (BBA/BMath) delivered by the Faculty of Mathematics at University of Waterloo and the Lazaridis School of Business & Economics at Wilfrid Laurier University. A truncated Volume I of the self-study was submitted to the Associate Vice-President, Academic on September 20, 2017. Both Laurier and Waterloo independently completed Self-Study Reports for their programs in 2013 and 2015 correspondingly. Hence, the self-study focused on the unique characteristics of the BBA/BMath program. An analytical assessment of this program, including data collected from an alumni survey along with the standard data package, was prepared by the Office of Institutional Analysis & Planning (IAP). Appended to Volume I were the course outlines for all courses in the program. The CVs for each faculty member associated with the program were included in Volume II of the self-study.

The review was conducted solely from Waterloo’s perspective, and thus, with permission of the Quality Council, the site visit was completed by internal reviewers. Two arm's-length internal reviewers were selected from Volume III of the self-study. Dr. Fatma Gzara, Associate Professor of Management Science, and Dr. David A. Welch, Professor of Political Science, were ranked and selected by the Associate Vice-President, Academic.

Reviewers appraised the self-study documentation and conducted a site visit to the program on November 14 and 15, 2017. The visit included interviews with the Associate Vice-President, Academic; Dean of the Faculty; Associate Dean, Undergraduate Studies; Chairs/Directors of the Departments, Faculty members, staff and meetings with a group of current undergraduate students.

This final assessment report is based on information extracted, in many cases verbatim, from the self-study, the reviewers’ report and the program response.
Program characteristics:
The Business Administration & Mathematics Double Degree program (BBA/BMath) consists of two separate degrees studied at the same time:

- An Honours Bachelor of Business Administration (BBA) from the Lazaridis School of Business & Economics at Wilfrid Laurier University (Laurier).
- An Honours Bachelor of Mathematics (BMath) Co-op from Faculty of Mathematics at the University of Waterloo (Waterloo).

The BBA/BMath program is unlike most other combined programs. Whereas some combined programs strive to form a new and unique program with blended and specialized learning goals, the BBA/BMath program is the combination of two disjoint degrees. This is a limited enrolment (approx. 70 students admitted at each institution every year), co-op only program leading to two degrees.

Summary of strengths, challenges and weaknesses based on self-study:
Strengths
- Strong intake averages indicate that the program has some of the best high school graduates applying for and being accepted into the program
- BBA/BMath students are considered to be excellent or outstanding by their co-op employers.
- The combination of an Honours Math degree and a BBA makes this a unique program, in both Canada and the U.S.
- The program provides flexibility for students and added opportunities in terms of job applicability as students can apply for jobs in all the functional areas of business (finance, marketing, HR, IT, etc.).

Challenges
- Program administration, in terms of scheduling, is a particular challenge. The registrar’s offices of the two universities do not coordinate with each other to ensure that course and exam schedules are conflict-free for the BBA/BMath students; the Director of MBAP is solely responsible for this. A particular concern is the misalignment of calendar dates around holidays and fall breaks/reading weeks, which are not the same at both universities.

Weaknesses
- The program has been successful in building buzz amongst applicants, meaning some students apply for and accept this program even though they have no interest in the
business component of the program. These students will typically change their program to a single degree in the first year of their study.

- Since students have only four free electives in the program, satisfying the combined requirements for both the double degree plan and those for an extra designation, if desired by the student, requires successful completion of more than 52 courses and additional academic terms.
- Double Degree students are currently only able to apply to co-op jobs advertised at their home institution, meaning they miss out on good job opportunities advertised at the other institution. Waterloo and Laurier started a pilot co-op exchange (beginning Winter 2017) that allows students at one university to enroll in the other’s co-op system for a term. This is definitely a step in the right direction, but allowing more robust exchange of co-op opportunities would be very desirable.

**Summary of key findings from the reviewers:**

The Mathematics/Business Administration Double Degree Program was found to be in very good standing. The program is highly sought after, attracts exceptionally good students, and trains them well, as is evident by the high levels of satisfaction students report and their competitiveness for attractive careers. The most important issues for this program are scheduling, lack of flexibility in course selection, and inequitable access to co-op opportunities. Out of the matters of importance, scheduling should be top priority for this program because of the enormous strain this places on program administration. It was by far the number one complaint by students.

**Program response to external reviewer recommendations:**

1. Schedule a full-day retreat for all stakeholders to share experiences, information, and brainstorm possible solutions, such as
   a. Automating processes to identify and resolve course scheduling conflicts
   b. Improving course registration processes to align with Laurier course and section allocations
   c. Creating “phantom sections” of UW courses for DD students that could be used for enrolment and grade submission
   d. Exploring requests that could be made to Laurier to ease the scheduling burden on the Waterloo side
   e. Scheduling midterm exams earlier and taking into consideration Laurier class times
   f. Coordinating midterm and final exam schedules with Laurier

**Response**

July 2020
The program administration in terms of scheduling and students course registration reconciliations is a challenge. There is currently very little coordination between the scheduling systems of the two universities to ensure that course and exam schedules are conflict-free for the students in the BBA/BMath program. The Director of MBAP is solely responsible for all these areas, and also addresses and reconciles any discrepancies between the two student records systems. A particular concern is the misalignment of calendar dates around holidays and fall break, which are not the same at both universities. The program agrees that improved compatibility of the registration systems (Loris & Quest) would increase student satisfaction by improving the quality and speed of processes. The program will work with both institutions to revise procedures as needed to improve the scheduling management of the program.

As of July 2020, a full-day retreat has yet to be formally conducted; however, the Director of MBAP is working with Laurier administrators to resolve the issues identified by the reviewers, as well as self-identified issues, in order to improve the program. Many of these will be resolved in the Fall 2020 term, while some will be implemented over the next few years.

2. **Reduce the number of required courses in the program and increase the number of electives, either within the current 52-course envelope or, preferably, with a lower overall number of required courses, to enable students to pursue greater breadth in their overall academic program.**

**Response**

The Curriculum Committee for the BBA/BMath and Double Degree Curriculum Committee have discussed this recommendation and have agreed that reducing the number of required courses is not possible at this time.

The required courses taken at each institution are balanced, with 24 courses required from Waterloo, 24 courses required from Laurier, and 4 additional elective courses that can be from either institution. They are also freed from breadth and depth requirements for non-Math electives. Aside from the core courses for both the BMath and the BBA, 7 additional 200- or 300- or 400-level math courses and 6 additional 300- or 400- business courses are required.

Students in the BBA/BMath Double Degree program complete the program requirements for their two degrees, with minor tweaks; for the Laurier BBA degree, the only substitution is that they must take Waterloo Math versions of several required math courses (algebra, calculus, probability, statistics), which are likely more challenging than their equivalents at Laurier. For the Waterloo BMath degree, a marketing communication course that is part of the BBA counts toward Math’s Communication Skills Requirement.
The expectation is that this program will require ten terms of study. Electing to have a separate major, minor, option, or specialization designation is not required for students in this plan, and in some cases, satisfying the combined requirements for both the double degree plan and those for an extra designation may require successful completion of more than 52 courses.

With all these being said, it is not quite obvious how to reduce the number of required courses at present time.

3. Consider opening all co-op placement opportunities to all double-degree students from both universities on a fully equal basis.

Response
A pilot co-op exchange was conducted for a three-year trial period, beginning in 2016. This pilot allowed a limited number of students at one university to enroll in the other’s co-op system for a term, allowing students to have opportunities both in Math, CS, business, and finance. For all three years of the pilot, the exchange was unbalanced, with double the number of Laurier students choosing Waterloo co-op, than vice-versa. There was concern about opening it up further as it would result in much more work on UW side than on Laurier’s. The pilot program was discontinued in 2019 as a result of the imbalance.

4. Revise the grade transfer protocol to permit a more accurate reflection of students’ actual results and eliminate any potential disadvantage for Waterloo students.

Response
The grade transfer process has been the responsibility of the two Registrars and is managed by transferring the final grades for all courses (by sections) from Loris to Quest and vice versa. It is important for the academic progression process that the grades are received on time and error free. There is frequent and necessary communication between the staff of the two universities to manage the final grades. However, there are often missing grades for some sections of Laurier courses on Quest because the deadlines for grades submission are different at the two universities. This recommendation will be brought to the attention of the UW Registrar’s Office.

5. Bring STAT371/372 in-house and tailor the content to the needs of math and business students.

Response
These courses are under jurisdiction of the Department of Statistics and Actuarial Science and therefore cannot be brought into the Math Business Unit. A possible solution here would be
to create MATBUS versions of these courses tailoring their content to the needs of the MBAP students. The Double Degree Curriculum Committee and the Program Committee of the Department of Statistics and Actuarial Science will jointly discuss this recommendation. If the committees decide to go ahead with this change then this will also need to be discussed with the Dean to ensure teaching resources to support it are in place.

As of July 2020, MATBUS versions of ACTSC 371 and ACTSC 372 have been created in consultation with Statistics and Actuarial Science (SAS) and are in the process of gaining approvals from the Faculty of Mathematics. It is anticipated that these courses will be in effect for Fall 2022. The program will continue working with SAS regarding STAT 371/372.
## Implementation Plan:

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Proposed Actions</th>
<th>Responsibility for Leading and Resourcing (if applicable) the Actions</th>
<th>Timeline for addressing Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Schedule a full-day retreat for all stakeholders to share experiences,</td>
<td>To raise the suggestion with WLU. If they are interested then schedule a retreat for the UW and Laurier teams to review all findings around the current work and revise procedures as needed to improve the scheduling management of the program. Conversations ongoing with Laurier to resolve identified issues.</td>
<td>Director of MBAP</td>
<td>meetings scheduled for August to discuss; Fall 2020 implementation and ongoing</td>
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<td>information, and brainstorm possible solutions for conflict free course and exam</td>
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<td>schedules for the Double Degree students.</td>
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<tr>
<td>2. Reduce the number of required courses in the program and increase the number</td>
<td>Discuss these changes at a joint meeting of the Double Degree Curriculum Committee and the Program Committee of WLU School of Business and Economics. Recommendation is not possible to implement at this time.</td>
<td>Director of MBAP</td>
<td>Discussed Fall 2018; not possible to implement at this time.</td>
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<td>of electives to enable the Double Degree students to pursue greater breadth in</td>
<td></td>
<td>Director of MBAP, Director of Undergraduate Business Programs, WLU</td>
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<td>their overall academic program.</td>
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<td>3. Consider opening all co-op placement opportunities to all double-degree</td>
<td>Discuss this recommendation with the Associate Dean of Math, Co-op. Conduct pilot co-op exchange.</td>
<td>Director of MBAP, Associate Dean of Math, Co-op.</td>
<td>Pilot exchange conducted and completed Fall 2019</td>
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<td>students from both universities on a fully equal basis.</td>
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<td>4. Revise the grade transfer protocol to permit a more accurate reflection of</td>
<td>Bring this recommendation to the attention of UW Registrar’s Office (RO) as this is a RO issue.</td>
<td>Director of MBAP</td>
<td>March 2018-Complete</td>
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<td>students’ actual results and eliminate any</td>
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<td>potential disadvantage for Waterloo students.</td>
<td>5. Bring STAT371/372 in-house and tailor the content to the needs of math and business students.</td>
<td>Discuss this at a joint meeting of the Double Degree curriculum Committee and the Program Committee of Statistics and Actuarial Science. If they agree with this recommendation- it will also need to be discussed with the Dean.</td>
<td>Director of MBAP, Chair of the DD curriculum committee, Chair of SAS, Dean of Mathematics</td>
</tr>
</tbody>
</table>

The Director of the Mathematics Business and Accounting Programs, in consultation with the Dean of the Faculty shall be responsible for monitoring the Implementation Plan.
Date of next program review: 2023-2024

Date

Signatures of Approval:

[Signature]

June 3, 2021

Chair/Director

Date

AFIW Administrative Dean/Head (For AFIW programs only)

[Signature]

Mark Giesbrecht
Dean, Faculty of Mathematics

June 7, 2021

Faculty Dean

Date

Associate Vice-President, Academic
(For undergraduate and augmented programs)

Date

Associate Vice-President, Graduate Studies and Postdoctoral Affairs
(For graduate and augmented programs)

Date
Two-Year Progress Report
Architectural Studies (BAS), Master of Architecture (MArch, MArch Co-op, MArch Water)
October 2020

Background

The last review process began in 2016 and covered the Honours Bachelor of Architectural Studies (BAS), Master of Architecture (MArch), Master of Architecture (MArch Co-op), and Master of Architecture (MArch Water), all programs delivered by the School of Architecture. The School of Architecture submitted a Self-Study to the Associate Vice-President, Academic and the Associate Vice-President, Graduate Studies and Postdoctoral Affairs on September 21, 2016, and the external review as per our IQAP requirements was combined with the accreditation visit by the Canadian Architectural Certification Board (CACB). Given that the University would receive the Visiting Team Report (VTR) from the CACB, only one additional arm’s-length external reviewer was selected to represent our institutional interests and provide a report. This external reviewer accompanied the CACB Visiting Team in an extensive site visit that took place over four days in February 2017.

The Reviewer’s Report was received on June 14, 2017. The School of Architecture submitted a Program Response, endorsed by the Dean of Engineering, on September 21, 2017. The Final Assessment Report, received on 22 June 2018, was based on information extracted from the Self-Study, the Reviewer’s Report, and the Program’s Response. After review by the School of Architecture and Faculty of Engineering, the Final Assessment Report was approved by Senate Undergraduate Council in May 2019 and Senate in June 2019. This Two-Year Progress Report offers an update on our implementation progress.

The review highlighted the strength of the national and international reputation of the School of Architecture, the considerable success of some of our Architecture faculty members through prominent exhibitions and publications, as well as the high desirability and employability of graduates from both the BAS and MArch programs. The review also contained a number of recommendations that are listed below, together with an update on our progress on implementation.
Progress on Implementation Plan and Recommendations

1. Detailed auditing of faculty loads (teaching and administrative) over five year spans

   **Status:** completed / in progress.
   (Teaching load audit completed; administrative load audit in progress).

   **Details:** We have now been tracking teaching assignments over the past two years, based on a framework we developed and approved in March 2018. This assessment, which is ongoing, is tracked annually and an average is computed over three years. The calculation of faculty teaching load also accounts for graduate supervision.

   The administrative load is not yet formally categorized, nor tracked as clearly. While we have completed our addendum to faculty performance and evaluation, and clarified expectations for architecture faculty seeking tenure and promotion, we are still in the process of developing a clearer approach to the tracking and accounting of internal and external service.

2. Limiting the MArch Thesis to one or two terms with set deadlines and prominent external examiners

   **Status:** in progress.

   **Details:** While the reviewer recommended limiting the MArch Thesis to one to two terms, it would in fact be detrimental to the program both financially and in relation to the dynamism of the student body. It would also be in contradiction with the current model. The Waterloo Architecture Thesis is set to be flexible and take between a minimum of three terms to a maximum of six terms. The School intends to maintain this flexibility, which enables their students to yield very strong work and engage in field research both in Canada and abroad. Instead, the School has focused on improving the structure of the graduate degree and establishing additional benchmarks to ensure that the majority of students can complete their thesis in a maximum of six terms.

   Over the past two years, the Graduate Office has developed clear communication to faculty and students about program lengths and limits to extension. We no longer grant extensions beyond six terms, unless there are extenuating circumstances that justify an exception to this rule. The number of extensions granted to students beyond term six decreased by nearly 70% over the past two years, going from 29 petitions submitted in Fall 2018, down to 9 in Winter 2020. To better support students towards completion, we have established additional benchmarks (interim reviews or presentation). We have also introduced a final thesis presentation in the form of final thesis reviews, to provide an option other than the formal thesis defense. The reviews might be more suitable to students who have artefact-based
thesis, thus helping them to complete within four to six terms. In December 2019, we had the highest number of students presenting in those reviews (18 students), and the expectation is that students electing to present in term four will complete within the six terms. Still, the School must continue to improve the structure of the graduate degree so that unless there are exceptional circumstances, all students complete within six terms.

3. **Limiting the number of Thesis students supervised by one Faculty member (e.g. three students)**

   **Status:** completed.

   **Details:** We have implemented a balloting system that ensures a more even distribution of the supervisory load, while still maintaining good fit between students and faculty members. First tested in Fall 2017, the system resulted in a balanced distribution of students amongst faculty for the past three academic years (2017-2018, 2018-2019 and 2019-2020). While the number of students supervised by faculty members ranged quite broadly until 2016, every faculty member is now assigned a minimum of two students and a maximum of five, based on the outcome of the balloting system (the median in 2018 was 3, with an average of 2.83; and 4 in 2019, with an average of 3.21). With the limit of six terms to the MArch, this means a maximum of six to eight graduate students per faculty member at any given time. For students, this structured and transparent approach to the allocation of supervisors has also been beneficial. There is a clear two-week period when all students are invited to meet potential supervisors, and the confirmation of supervisor is based on preferences expressed both by the students and supervising faculty members. All in all, the students seem to have been rather appreciative of this new approach.

4. **Setting minimum enrolment in graduate electives**

   **Status:** completed.

   **Details:** Architecture aims for enrolments of 12 to 15 students in graduate elective courses. As of Winter 2017, graduate electives which do not meet an enrolment of 10 students within two weeks of the beginning of the term are normally either not offered, or not counted as part of a faculty member’s teaching load. A course with lower enrolment may be offered under exceptional circumstances, so long as the average enrolment in graduate electives during that term remains above 10 overall.

5. **Auditing and re-distributing credit load for cultural history and technology courses in the undergraduate program to better reflect course demands**

   **Status:** completed.
Details: In May 2018, the School of Architecture faculty voted to reduce the total credit count from 29.5 credits to 28 credits, eliminating one course in the 1A term and 2 courses in upper years, while integrating a greater proportion of elective courses. This change took effect for the incoming first year cohort in September 2019. This was achieved by eliminating some redundancies in the technology stream, and revisiting the content and delivery in some of the cultural history courses. While the School continues to monitor the outcome of this change on the cultural history and technology stream, we consider that we have addressed this concern.

6. Achieving greater alignment with the University’s strategic direction toward transformative research and entrepreneurship; encouraging and emphasis on architectural innovation that stems from interdisciplinary research; supporting new ideas and initiatives with informal and formal events that cross communities; offering structured mentoring and grant-writing support

Status: completed/in progress

Details: In September 2018, we created a position of Associate Director, Research, to promote the awareness of current interdisciplinary research as well as its growth, working to better support funding applications, motivate additional publications and ensure greater dissemination. Over the past two years, there has been an increasing number of faculty members applying for and being successful in obtaining Tri-Council funding. Our strategic plan, completed in Fall 2019, aligns with the University in the focus on developing disciplinary and inter-disciplinary potentials of architecture research within the University, as well as the creation of programs and facilities that foster innovative and interdisciplinary research.

7. Careful auditing resources (human, equipment, space) when implementing new programs and initiatives in light of the new budget model

Status: completed/in progress

Details: The School of Architecture and the Faculty of Engineering have been monitoring closely the impact of the Waterloo Budget Model on recent projects and potential initiatives. We revisited the hiring schedule of new faculty members for the collaborative program in Architectural Engineering and reviewed the required number of net new staff and faculty positions. As part of this analysis, the School is in the process of updating the roles and responsibilities in the different staff positions in Cambridge so as to create efficiencies and a new position in advancement and communication. This is a direct response to the fundraising plan drafted by Engineering Advancement that indicated the need to have a fundraising
professional work directly to support advancement in Architecture. We have also carefully considering our space and equipment needs in light of our recent and projected growth (design-build collaboration with First Nations, growth in the graduate program, collaborative program in Architectural Engineering, and new faculty research in materials and fabrication). We have just completed a space audit for the School that reveals a current need for an additional 20,000 square feet. We are now looking at the next steps and drafting a project to expand our existing facilities and provide faculty and graduate students with more adequate research and fabrication space. While we have undertaken this careful auditing of human resources, space and equipment, this process will necessarily be ongoing as we continue to grow and engage in new projects.

8. Revisiting the name and vision statement of the Faculty of Engineering to be more inclusive of the School of Architecture. The main vision statement “to become a truly world-class school of engineering,” does not accommodate the aims of the School of Architecture, the only non-engineering unit in the Faculty

Status: completed.

Details:
The Faculty of Engineering completed its strategic plan, which now includes direct references to Architecture and Design. The vision specifically refers to architects ("Above all, our engineers and architects are committed to serving society, and building a better future for generations to come"), and some of its aspiration likewise include references to architecture either explicitly (e.g. "Become the world leader in work-integrated graduate studies in engineering and architecture"), or implicitly ("Offer the single best engineering and design education experience in Canada").
## Updated Implementation Plan

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Proposed Actions</th>
<th>Responsibility for Leading and Resourcing (if applicable) the Actions</th>
<th>Timeline for addressing Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Detailed auditing of faculty loads (teaching and administrative) over five-year spans;</td>
<td>Develop clearer guidelines for administrative load; Continue to track teaching load.</td>
<td>Director, with Administrative Officer (no resource required)</td>
<td>Completed and ongoing since 2018 for teaching load; to be completed by December 2020 for service.</td>
</tr>
<tr>
<td>2. Limiting the MArch Thesis to one or two terms with set deadlines and prominent external examiners;</td>
<td>Limiting the thesis to one or two terms is not feasible, and thus, the School will focus on limiting the thesis to a maximum of six terms. Continue to clarify and clearly communicate expectations; explore directed thesis and thematic research options.</td>
<td>Director, Architecture Graduate Office and Graduate committee (no resource required)</td>
<td>Ongoing – proportion of students above six terms to be reduced under 10% by January 2021.</td>
</tr>
<tr>
<td>3. Limiting the number of thesis students supervised by one faculty member (e.g. three students);</td>
<td>Continue to use balloting system.</td>
<td>Graduate Office (no resource required)</td>
<td>Completed</td>
</tr>
<tr>
<td>4. Setting minimum enrolments in graduate electives;</td>
<td>Completed – continue to maintain minimum enrolment is 10 in graduate elective, unless exceptional circumstances dictate otherwise.</td>
<td>Director</td>
<td>Completed</td>
</tr>
<tr>
<td>5. Auditing and re-distributing credit load for cultural history and technology courses in the undergraduate program to better reflect course demands</td>
<td>Continue to review and implement changes as necessary</td>
<td>Director, Undergraduate officer and Undergraduate Committee continue to monitor (no resource required)</td>
<td>Completed</td>
</tr>
</tbody>
</table>

October 2020
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<tr>
<th></th>
<th>Achieving greater alignment with the University’s strategic direction toward transformative research and entrepreneurship; encouraging and emphasis on architectural innovation that stems from interdisciplinary research; supporting new ideas and initiatives with informal and formal events that cross communities; offering structured mentoring and grant-writing support;</th>
<th>Strengthen support for multidisciplinary and architecture research.</th>
<th>Director &amp; Associate Director, Research, in collaboration with Associate Dean, Research and Office of Research.</th>
<th>Completed (and ongoing): strengthen support and track progress over the next two years (2020-21 and 2021-22).</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Careful auditing resources (human, equipment, space) when implementing new programs and initiatives in light of the new budget model;</td>
<td>Conducted audit; continue to monitor.</td>
<td>Director, Administrative Officer, Financial Officer, Faculty Finance Officer, and Plant Operations</td>
<td>Completed (and ongoing)</td>
</tr>
<tr>
<td>8</td>
<td>Revisiting the name and vision statement of the Faculty of Engineering to be more inclusive of the School of Architecture. The main vision statement “to become a truly world-class school of engineering,” does not accommodate the aims of the School of Architecture, the only non-engineering unit in the Faculty.</td>
<td>Completed: new Engineering Strategic Plan and vision refer more explicitly to architecture (“revisiting the name” of the Faculty of Engineering does not appear to be an option!).</td>
<td>n.a.</td>
<td>Completed</td>
</tr>
</tbody>
</table>

The Department Chair/Director, in consultation with the Dean of the Faculty shall be responsible for monitoring the Implementation Plan.
Date of next program review: 2023/24

Signatures of Approval:

Chair/Director
October 1st, 2020

AFIW Administrative Dean/Head (For AFIW programs only)
May 4, 2021

Faculty Dean

Note: AFIW programs fall under the Faculty of ARTS; however, the Dean does not have fiscal control nor authority over staffing and administration of the program.

Associate Vice-President, Academic
November 1, 2020
(For undergraduate and augmented programs)

Associate Vice-President, Graduate Studies and Postdoctoral Affairs
November 1, 2020
(For graduate and augmented programs)