

**UNIVERSITY OF WATERLOO  
SENATE GRADUATE & RESEARCH COUNCIL  
NOTICE OF MEETING**

DATE: Monday 10 June 2019  
TIME: 10:30 a.m. – 12:00 noon  
PLACE: Needles Hall, Room 3318

Chair – J. Casello

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**AGENDA**

<u>Item</u>	<u>Action</u>
1. Declarations of Conflict of Interest a. Excerpt from Bylaw 1, section 8*	Information
2. Minutes of 13 May 2019* and Business Arising	Decision (SGRC)
3. Co-chairs' Remarks	Information
4. Research Centres and Institutes a. Dissolution: Propel Centre for Population Health Impact* (Richard Staines)	SEN-Regular
5. Curricular Submissions a. Applied Health Sciences* <i>see friendly amendments to motion 3; per 10 June 2019 SGRC minutes</i> b. Arts* <i>item D &amp; E (pg 39-48) pulled from agenda prior to meeting - to return at future SGRC</i> c. Engineering*	Decision (SGRC) 3; SEN-Regular Decision (SGRC) <del>D; SEN-Regular</del> Decision (SGRC) 1: SEN-Regular
6. Office of Research Ethics a. Clinical Research Ethics Committee – new & continuing member, role change* b. Human Research Ethics Committee – continuing member, role change*	Decision (SGRC) Decision (SGRC)
7. Academic Program Reviews a. <a href="#">Status of Reports under Review</a>	Information
8. Graduate Awards* (O'Neill) a. Master of Data Science and Artificial Intelligence (MDSAI) Graduate Scholarship – operating b. Raymond Laflamme and Janice Gregson Graduate Scholarship for Women in Quantum Information Science – research c. <del>International Doctoral Student Award (IDSA) – operating</del> <i>item tabled</i> d. Donald E. Grierson Memorial Award – endowment e. Master of Environment and Business Award – operating f. Ontario Trillium Scholarship – trust	Decision (SGRC) Decision (SGRC) Information Information Information Information
9. Other Business	Information
10. Next Meeting: 9 September 2019 from 10:30 a.m. - 12 noon; NH 3318	Information

\*material attached

\*\* to be distributed separately

“SGRC” to be approved on behalf of Senate

“SEN” to be recommended to Senate for approval

3 June 2019

Kathy Winter, PhD, CPsych  
Assistant University Secretary

# Excerpt from Senate Bylaw 1

## 8. Declarations of conflict of interest

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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).

**University of Waterloo**  
**SENATE GRADUATE & RESEARCH COUNCIL**  
**Minutes of the 13 May 2019 Meeting**  
**[in agenda order]**

**Present:** Jeff Casello, Victoria Chu, Amelia Clarke, David Clausi, Charmaine Dean, Bernard Duncker, Rhona Hanning, Bruce Hellinga, Lauren Meliss Holt, Julie Joza, Christiane Lemieux, Dmitry Marin, Mungo Marsden (on behalf of Shawn Wettig), Alexander Mercado, Bruce Muirhead, Daniela O'Neill, Jack Rehder, Richard Staines, Linda Warley, Kathy Winter (secretary)

**Resources:** Carrie MacKinnon, Alyssa Voigt

**Regrets:** Raouf Boutaba, Trevor Clews, Ana Ferrer, Nathan Funk\*, Jennifer Kieffer, Daniel Martel\*, Amanda McKenzie, Kirsten Müller, Max Salman\*, Naima Samuel, Simron Singh\*, Mike Szarka, Shirley Tang\*, Shawn Wettig.

**Guests:** Roy Brouwer, Mark Knight, Jatin Nathwani

**Organization of Meeting:** Charmaine Dean, co-chair of the council, took the chair, and Kathy Winter acted as secretary. The secretary advised that due notice of the meeting had been given, a quorum was present, and the meeting was properly constituted.

### **1. DECLARATIONS OF CONFLICT OF INTEREST**

No conflicts of interest were declared.

### **2. MINUTES OF 8 APRIL 2019 AND BUSINESS ARISING**

The minutes were approved as distributed. Staines and Clarke. Carried. One minor amendment from 8 April 2018 SGRC under business arising was heard: to accept a change to Proposed Effective Date (from Winter 2020 to Fall 2019) for agenda 9b / item 3j and submit this change to Senate for consideration on 21 May 2019. Hellinga and Clausi. Carried.

### **3. CO-CHAIRS' REMARKS**

Casello reported: (a) NSERC and SSHRC doctoral awards were announced (awards conferred = 3-year average); (b) Student Experience Review complete with external review report having been received by the Provost for consideration and dissemination to campus community.

Dean spoke to Research Strategic Plan: draft is now complete and consists of thematic areas and goals (5-year targets still to be determined). Phase 2 of process underway; consultations throughout May and June 2019 with department chairs, SGRC membership, equity and inclusion members. Fall 2019 will see Dean reporting back to SGRC and consultations going campus wide, including town halls. Next, Dean thanked council for thoughtful consideration of several recent Centres and Institutes renewals and noted how these will be sure to align with new Research Strategic Plan.

### **4. ACADEMIC PROGRAM REVIEWS**

**a. Status of Reports under Review.** Casello identified a need for 4 program reviewers as shown here: [Status of Reports under Review](#). Volunteers are to connect with Alyssa Voigt.

**c. Two-Year Progress Report.** Council heard a motion to accept the two-year progress report for Pure Math Program on behalf of Senate. Bergen had prior reviewed the submission. Lemieux commented (on behalf of absent Bergen) that the report was favourable with all but one longer term recommendation having now been fulfilled. Lemieux and Hellinga. Carried.

## 5. RESEARCH CENTRES AND INSTITUTES

**a. Renewal: Water Institute.** Council heard a motion to approve the 5-year renewal of the Water Institute, as presented. Roy Brouwer (executive director) provided some introductory remarks and highlighted institute's vision regarding increased impact in terms of: interdisciplinarity, increasing social and policy impact, training future water managers, increasing world water ranking. In discussion: research representation from all 6 faculties, experiential learning opportunities with industry partners, funding opportunities, shared services model. Duncker and Staines. Carried.

**b. Renewal: Waterloo Institute for Sustainable Energy.** Council heard a motion to approve the 5-year renewal of the Waterloo Institute for Sustainable Energy, as presented. Jatin Nathwani (executive director) identified this as the second renewal and described vision to meet global challenge of developing new international systems – such as “affordable energy for humanity”. In discussion: desire to build opportunities for graduate students, including work-integrated learning (GSPA will be in touch to discuss further), indigenization and distributed energy solutions per Open Energy Act. Duncker and Clarke. Carried.

**c. Renewal: Centre for Advanced Trenchless Technologies.** Council heard a motion to approve the 5-year renewal of the Centre for Advanced Trenchless Technologies, as presented. Mark Knight (director) identified this as the fourth renewal for the 25-year old centre; revenue continues to exceed expenses; strong industry partnerships; upcoming task is to find successor for centre director. Duncker and Muirhead. Carried.

## 6. CURRICULAR SUBMISSIONS

**a. Applied Health Sciences.** Council heard a motion to approve item 1 as presented. Hanning and Staines. Carried. Council heard a motion to recommend item 2 to Senate to approve curricular modifications and adjustments to the length of the Master of Public Health (MPH), effective 1 September, as presented. Specifically, the School of Public Health and Health Systems is seeking formal, International accreditation of the MPH program from the Council on Education for Public Health (CEPH). As such, curricular modifications and adjustments to the length of the program are required in order to meet foundational knowledge and core competency requirements. See: [https://storage.googleapis.com/media.ceph.org/wp\\_assets/2016.Criteria.pdf](https://storage.googleapis.com/media.ceph.org/wp_assets/2016.Criteria.pdf). Hanning and Staines. Carried.

**b. Engineering.** Council heard an omnibus motion to approve updates to faculty of engineering calendar guidelines, effective 1 September 2019, as presented. Hellinga and Clausi. Carried.

**c. Mathematics.** Council heard a motion to approve changing the required English Language Proficiency (ELP) requirements for Master's and PhD programs in applied mathematics (item 1), effective 1 September 2019, as presented. Lemieux and Hanning. Carried. Council heard a motion to approve replacing the part 1 comprehensive examinations for statistics and actuarial science (item 2) with a well-defined breadth requirement and a new required course, effective 1 September 2019, as presented. Lemieux and O'Neill. Carried.

## 7. GRADUATE STUDIES ACADEMIC CALENDAR CHANGES

Council heard a motion to recommend to Senate to approve Graduate Studies Academic Calendar changes pertaining to add / drop regulations, effective 1 September 2019, as presented. Changes to the course drop protocol for graduate studies are being proposed to provide clarity and consistency in the process (as well as record-keeping function with reduced need for signatures and approvals). Specifically, students who proceed with a course beyond the drop period, but withdraw from the course will have their participation recorded as a grade of withdrawn (WD) on the student record. It was noted that: WD is not an academic penalty; deadlines on the use of WD will be adjusted for courses shorter in duration; graduate course drop protocols will be applied to graduate students taking undergraduate courses. Rehder and Warley. Carried with minor amendments as attached.

## **8. GRADUATE AWARDS**

Council heard a motion to approve item (a) and (b), as presented. It was clarified that item (a) is open to domestic and international students; no application process, and currently only 1 award per department despite varying size of departments. O'Neill and Duncker. Carried. Council received items (c) through (f) as information.

## **9. OTHER BUSINESS**

There was no other business.

## **10. NEXT MEETING**

The next meeting will be on Monday 10 June 2019 from 10:30 a.m. to 12 noon in NH 3318.

20 May 2019

Kathy Winter, PhD, CPsych,  
Assistant University Secretary

May 6, 2019

TO: Kathy Winter, Privacy Officer and Assistant University Secretary,  
Senate Graduate and Research Council

FROM: Jeff Casello, Associate Vice-President, Graduate Studies and Postdoctoral Affairs

RE: Graduate Studies Academic Calendar changes

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**Items for approval:**

- 1) Clarifying the add / drop regulations for graduate students.

**Description and rationale for proposed changes:**

*Changes to the course drop protocol for graduate studies are being proposed to provide clarity and consistency in the process. Students who proceed with a course beyond the drop period, but withdraw from the course will have their participation recorded as a grade of withdrawn (WD) on the student record. Note that WD is not an academic penalty.*

**Proposed effective date:** Term: Fall Year: 2019

**Current [Graduate Studies Academic Calendar \(GSAC\)](#) page** (include the link to the web page where the changes are to be made):

<https://uwaterloo.ca/graduate-studies-academic-calendar/general-information-and-regulations/enrolment-and-time-limits>

<b>Current Graduate Studies Academic Calendar content:</b>	<b>Proposed Graduate Studies Academic Calendar content:</b>
<p><b>Course drop/add date</b></p> <p><del>During the first three weeks of term, students must drop or add graduate courses using Quest, the University of Waterloo's online student information system. For courses with enrolment restrictions, students must obtain permission through their Department Graduate Assistant.</del></p> <p>Graduate students who wish to enrol in an undergraduate course may petition using a Drop/Add form, obtainable through their Department or Graduate Studies and Postdoctoral Affairs (GSPA). Signature of the instructor, supervisor and Department Graduate Officer are required.</p> <p><del>After the first three weeks of term, students may not drop or add a course except by petition using the Drop/Add form, and only under</del></p>	<p><b>Course drop/add date</b></p> <p><u>Students can enroll in courses until the end of the third week of classes. Students who drop a course prior to the completion of third week of classes will have no record of that course on their transcript.</u></p> <p><u>Students who drop a course in the period between the fourth and tenth week of classes will have a record of the course on their transcript and a grade of withdrawn (WD).</u></p> <p><u>After the tenth week of classes, students may not drop or add a course except by petition using the Drop/Add form, and only under exceptional circumstances with the signature of the instructor, supervisor, Department Graduate Officer and the Associate Dean (Graduate Studies) of their home Faculty.</u></p>

<b>Current Graduate Studies Academic Calendar content:</b>	<b>Proposed Graduate Studies Academic Calendar content:</b>
<p>exceptional circumstances with the signature of the instructor, supervisor, Department Graduate Officer and the Associate Dean (Graduate Studies) of their home Faculty.</p> <p>These are Graduate Studies and Postdoctoral Affairs (GSPA) deadlines. Individual Faculties may have earlier deadlines. (Please check with your Associate Dean's Office.)</p> <p><del>Courses may not be dropped or added, nor course status changed, after the examination period begins.</del></p>	<p><u>Comparable dates will be used for courses with non-traditional meeting schedules.</u></p> <p>For courses with enrolment restrictions, students must obtain permission through their Department Graduate <u>Coordinator</u>.</p> <p>These are Graduate Studies and Postdoctoral Affairs (GSPA) deadlines. Individual Faculties may have earlier deadlines (please check with your Associate Dean's Office).</p> <p><u>Undergraduate courses</u></p> <p>Graduate students who wish to enrol in an undergraduate course may petition using a Drop/Add form, obtainable through their Department or Graduate Studies and Postdoctoral Affairs (GSPA). Signature of the instructor, supervisor and Department Graduate Officer are required.</p>

**Graduate Operations Committee approval date (mm/dd/yy): 04/23/2019**

## MEMORANDUM

TO: Richard Staines  
PROPEL Centre for Population Health Impact

CC: Kathy Winter  
Secretariat

FROM: Charmaine B. Dean  
Vice-President, University Research

DATE: Tuesday, June 4, 2019

RE: Support for Dissolution of PROPEL



This memo is to bring forward a recommendation to dissolve the Propel Centre for Population Health Impact. Following notice that it's major supporter, the Canadian Cancer Society, would be phasing out funding as of January 2019, the faculty of Applied Health Sciences was charged with conducting a review to determine whether or not to reinvent Propel or wind down its operations. As part of this review, the sustainability of Propel was assessed, and the conclusion arrived at was that it is no longer viable in its current form. It was thus determined that the best course of action would be to dissolve the centre effective June 30th, 2019, coincident with the end of the second and final term of its Executive Director, Barbara Riley. Normally, this matter would have been discussed first at Research Leaders Council. However, given the financial exigency, and the fact that Senate will be holding its last meeting before the summer break on June 17<sup>th</sup>, I am instead proposing that this be discussed at the June 10<sup>th</sup> SGRC meeting, and a recommendation made to Senate.



May 28, 2019

Bernard P. Duncker, Ph.D.  
Associate Vice-President, Interdisciplinary Research  
University of Waterloo

RE: Closure of Propel

Dear Dr. Duncker,

As we recently discussed, the Faculty of Applied Health Sciences plans to wind down existing operations of the Propel Centre for Population Health Impact, a Faculty-based Research Centre approved by Senate in 2013. The Centre was initially scheduled for renewal last year (2018) and was granted an extension due to a transition in the funding model described below.

As such the purpose of this correspondence is to request the closure of the Propel Centre for Population Health Impact effective Friday, June 28. Please find a summary of background information below for inclusion with the materials for the next Senate Graduate and Research Council meeting.

Sincerely,



W. Richard Staines, PhD  
Associate Dean, Research, Faculty of Applied Health Sciences  
Professor, Department of Kinesiology  
University of Waterloo



Paul Stolee, PhD  
Professor and Interim Dean, Faculty of Applied Health Sciences  
University of Waterloo

## **Background :**

At the end of June 2019, the Faculty of Applied Health Sciences plans to wind down existing operations of the Propel Centre for Population Health Impact, a Faculty-based Research Centre approved by Senate in 2013. As a little background, the funding model that has existed since 1993 for Propel, including its predecessor, the Centre for Behavioural Research and Program Evaluation (CBRPE), has changed with the phasing out of Canadian Cancer Society (CCS) funding at the end of January 2019. The Centre was funded and operated as a national research program for the Canadian Cancer Society. In December 2018, the current executive director of Propel was provided a sixth-month notice that her contract with the Centre would not be extended beyond the customary two-term appointment that concludes at the end of June, a typical practice at the University of Waterloo when a change in leadership is anticipated at the faculty or institute level. In conjunction with the notice, AHS leadership decided to conduct a review of Propel and an Advisory Committee was struck in January with a mandate that included investigating Propel's current and future vision and priority areas, organizational structure, financial viability, as well as plans for faculty engagement as it was transitioning from a large core external funder (CCS). The committee was comprised of faculty members from each unit within AHS, senior leadership representing the Office of Research (Senior Associate Vice-President) and chaired by the Associate Dean, Research (W.R. Staines).

In summary, the Advisory committee completed its review at the end of April 2019 and recommended to the Dean:

- 1) Closing the Propel Centre on Friday, June 28<sup>th</sup>, 2019 to coincide with the end of the current executive director's term.
- 2) Establishing a steering committee to explore the development of a new centre as part of/or in parallel with the Faculty's strategic plan.

The Centre was initially scheduled for renewal last year (2018) and was granted an extension due to the funding transition. The Faculty will continue to support the significant population health research being conducted at Waterloo, including in the areas of mental and global health, aging, addictions and youth behaviour.

## MEMORANDUM

TO: Kathy Winter, Secretary, Senate Graduate and Research Council

FROM: Julie Cassaubon on behalf of Tracy Taves, Faculty Graduate Administrator, Applied Health Sciences

cc: Rhona Hanning, Associate Dean, Graduate Studies

DATE: May 14, 2019

SUBJECT: **Applied Health Sciences Faculty Graduate Studies Committee (FGSC) Report to Senate Graduate and Research Council**

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The attached report was approved by the Applied Health Sciences Faculty Council on April 22, 2019 and is being forwarded to Senate Graduate & Research Council. Would you please place it on the agenda for the next Senate Graduate & Research Council meeting.

Thank you!

**From Applied Health Sciences Faculty Council April 15 e-vote, 2019  
To Senate Graduate and Research Council**

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**Graduate calendar changes for Applied Health Sciences**

**1. COURSE CHANGES**

**1.1 School of Public Health and Health Systems\* effective Fall 2019**

- 1.1.1 To revise the title of **HLTH 642** from “Multidisciplinary Perspectives on Aging” to “**Interdisciplinary Perspectives on Aging**”.

**Rationale:** This course will be held with HLTH/GERON 400 (Interdisciplinary Perspectives on Aging). To more accurately describe the course focus, the title is changed from “Multidisciplinary” to “Interdisciplinary”.

**2. NEW COURSES**

**2.1 School of Public Health and Health Systems\* effective Fall 2019**

- 2.1.1 To create a new course, **HLTH 626 Analysis Management of Health Informatics in Aging Populations**

**Rationale:** This course will be held with HLTH 451 (Analysis and Management of Health Information in Aging Populations). The graduate and undergraduate students attend the same lectures but the graduate students have specific assignments tailored to their level. To date, this graduate course has been listed as a HLTH 620 “special topics”. We plan to continue offering this course, and are therefore assigning it a unique course number.

- 2.1.2 To create a new course, **HLTH 627 Advanced Dementia Care**

**Rationale:** This course will be held with HLTH 427 (Dementia Care). The graduate and undergraduate students attend the same lectures but the graduate students have specific assignments tailored to their level. To date, this graduate course has been listed as a HLTH 620 “special topics”. We plan to continue offering this course, and are therefore assigning it a unique course number.

- 2.1.3 To create a new course **HLTH 628 What Is Fair? International Perspectives on Equity in Work and Health**

**Rationale:** To date, this graduate course has been listed as a HLTH 620 “special topics”. We plan to continue offering this course, and are therefore assigning it a unique course number. This is an on-line graduate partnership with international universities (currently Mid-Sweden University and Malardalen University, Sweden). The aim of this course is to increase knowledge about health equity from an international perspective, by focusing on the field of work and health. A key objective of this course and partnership is to provide unique learning opportunities for UWaterloo students to work with their international peers on course work and group activities while learning about international systems and policy. The course is composed of four modules, each co-taught by Canadian and Swedish instructors. Module 1 introduces concepts of social determinants of health, intersectionality, and equity as they relate to healthy work environment factors.

Modules 2 to 4 involve a comparative Canadian-Swedish application of these concepts to policy and practice in relation to the fields of work disability management, injury and illness, and workplace health promotion.

This course will introduce our students to international education experiences and increase knowledge about health equity and work and health from an international perspective.

#### 2.1.4 To create a new course **HLTH 629 Information Visualization**

**Rationale:** This course will be held with HLTH 454 (Information Visualization). The graduate and undergraduate students attend the same lectures but the graduate students have specific assignments tailored to their level. To date, this graduate course has been listed as a HLTH 620 “special topics”. We plan to continue offering this course, and are therefore assigning it a unique course number.

#### 2.1.5 To create a new course **HLTH 630 Advanced Geriatric Medicine and Healthcare**

**Rationale:** This course will be held with HLTH 430 (Geriatric Medicine and Healthcare). The graduate and undergraduate students attend the same lectures but the graduate students have specific assignments tailored to their level. To date, this graduate course has been listed as a HLTH 620 “special topics”. We plan to continue offering this course, and are therefore assigning it a unique course number.

#### 2.1.6 To create a new course **HLTH 633 Digital Health**

**Rationale:** To date, this graduate course has been listed as a HLTH 620 “special topics”. We plan to continue offering this course, and are therefore assigning it a unique course number.

### 3. **ACADEMIC PLAN CHANGES**

#### 3.1 **School of Public Health and Health Systems\*** effective Fall 2019

3.1.1 To create six fields in the SPHHS that are formally recognized by the Ontario Universities Council on Quality Assurance. The fields are composed of bundles of existing courses within existing SPHHS graduate degree programs. Effective Fall 2019.

**Rationale:** The Ontario Universities Council on Quality Assurance defines fields as an area of specialization or concentration (in multi/interdisciplinary programs a clustered area of specialization) that is related to the demonstrable and collective strengths of the program’s faculty. SPHHS has identified a particular need to further specify and recognize existing areas of strength within its graduate programs. For example, student feedback indicates that individuals considering applications to MSc and PhD programs are unaware they can study epidemiology and biostatistics as part of their degree path. This perception exists despite the range of related graduate-level courses presently offered in the School.

The School proposes to launch the following six course-based fields in September 2019:

1. **Epidemiology & Biostatistics**
2. **Health Evaluation**
3. **Health Informatics**
4. **Health and Environment**
5. **Global Health**
6. **Aging and Health**

The creation of graduate fields will allow SPPHS to better promote its current courses and attract more high-quality students into its graduate programs. The creation of create fields also responds to comments made in the External Review of the School’s academic programs in Spring 2014. The review suggested that the School consider identifying tracks of concentration from within our wide range of courses.

The fields do not require any changes to SPHHS degree programs or admissions. The fields will be nested within our existing course requirements. A field may be declared by a student on completion of their program, if they have met the requirements.

\*separate attachments

**Senate Graduate and Research Council – Course/Milestone – New/Revision/Inactivation form**

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Faculty: Applied Health Sciences

Effective term: Term/Year **Fall 2019**Course  New  **Revision**  Inactivation Milestone  New  Revision  Inactivation 

New milestone title:

For course revisions, indicate the type(s) of changes:

*(E.g. consent, description, title, requisites)* **Minor modifications to course title, from “Multidisciplinary Perspectives on Aging” to “Interdisciplinary Perspectives on Aging”**Course Subject code: Course number: **HLTH 642**Course Title (max. 100 characters incl. spaces): **Interdisciplinary Perspectives on Aging**Course Short Title (max. 30 characters incl. spaces): **Perspectives on Aging**Grading Basis: **NUMERICAL**Course Credit Weight: **0.50**Course Consent Required: 

Course Description:

This course provides an opportunity for critical discussion and analysis of a range of key issues in aging and aging research, and of health system and health policy issues affecting older persons. Speakers will represent a variety of disciplines, reflecting the importance of interdisciplinary perspectives in aging research, as well as the combination of biomedical and psychosocial factors that contribute to healthy aging or to the development of frailty and chronic disease.

New course description (for revision only):

Meet Type(s): **Lecture**Primary Meet Type: **Lecture****Requisites:** Must be registered in a SPHHS Master’s or Doctoral degree, **Anti-requisite: HLTH 400**Special topics course: Yes  No Cross-listed: Yes  No 

Course Subject(s) to be cross-listed with and approval status:

Sections combined/held with: **HLTH/GERON 400 (approved)****Rationale for request:**

To more accurately describe the course focus, the title is changed from “Multidisciplinary” to “Interdisciplinary”.

**Senate Graduate and Research Council – Course/Milestone – New/Revision/Inactivation form**

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Faculty: Applied Health Sciences

Effective term: Term/Year **Fall 2019**

Course  **New**  Revision  Inactivation

Milestone  New  Revision  Inactivation

New milestone title:

For course revisions, indicate the type(s) of changes:

(*E.g. consent, description, title, requisites*)

Course Subject code: Course number: **HLTH 626**

Course Title (max. 100 characters incl. spaces): **Analysis and Management of Health Information in Aging Populations**

Course Short Title (max. 30 characters incl. spaces): **Aging Health Information**

Grading Basis: **NUMERICAL**

Course Credit Weight: **0.50**

Course Consent Required:

**Course Description:**

The course combines an overview of health policy issues and service delivery with methodological considerations in the analysis of health information from a variety of sources. The topics to be addressed may include the role of health information in evidence-based practice and policy development; basic concepts of demography and health information management; secondary data analysis; case-mix based funding systems; performance indicators, quality, and accountability in health care; clinical applications of health data; need analysis; cost analysis; international comparisons.

New course description (for revision only):

Meet Type(s): **Lecture**

Primary Meet Type: **Lecture**

Requisites: Must be registered in a SPHHS Master's or Doctoral degree program. Anti-requisite: **HLTH 451**

Special topics course: Yes  No

Cross-listed: Yes  No

Course Subject(s) to be cross-listed with and approval status:

Sections combined/held with: **HLTH 451 (approved)**

**Rationale for request:**

This course will be held with HLTH 451 (Analysis and Management of Health Information in Aging Populations). The graduate and undergraduate students attend the same lectures but the graduate students have specific assignments tailored to their level. To date, this graduate course has been listed as a HLTH 620 "special topics". We plan to continue offering this course, and are therefore assigning it a unique course number.

**Senate Graduate and Research Council – Course/Milestone – New/Revision/Inactivation form**

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Faculty: Applied Health Sciences

Effective term: Term/Year **Fall 2019**Course  **New**  Revision  Inactivation Milestone  New  Revision  Inactivation 

New milestone title:

For course revisions, indicate the type(s) of changes:

*(E.g. consent, description, title, requisites)*Course Subject code: Course number: **HLTH 627**Course Title (max. 100 characters incl. spaces): **Advanced Dementia Care**Course Short Title (max. 30 characters incl. spaces): **Dementia Care**Grading Basis: **NUMERICAL**Course Credit Weight: **0.50**Course Consent Required: 

Course Description:

This course provides a comprehensive examination of dementia from multiple perspectives, including the person living with dementia, family care partners, and the health and social care systems. Key topics include epidemiology, prevention, stigma, meaningful engagement, care and support.

New course description (for revision only):

Meet Type(s): **Lecture**Primary Meet Type: **Lecture****Requisites:** Must be registered in a SPHHS Master's or Doctoral degree program. **Anti-requisite:**Special topics course: Yes  No Cross-listed: Yes  No 

Course Subject(s) to be cross-listed with and approval status:

Sections combined/held with: **HLTH 473 (approved)****Rationale for request:**

This course will be held with HLTH 473 (Contemporary Issues in Health 4 – a special topics course). The graduate and undergraduate students attend the same lectures but the graduate students have specific assignments tailored to their level. To date, this graduate course has been listed as a HLTH 620 “special topics”. We plan to continue offering this course, and are therefore assigning it a unique course number.

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Prepared by: Ellen MacEachen

Date: 7-Feb-19

**Senate Graduate and Research Council – Course/Milestone – New/Revision/Inactivation form**

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Faculty: Applied Health Sciences

Effective term: Term/Year **Fall 2019**

Course  **New**  Revision  Inactivation

Milestone  New  Revision  Inactivation

New milestone title:

For course revisions, indicate the type(s) of changes:

(*E.g. consent, description, title, requisites*)

Course Subject code: Course number: **HLTH 628**

Course Title (max. 100 characters incl. spaces): **What is fair? International perspectives on equity in work and health**

Course Short Title (max. 30 characters incl. spaces): **International work and health**

Grading Basis: **NUMERICAL**

Course Credit Weight: **0.50**

Course Consent Required:  Department

**Course Description:**

The aim of this course is to increase knowledge about health equity from an international perspective, by focusing on the field of work and health. This is an international on-line course, co-taught by Canadian and Swedish instructors, that gives students the experience of working on comparative policy and practice assignments and projects with peers at international universities. Some assignments differ for MSc and PhD students. The assignments address concepts of social determinants of health, intersectionality, and equity as they relate to healthy work environment factors.

New course description (for revision only):

Meet Type(s): **Lecture**

Primary Meet Type: **Lecture**

Requisites: Must be registered in a SPHHS Master's or Doctoral degree program

Special topics course: Yes  **No**

Cross-listed: Yes  **No**

Course Subject(s) to be cross-listed with and approval status:

Sections combined/held with:

**Rationale for request:**

This is an on-line graduate partnership with international universities (currently Mid-Sweden University and Malardalen University, Sweden). The aim of this course is to increase knowledge about health equity from an international perspective, by focusing on the field of work and health. A key objective of this course and partnership is to provide unique learning opportunities for UWaterloo students to work with their international peers on course work and group activities while learning about international systems and policy. The course is composed of four modules, each co-taught by Canadian and Swedish instructors. Module 1 introduces concepts of social determinants of health, intersectionality, and equity as they relate to healthy work environment factors. Modules 2 to 4 involve a comparative Canadian-Swedish application of these concepts to policy and practice in relation to the fields of work disability management, injury and illness, and workplace health promotion. This course will introduce our students to international education experiences and increase knowledge about health equity and work and health from an international perspective.

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Prepared by: Ellen MacEachen

Date: 6-Feb-2019

**Senate Graduate and Research Council – Course/Milestone – New/Revision/Inactivation form**

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Faculty: Applied Health Sciences

Effective term: Term/Year **Fall 2019**Course  **New**  Revision  Inactivation Milestone  New  Revision  Inactivation 

New milestone title:

For course revisions, indicate the type(s) of changes:

*(E.g. consent, description, title, requisites)*Course Subject code: Course number: **HLTH 629**Course Title (max. 100 characters incl. spaces): **Information Visualization**Course Short Title (max. 30 characters incl. spaces): **Information Visualization**Grading Basis: **NUMERICAL**Course Credit Weight: **0.50**Course Consent Required: 

Course Description:

This course provides an introduction to the field of information visualization: the use of computer graphics and interaction to help humans understand, interpret and solve problems using complex data. Topics will be covered using case studies, and include what is visualization?; use of colour, shape, and contrast in representing data; rules of thumb for creating visualizations; and case studies.

New course description (for revision only):

Meet Type(s): **Lecture**Primary Meet Type: **Lecture****Requisites:** Must be registered in a SPHHS Master's or Doctoral degree program. **Anti-requisite: HLTH 454**Special topics course: Yes  No Cross-listed: Yes  No 

Course Subject(s) to be cross-listed with and approval status:

Sections combined/held with: **HLTH 454 (approved)****Rationale for request:**

This course will be held with HLTH 454 (Information Visualization). The graduate and undergraduate students attend the same lectures but the graduate students have specific assignments tailored to their level. To date, this graduate course has been listed as a HLTH 620 "special topics". We plan to continue offering this course, and are therefore assigning it a unique course number.

Senate Graduate and Research Council – Course/Milestone – New/Revision/Inactivation form

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Faculty: Applied Health Sciences

Effective term: Term/Year **Fall 2019**

Course  **New**  Revision  Inactivation

Milestone  New  Revision  Inactivation

New milestone title:

For course revisions, indicate the type(s) of changes:

(*E.g. consent, description, title, requisites*)

Course Subject code: Course number: **HLTH 630**

Course Title (max. 100 characters incl. spaces): **Advanced Geriatric Medicine and Healthcare**

Course Short Title (max. 30 characters incl. spaces): **Geriatric Medicine**

Grading Basis: **NUMERICAL**

Course Credit Weight: **0.50**

Course Consent Required:

Course Description:

This course will address the role of geriatric medicine in the context of an aging population. We will identify and explain gaps in the health care of seniors that led to the development of geriatric medicine as a separate specialty and be able to discuss the role of geriatric medicine in the health care system. The course will consider models of frailty, methods for measuring frailty, and their implications for the health system, and discuss the epidemiology, burden of disease, and impact on health care of “geriatric giants” and common illness in older persons.

New course description (for revision only):

Meet Type(s): **Lecture**

Primary Meet Type: **Lecture**

Requisites: Must be registered in a SPHHS Master’s or Doctoral degree program. Anti-requisite:

Special topics course: Yes  No

Cross-listed: Yes  No

Course Subject(s) to be cross-listed with and approval status:

Sections combined/held with: **HLTH 473 (approved)**

**Rationale for request:**

This course will be held with HLTH 473 (Contemporary Issues in Health 4 – a special topics course). The graduate and undergraduate students attend the same lectures but the graduate students have specific assignments tailored to their level. To date, this graduate course has been listed as a HLTH 620 “special topics”. We plan to continue offering this course, and are therefore assigning it a unique course number.

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Prepared by: Ellen MacEachen

Date: 7-Feb-19

**Senate Graduate and Research Council – Course/Milestone – New/Revision/Inactivation form**

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Faculty: Applied Health Sciences

Effective term: Term/Year **Fall 2019**

Course  **New**  Revision  Inactivation

Milestone  New  Revision  Inactivation

New milestone title:

For course revisions, indicate the type(s) of changes:  
(*E.g. consent, description, title, requisites*)

Course Subject code: Course number: **HLTH 633**

Course Title (max. 100 characters incl. spaces): **Digital Health**

Course Short Title (max. 30 characters incl. spaces): **Digital Health**

Grading Basis: **NUMERICAL**

Course Credit Weight: **0.50**

Course Consent Required:

Department Course Description:

The wide adoption of mobile technology presents a new opportunity. Leveraging this existing technology, healthcare systems can deliver remote care and collect real-time data on patients outside of health centres, minimizing unnecessary visits to hospitals and providing healthcare access to remote populations. In this course, we will explore how digital health technology has been designed, evaluated, and deployed in different countries. Case studies will be used to demonstrate how institutional and governmental constraints have a strong impact on the success of the deployment. The course will address the different digital health technologies in the market, such as Telehealth, remote patient monitoring, tele radiology, consumer health informatics, and mHealth. Important aspects of technology development like patient confidentiality, privacy, standards, communication and security protocols, regulatory requirements, among others, will be discussed when presenting the development of each digital health solution. By the end of this course, students will be prepared to design, evaluate, and deploy a digital health intervention and will have a solid understanding of the barriers and requirements for deploying digital health technology.

New course description (for revision only):

Meet Type(s): **Lecture**

Primary Meet Type: **Lecture**

Requisites: Must be registered in a SPHHS Master's or Doctoral degree program. Anti-requisite:

Special topics course: Yes  No

Cross-listed: Yes  No

Course Subject(s) to be cross-listed with and approval status:

Sections combined/held with: **HLTH 473 (approved)**

**Rationale for request:** To date, this graduate course has been listed as a HLTH 620 “special topics”. We plan to continue offering this course, and are therefore assigning it a unique course number.

Prior to form submission, review the [content revision instructions](#) and information regarding [major/minor modifications](#). For questions about the form submission, contact [Trevor Clews](#), Graduate Studies and Postdoctoral Affairs.

**Faculty:** Applied Health Sciences

**Program:** Doctor of Philosophy (PhD) in Public Health and Health Systems

**Program contact name(s):** Ellen MacEachen

**Form completed by:** Ellen MacEachen

**Description of proposed changes:**

Note: changes to courses and milestones also require the completion/submission of the SGRC Course/Milestone-New/Revision/Inactivation form ([PC docx version](#) or [MAC docx version](#)).

*Update of PhD degree requirements to include 6 new Graduate Research Fields.*

Is this a [major modification](#) to the program? Yes

**Rationale for change(s):**

*The proposed Graduate Research Fields will add structure to the PhD program by allowing students to demonstrate depth of knowledge in certain areas of study and receive recognition for that Graduate Research Field from the School, which is highly valued when searching for a job in industry. These study path options stitch together already existing courses into a comprehensive learning experience for students who wish to, not only receive a thesis based PhD, but also benefit from a certain level of focus in their course selection.*

**Proposed effective date:** Term: Fall Year: 2019

**Current [Graduate Studies Academic Calendar \(GSAC\)](#) page** (include the link to the web page where the changes are to be made):

<https://uwaterloo.ca/graduate-studies-academic-calendar/applied-health-sciences/school-public-health-and-health-systems/doctor-philosophy-phd-public-health-and-health-systems>

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
<p><b>Graduate research fields</b></p> <ul style="list-style-type: none"> <li>• <del>Population Health</del></li> </ul> <p><b>Program information</b></p> <ul style="list-style-type: none"> <li>• Admit term(s)               <ul style="list-style-type: none"> <li>○ Fall</li> </ul> </li> <li>• Delivery mode               <ul style="list-style-type: none"> <li>○ On-campus</li> </ul> </li> <li>• Program type               <ul style="list-style-type: none"> <li>○ Doctoral</li> </ul> </li> </ul>	<p><b>Graduate research fields</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Epidemiology and Biostatistics</a></li> <li>• <a href="#">Health Evaluation</a></li> <li>• <a href="#">Health Informatics</a></li> <li>• <a href="#">Health and Environment</a></li> <li>• <a href="#">Global Health</a></li> <li>• <a href="#">Aging and Health</a></li> </ul> <p><b>Program information</b></p> <ul style="list-style-type: none"> <li>• Admit term(s)</li> </ul>

- Research
- Registration option(s)
  - Full-time
  - Part-time
- Study option(s)
  - Thesis

### Admission requirements

- Minimum requirements
  - Students applying to the program should have completed a Master's degree (or its equivalent) with content related to ongoing faculty research in areas such as health, public health, health systems, gerontology, health informatics, global health, occupational health, and evaluation.
  - A minimum 75% average in Master's level coursework.
  - Completion of a Master's degree and evidence of prior research achievements (e.g., Master's thesis, first author peer-reviewed publication, adjudicated research report).
  - Before applying to the program, students are strongly advised to establish contact with potential supervisors.
  - Students may be allowed to transfer into the PhD program directly from the SPHHS Master's programs. Such students must have completed all Master's coursework requirements, have demonstrated a superior academic record, and have evidence of prior research achievements (e.g., adjudicated research report, significant documented contribution as a co-author to a peer-reviewed publication, first author peer-reviewed publication).
  - Students are sometimes accepted for direct admission to the PhD in the SPHHS program if they have an Honours Bachelor of Science degree or the equivalent and have exceptional academic and research performance, including evidence of prior research achievements (e.g., adjudicated research report, significant documented contribution as a co-author to a peer-reviewed publication, first author peer-reviewed publication). Directly admitted students will be required to complete 9 (required and elective) graduate courses, graduate milestones and a doctoral thesis.

- Fall
- Delivery mode
  - On-campus
- Program type
  - Doctoral
  - Research
- Registration option(s)
  - Full-time
  - Part-time
- Study option(s)
  - Thesis

### Admission requirements

- Minimum requirements
  - Students applying to the program should have completed a Master's degree (or its equivalent) with content related to ongoing faculty research in areas such as health, public health, health systems, gerontology, health informatics, global health, occupational health, and evaluation.
  - A minimum 75% average in Master's level coursework.
  - Completion of a Master's degree and evidence of prior research achievements (e.g., Master's thesis, first author peer-reviewed publication, adjudicated research report).
  - Before applying to the program, students are strongly advised to establish contact with potential supervisors.
  - Students may be allowed to transfer into the PhD program directly from the SPHHS Master's programs. Such students must have completed all Master's coursework requirements, have demonstrated a superior academic record, and have evidence of prior research achievements (e.g., adjudicated research report, significant documented contribution as a co-author to a peer-reviewed publication, first author peer-reviewed publication).
  - Students are sometimes accepted for direct admission to the PhD in the SPHHS program if they have an Honours Bachelor of Science degree or the equivalent and have exceptional academic and research performance, including evidence of prior research achievements (e.g., adjudicated research report, significant documented contribution as a co-author to a peer-reviewed publication, first author peer-reviewed publication). Directly admitted

- Application materials
  - Résumé/Curriculum vitae
  - Supplementary information form
    - Indicating reasons for pursuing graduate studies (e.g., discuss how a graduate degree maps onto your career plans) and outlining research interests.
  - Transcript(s)
  - Writing sample
    - Students must submit a copy of previous academic work, such as copies of preprints, reprints, or master's thesis, or other evidence of written scholarly work.
- References
  - Number of references: 3
  - Type of references: academic
- English language proficiency (ELP) (if applicable)

### Degree requirements

Thesis option:

- Graduate Academic Integrity Module (Graduate AIM)
- Courses
  - 9 one-term graduate courses beyond the Bachelor's degree, including at least 4 courses (2 required and 2 electives) beyond the Master's degree, is the normal minimum requirement.
  - Required courses (2)
    - HLTH 701 Interdisciplinary Seminar in Public Health and Health Systems
  - 1 of the following required methods courses:
    - HLTH 704 Advanced Qualitative Methods for Health Research
    - HLTH 705 Advanced Statistical Methods for Analyzing Public Health and Health Systems Data
    - HLTH 706 Advanced Epidemiological Methods
    - HLTH 719 Advanced Research Methods in Health Informatics
  - Elective courses (2)
    - 1 methods elective course at the 600-or 700-level, selected in consultation with the supervisor (may include courses outside the School of Public Health and Health Systems (SPHHS), or courses offered by SPHHS, including

students will be required to complete 9 (required and elective) graduate courses, graduate milestones and a doctoral thesis.

- Application materials
  - Résumé/Curriculum vitae
  - Supplementary information form
    - Indicating reasons for pursuing graduate studies (e.g., discuss how a graduate degree maps onto your career plans) and outlining research interests.
  - Transcript(s)
  - Writing sample
    - Students must submit a copy of previous academic work, such as copies of preprints, reprints, or master's thesis, or other evidence of written scholarly work.
- References
  - Number of references: 3
  - Type of references: academic
- English language proficiency (ELP) (if applicable)

### Degree requirements

Thesis option:

- Graduate Academic Integrity Module (Graduate AIM)
- Courses
  - 9 one-term graduate courses beyond the Bachelor's degree, including at least 4 courses (2 required and 2 electives) beyond the Master's degree, is the normal minimum requirement.
  - Required courses (2)
    - HLTH 701 Interdisciplinary Seminar in Public Health and Health Systems
  - 1 of the following required methods courses:
    - HLTH 704 Advanced Qualitative Methods for Health Research
    - HLTH 705 Advanced Statistical Methods for Analyzing Public Health and Health Systems Data
    - HLTH 706 Advanced Epidemiological Methods
    - HLTH 719 Advanced Research Methods in Health Informatics
  - Elective courses (2)
    - 1 methods elective course at the 600-or 700-level, selected in consultation with the supervisor (may include courses outside the School of Public Health and Health Systems (SPHHS), or courses offered by SPHHS, including additional courses from the required course list.

additional courses from the required course list.

- 1 additional elective, selected in consultation with the supervisor. Students without a background in public health and health systems, and focusing in research areas other than Health Informatics, should take HLTH 601 Lifespan Approaches to Disease Prevention and Health Promotion. Students focusing in Health Informatics may choose to take HLTH 611 The Health Care System or an equivalent course approved by the SPHHS Graduate Officer.
- Plus other free electives as may be required
  - It is important to keep in mind that these are minimum requirements. Many students complete at least three courses within their area of research interest, which may require the addition of one or more extra courses to the minimum coursework requirement.
- At a minimum, students must obtain an average of 75% or higher in aggregate on the courses presented in fulfillment of the degree requirements. Grades on all courses presented to fulfill the degree requirements must be 70% or higher. A grade below 70% in any course or failing to maintain an average of 75% will necessitate a review of the student's status by the School and may result in a student being required to complete additional coursework or being required to withdraw from the program. The School reserves the right to stipulate additional coursework if it is necessary for the student's preparation.
- Link(s) to courses
  - Health Studies (HLTH) courses
  - Graduate course search
- Academic Integrity Workshop
- PhD Comprehensive Examination
  - Candidates must complete a PhD Comprehensive Examination within seven terms of first registration. The comprehensive examination requirement is based on providing written responses to three questions and successfully completing an oral defense. The purpose of the comprehensive examination is to test the breadth and depth of the candidate's comprehension of the methodological and theoretical aspects of their field of study.

- 1 additional elective, selected in consultation with the supervisor. Students without a background in public health and health systems, and focusing in research areas other than Health Informatics, should take HLTH 601 Lifespan Approaches to Disease Prevention and Health Promotion. Students focusing in Health Informatics may choose to take HLTH 611 The Health Care System or an equivalent course approved by the SPHHS Graduate Officer.
- Plus other free electives as may be required
  - It is important to keep in mind that these are minimum requirements. Many students complete at least three courses within their area of research interest, which may require the addition of one or more extra courses to the minimum coursework requirement.
- At a minimum, students must obtain an average of 75% or higher in aggregate on the courses presented in fulfillment of the degree requirements. Grades on all courses presented to fulfill the degree requirements must be 70% or higher. A grade below 70% in any course or failing to maintain an average of 75% will necessitate a review of the student's status by the School and may result in a student being required to complete additional coursework or being required to withdraw from the program. The School reserves the right to stipulate additional coursework if it is necessary for the student's preparation.

Students in the SPHHS PhD program may also wish to pursue one of the following Graduate Research Fields:

1. Epidemiology and Biostatistics
2. Health Evaluation
3. Health Informatics
4. Health and Environment
5. Global Health
6. Aging and Health

A Graduate Research Field is a University credential that is recognized on the student's transcript and is intended to reflect that a student has successfully completed research and a set of courses that together provide an in-depth study in the area of the Graduate Research Field. A student will only obtain the Graduate Research Field on their transcript if they have completed the requirements associated with the PhD degree and the

The process is designed to enable candidates to acquire a solid grounding in their core area of public health research that will provide a foundation for undertaking dissertation research. The examination will also test the candidate's ability to critically evaluate the literature and synthesize information from sources to identify knowledge gaps and recommend solutions.

- PhD Thesis
  - A PhD thesis on an approved topic is required, which is to be defended in an oral examination. The research is to be conducted under the supervision of the student's supervisor and the advisory committee. The PhD thesis advisory committee consists of at least three members, with the supervisor and at least one other committee member being faculty from within the School of Public Health and Health Systems. The proposal will be defended before the thesis committee; however, upon completion of the thesis, the final document will be defended before a five person Examination Board.

requirements associated with the Graduate Research Field.

All PhD Graduate Research Fields in the School of Public Health and Health Systems (SPHHS) consist of a Comprehensive Examination, a PhD Thesis that is confirmed by the SPHHS to be in the chosen Graduate Research Field, and a set of 4 graduate (0.50 weight) level courses. This set of courses is comprised of a mix of required and elective courses. Required courses are those that are prescribed as part of the Graduate Research Field. Elective courses are those that are on a list of courses designated as electives for a given Graduate Research Field.

Students who have completed the MSc in SPHHS and obtained a Graduate Research Field can obtain the same or another Field or (by taking the applicable required/elective courses) as part of their PhD program.

For any of the Graduate Research Fields below, a directed studies course (HLTH 620 or HLTH 720) focused on the Graduate Research Field or an appropriate alternate course may replace a required or elective course, with the approval of the Associate Director, Research Graduate Program, School of Public Health and Health Systems.

The course requirements for the Graduate Research Fields are described below.

#### 1. Graduate Research Field in Epidemiology and Biostatistics

Students must successfully complete 3 required courses and 1 elective course. An assessment of whether or not the student's thesis warrants the Epidemiology and Biostatistics Graduate Research Field designation will be completed by the SPHHS.

Required courses:

- HLTH 701 Interdisciplinary Seminar in Public Health and Health Systems
- HLTH 705 Advanced Statistical Methods for Analyzing PHHS Data
- HLTH 706 Advanced Epidemiological Methods

Elective courses: select 1 from the following list:

- HLTH 634 Environmental Epidemiology
- HLTH 672 Epidemiological Methods in Aging

#### 2. Graduate Research Field in Health Evaluation

Students must successfully complete 1 required course and 3 elective courses. An assessment of whether or not the student's thesis warrants the Health Evaluation Graduate Research Field designation will be completed by the SPHHS.

Required course:

- HLTH 701 Interdisciplinary Seminar in Public Health and Health Systems

Elective courses:

Select 1 from the following list:

- HLTH 705 Advanced Statistical Methods for Analyzing Public Health and Health Systems
- HLTH 704 Advanced Qualitative Methods for Health Research
- HLTH 655 Health Measurement and Survey Methods

Select 1 or 2 from the following list:

- HLTH 614 Foundations of Program Evaluation
- HLTH 651 Theory and Applications in Program Evaluation
- HLTH 653 Evaluation Practice and Management
- HLTH 654 Systems Thinking and Analysis in Health Program Planning and Evaluation

Select 1 from the following list if only 1 course was selected above:

- HLTH 603 Health Policy
- HLTH 626 Analysis and Management of Health Information
- HLTH 620 Experiential Learning in Evaluation

### 3. Graduate Research Field in Health Informatics

Students must successfully complete 2 required courses and 2 elective courses. An assessment of whether or not the student's thesis warrants the Health Informatics Graduate Research Field designation will be completed by the SPHHS.

Required courses:

- HLTH 701 Interdisciplinary Seminar in Public Health and Health Systems

- HLTH 719 Advanced Research Methods in Health Informatics OR Equivalent

Elective courses:

Select 1 from the following list:

- HLTH 633 Digital Health
- HLTH 629 Information Visualization
- HLTH 626 Analysis and Management of Health Information in Aging Populations
- HLTH 615 Requirements Specification and Analysis in Health Systems
- HLTH 616 Decision Making and Systems Thinking in Health Informatics
- HLTH 637 Public Health Informatics

Select 1 from the following list:

- CS 634 Security and Privacy for Health Systems
- CS 792 Data Structures and Standards in Health Informatics
- COGSCI 600 Cognitive Science
- SYDE 642 Cognitive Engineering Methods
- SYDE 644 Human Factors Testing
- CS 846 Software Engineering for Big Data

4. Graduate Research Field in Health and Environment

Students must successfully complete 2 required courses and 2 elective courses. An assessment of whether or not the student's thesis warrants the Health and Environment Graduate Research Field designation will be completed by the SPHHS.

Required courses:

- HLTH 701 Interdisciplinary Seminar in Public Health and Health Systems
- HLTH 604 Public Health and the Environment (or equivalent)

Elective courses:

Select 1 from the following list:

- HLTH 704 Advanced Qualitative Methods for Health Research

- HLTH 705 Advanced Statistical Methods for Analyzing Public Health and Health Systems Data
- HLTH 706 Advanced Epidemiological Methods

Select 1 from the following list:

- HLTH 623 Risk and Exposure Assessment in Public Health
- HLTH 624 Environmental Toxicology in Public Health
- HLTH 634 Environmental Epidemiology
- HLTH 631 Public Health Surveillance
- HLTH 661 GIS and Public Health
- HLTH 662 Global Health

#### 5. Graduate Research Field in Global Health

Students must successfully complete 2 required courses and 2 elective courses. An assessment of whether or not the student's thesis warrants the Global Health Graduate Research Field designation will be completed by the SPHHS.

Required courses:

- HLTH 701 Interdisciplinary Seminar in Public Health and Health Systems
- HLTH 662 Global Health (or equivalent)

Elective courses:

Select 1 from the following list:

- HLTH 704 Advanced Qualitative Methods for Health Research
- HLTH 705 Advanced Statistical Methods for Analyzing Public Health and Health Systems Data
- HLTH 706 Advanced Epidemiological Methods
- HLTH 719 Advanced Research Methods in Health Informatics

Select 1 from the following list (these courses are global-health focused in all examples and assignments):

- HLTH 632 Health Economics and Public Health
- HLTH 654 Systems Thinking and Analysis in Health Program Planning and Evaluation

## 6. Graduate Research Field in Aging and Health

Students must successfully complete 2 required courses and 2 elective courses. An assessment of whether or not the student's thesis warrants the Aging and Health Graduate Research Field designation will be completed by the SPHHS.

### Required courses:

- HLTH 701 Interdisciplinary Seminar in Public Health and Health Systems
- HLTH 750 Fundamentals of Aging, Health and Well Being (over two terms, parts A and B)

### Elective courses:

Select 1 from the following list:

- HLTH 704 Advanced Qualitative Methods for Health Research
- HLTH 705 Advanced Statistical Methods for Analyzing Public Health and Health Systems Data
- HLTH 706 Advanced Epidemiological Methods

Select 1 from the following list:

- HLTH 751 Aging Health and Well Being Research Seminar
- HLTH 642 Interdisciplinary Perspectives on Aging
- HLTH 627 Dementia Care
- HLTH 630 Geriatric Medicine
- HLTH 626 Analysis Management of Health Informatics in Aging Population
- HLTH 672: Epidemiologic Methods in Aging Research
- Link(s) to courses
  - Health Studies (HLTH) courses
  - Graduate course search
- Academic Integrity Workshop
- PhD Comprehensive Examination
  - Candidates must complete a PhD Comprehensive Examination within seven terms of first registration. The comprehensive examination requirement is based on providing written responses to three questions and successfully completing an oral defense. The purpose of the comprehensive examination is to test the breadth and depth of the candidate's

	<p>comprehension of the methodological and theoretical aspects of their field of study. The process is designed to enable candidates to acquire a solid grounding in their core area of public health research that will provide a foundation for undertaking dissertation research. The examination will also test the candidate's ability to critically evaluate the literature and synthesize information from sources to identify knowledge gaps and recommend solutions.</p> <ul style="list-style-type: none"> <li>• PhD Thesis <ul style="list-style-type: none"> <li>○ A PhD thesis on an approved topic is required, which is to be defended in an oral examination. The research is to be conducted under the supervision of the student's supervisor and the advisory committee. The PhD thesis advisory committee consists of at least three members, with the supervisor and at least one other committee member being faculty from within the School of Public Health and Health Systems. The proposal will be defended before the thesis committee; however, upon completion of the thesis, the final document will be defended before a five person Examination Board.</li> </ul> </li> </ul>
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**How will students currently registered in the program be impacted by these changes?**

*Students who are already in the program will have the option to declare these Graduate Research Fields before graduation, if they have taken the required courses.*

- Departmental approval date** (mm/dd/yy): 02/13/19
- Reviewed by GSPA** (for GSPA use only) date (mm/dd/yy): 04/16/2019
- Faculty approval date** (mm/dd/yy): 03/07/19
- Senate Graduate & Research Council (SGRC) approval date** (mm/dd/yy):
- Senate approval date** (mm/dd/yy) (if applicable):

# ARTS GRADUATE STUDIES

May 29, 2019

TO: Members, Senate Graduate and Research Council

FROM: Rita Cherkewski, Administrative Coordinator, Arts Graduate Studies & Research

RE: Graduate Affairs Group Reports – March, April 2019

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The attached Arts Graduate Affairs Group reports were approved by the Arts Faculty Council meeting on May 28<sup>th</sup>, 2019 and are now being submitted for approval by the Senate Graduate and Research Council on June 10<sup>th</sup>, 2019.

*Rita Cherkewski*

Rita Cherkewski

Attach.

**ARTS FACULTY COUNCIL REPORT TO**  
**SENATE GRADUATE AND RESEARCH COUNCIL**

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**CURRICULAR ITEMS for approval [bottom right pagination]**

- A) **Economics** - Program Change: MA, Economics; MA, Economics – Coop; MA, Economics – Water; MA, Economics – Water - Coop – Identifying when required courses should be completed [1-3]
- B) **English** – Milestone: MA in English (Experimental Digital Media, Experimental Digital Media – Coop, Literary Studies, Literary Studies – Coop, Rhetoric and Communication Design, Rhetoric and Communication Design – Coop) – Remove Language Requirement [4-5]
- C) **English** – Milestones inactivation: MA in English (Experimental Digital Media, Experimental Digital Media – Coop, Literary Studies, Literary Studies – Coop, Rhetoric and Communication Design, Rhetoric and Communication Design – Coop) – Remove Master’s Language Requirement [6]
- D) **Global Governance** – Program Change: Adding coop option to degree [7-15]
- E) **Global Governance** – Milestone: Graduate Studies Work Report [16]

Prior to form submission, review the [content revision instructions](#) and information regarding [major/minor modifications](#). For questions about the form submission, contact [Trevor Clews](#), Graduate Studies and Postdoctoral Affairs (GSPA).

**Faculty:** Arts

- Program:** 1) Master of Arts (MA) Economics  
 2) Master of Arts (MA) Economics – Co-operative Program  
 3) Master of Arts (MA) Economics – Water  
 4) Master of Arts (MA Economics – Water – Co-operative Program

**Program contact name(s):** Dinghai Xu

**Form completed by:** Pat Shaw

**Description of proposed changes:**

Note: changes to courses and milestones also require the completion/submission of the SGRC Course/Milestone-New/Revision/Inactivation form ([PC docx version](#) or [MAC docx version](#)).

*Updating the course requirements section to identify when students should complete their required courses.*

**Is this a [major modification](#) to the program?** No

**Rationale for change(s):**

*To ensure that MA students are completing their courses in the proper sequence and on time.*

**Proposed effective date:** Term: Fall Year: 2019

**Current [Graduate Studies Academic Calendar \(GSAC\)](#) page** (include the link to the web page where the changes are to be made):

<https://uwaterloo.ca/graduate-studies-academic-calendar/arts/department-economics>

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
<p><b>Degree requirements</b>  <b>Master's Research Paper option:</b></p> <ul style="list-style-type: none"> <li>• <b>Courses</b> <ul style="list-style-type: none"> <li>○ Students must complete 8 courses (6 required and 2 elective) in the following sequence:</li> <li>○ Fall term (year 1)               <ul style="list-style-type: none"> <li>▪ ECON 600 Mathematics for Economists</li> </ul> </li> </ul> </li> </ul>	<p><b>Degree requirements</b>  <b>Master's Research Paper option:</b></p> <ul style="list-style-type: none"> <li>• <b>Courses</b> <ul style="list-style-type: none"> <li>○ Students must complete 8 courses (6 required and 2 elective) in the following sequence:</li> <li>○ Fall term (year 1)               <ul style="list-style-type: none"> <li>▪ ECON 600 Mathematics for Economists</li> </ul> </li> </ul> </li> </ul>

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
<ul style="list-style-type: none"> <li>▪ ECON 601 Microeconomic Theory I</li> <li>▪ ECON 606 Research Methodology</li> <li>▪ ECON 621 Econometrics I</li> <li>▪ 1 elective course</li> <li>○ Winter term (year 1) <ul style="list-style-type: none"> <li>▪ ECON 602 Macroeconomic Theory I</li> <li>▪ ECON 622 Applied Microeconometrics I or ECON 623 Applied Macroeconometrics I</li> <li>▪ 1 elective course</li> </ul> </li> <li>○ Students will be required to maintain a cumulative average of 70% at the end of each term. Students who do not meet this average will be required to withdraw.</li> <li>○ Students are allowed to take 1 elective outside of the Department of Economics, with the approval of the Graduate Advisor. The electives have to be 600, 700, or 800 level graduate courses.</li> </ul> <p><b>Coursework option:</b></p> <ul style="list-style-type: none"> <li>• <b>Courses</b> <ul style="list-style-type: none"> <li>○ Students must complete 9 courses (6 required and 3 elective) in the following sequence: <ul style="list-style-type: none"> <li>○ Fall term (year 1) <ul style="list-style-type: none"> <li>▪ ECON 600 Mathematics for Economists</li> <li>▪ ECON 601 Microeconomic Theory I</li> <li>▪ ECON 606 Research Methodology</li> <li>▪ ECON 621 Econometrics I</li> <li>▪ 1 elective course</li> </ul> </li> <li>○ Winter term (year 1) <ul style="list-style-type: none"> <li>▪ ECON 602 Macroeconomic Theory I</li> <li>▪ ECON 622 Applied Microeconometrics I or ECON 623 Applied Macroeconometrics I</li> <li>▪ 2 elective courses</li> </ul> </li> </ul> </li> <li>○ Students are expected to write a paper with a value of at least 30% in at least 1 of their courses.</li> <li>○ Students will be required to maintain a cumulative average of 70% at the end of each term. Students who do not</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ ECON 601 Microeconomic Theory I</li> <li>▪ ECON 606 Research Methodology</li> <li>▪ ECON 621 Econometrics I</li> <li>▪ 1 elective course</li> <li>○ Winter term (year 1) <ul style="list-style-type: none"> <li>▪ ECON 602 Macroeconomic Theory I</li> <li>▪ ECON 622 Applied Microeconometrics I or ECON 623 Applied Macroeconometrics I</li> <li>▪ 1 elective course</li> </ul> </li> <li>○ <u>Normally, students must complete all of their required courses in the first two terms. Fall term: ECON 600, 601, 606 and 621. Winter term: ECON 602, and 622 or 623.</u></li> <li>○ Students will be required to maintain a cumulative average of 70% at the end of each term. Students who do not meet this average will be required to withdraw.</li> <li>○ Students are allowed to take 1 elective outside of the Department of Economics, with the approval of the Graduate Advisor. The electives have to be 600, 700, or 800 level graduate courses.</li> </ul> <p><b>Coursework option:</b></p> <ul style="list-style-type: none"> <li>• <b>Courses</b> <ul style="list-style-type: none"> <li>○ Students must complete 9 courses (6 required and 3 elective) in the following sequence: <ul style="list-style-type: none"> <li>○ Fall term (year 1) <ul style="list-style-type: none"> <li>▪ ECON 600 Mathematics for Economists</li> <li>▪ ECON 601 Microeconomic Theory I</li> <li>▪ ECON 606 Research Methodology</li> <li>▪ ECON 621 Econometrics I</li> <li>▪ 1 elective course</li> </ul> </li> <li>○ Winter term (year 1) <ul style="list-style-type: none"> <li>▪ ECON 602 Macroeconomic Theory I</li> <li>▪ ECON 622 Applied Microeconometrics I or ECON 623 Applied Macroeconometrics I</li> <li>▪ 2 elective courses</li> </ul> </li> </ul> </li> </ul> </li> </ul>

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
<p>meet this average will be required to withdraw.</p> <ul style="list-style-type: none"> <li>○ Students are allowed to take 1 elective outside of the Department of Economics, with the approval of the Graduate Advisor. The electives have to be 600, 700, or 800 level graduate courses.</li> </ul>	<ul style="list-style-type: none"> <li>○ <u>Normally, students must complete all of their required courses in the first two terms. Fall term: ECON 600, 601, 606 and 621. Winter term: ECON 602, and 622 or 623.</u></li> <li>○ Students are expected to write a paper with a value of at least 30% in at least 1 of their courses.</li> <li>○ Students will be required to maintain a cumulative average of 70% at the end of each term. Students who do not meet this average will be required to withdraw.</li> <li>○ Students are allowed to take 1 elective outside of the Department of Economics, with the approval of the Graduate Advisor. The electives have to be 600, 700, or 800 level graduate courses.</li> </ul>

**How will students currently registered in the program be impacted by these changes?**

*This change is only applicable to students who are applying to the program as of fall 2019.*

**Department/School approval date** (03/29/19):

**Reviewed by GSPA** (for GSPA use only)  date (mm/dd/yy): 04/12/2019

**Faculty approval date** (mm/dd/yy): 05/28/19

**Senate Graduate & Research Council (SGRC) approval date** (mm/dd/yy):

**Senate approval date** (mm/dd/yy) (if applicable):

Prior to form submission, review the [content revision instructions](#) and information regarding [major/minor modifications](#). For questions about the form submission, contact [Trevor Clews](#), Graduate Studies Office.

**Faculty:** Arts

- Program:** 1) Master of Arts (MA) in English - Experimental Digital Media  
2) Master of Arts (MA) in English - Experimental Digital Media – Co-operative Program  
3) Master of Arts (MA) in English - Literary Studies  
4) Master of Arts (MA) in English - Literary Studies – Co-operative Program  
5) Master of Arts (MA) in English - Rhetoric and Communication Design  
6) Master of Arts (MA) in English - Rhetoric and Communication Design – Co-operative Program

**Program contact name(s):** Marcel O’Gorman (Grad Officer), Tina Davidson (Grad Coordinator)

**Form completed by:** Marcel O’Gorman

**Description of proposed changes:**

Note: changes to courses and milestones also require the completion/submission of the SGRC Course/Milestone-New/Revision/Inactivation form ([PC docx version](#) or [MAC docx version](#)).

*We would like to remove the Master’s Language Requirement milestone from the MA in English programs.*

**Is this a [major modification](#) to the program?** No

**Rationale for change(s):**

*The Language Requirement has proven to be a “hoop” for students to jump through rather than serving as part of their research development. The Requirement adds undue stress and time, and complexity to our one-year program, increasing time-to-completion for students. Departments of English at peer institutions (Western, U of Toronto, Queens, McMaster) do not have a Master’s Language Requirement, so this change will bring us in line with provincial standards and could help improve our recruitment and retention.*

**Proposed effective date:** Term: Fall Year: 2019

**Current [Graduate Studies Academic Calendar \(GSAC\)](#) page** (include the link to the web page where the changes are to be made):

<https://uwaterloo.ca/graduate-studies-academic-calendar/arts/departments/english-language-and-literature/master-arts-ma-english-experimental-digital-media>

<https://uwaterloo.ca/graduate-studies-academic-calendar/arts/departments/english-language-and-literature/master-arts-ma-english-experimental-digital-media-co-operative-program-direct-entry>

<https://uwaterloo.ca/graduate-studies-academic-calendar/arts/departments/english-language-and-literature/master-arts-ma-english-literary-studies>

<https://uwaterloo.ca/graduate-studies-academic-calendar/arts/departments/english-language-and-literature/master-arts-ma-english-literary-studies-co-operative-program-direct-entry>

<https://uwaterloo.ca/graduate-studies-academic-calendar/arts/departments/english-language-and-literature/master-arts-ma-english-rhetoric-and-communication-design>

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
<p><input type="checkbox"/> <del>Master's Language Requirement</del></p> <ul style="list-style-type: none"> <li><del>○ Each candidate must attain or demonstrate basic competence subject to feasibility of testing by the University of Waterloo in a language other than English, excluding middle English but not Anglo-Saxon.</del></li> <li><del>○ Proof of competence may take four forms:           <ul style="list-style-type: none"> <li><del>▪ Successful completion of two terms of beginning undergraduate study in the language.</del></li> <li><del>▪ Successful sitting of an exam at the appropriate level set by a department of the University.</del></li> <li><del>▪ Completion of degree-level study in that language at another university.</del></li> <li><del>▪ Evidence of other kinds that is deemed sufficient by the Departmental Graduate Studies Committee.</del></li> </ul> </del></li> </ul>	<p><i>Not Applicable</i></p>

**How will students currently registered in the program be impacted by these changes?**

*Students currently registered will not be required to complete the Language Requirement.*

**Departmental approval date** (mm/dd/yy): 01/25/2019

**Reviewed by GSO** (for GSO use only)  date (mm/dd/yy): 02/22/2019

**Faculty approval date** (mm/dd/yy): 05/28/19

**Senate Graduate & Research Council (SGRC) approval date** (mm/dd/yy):

**Senate approval date** (mm/dd/yy) (if applicable):

Faculty: Arts

Effective term: Term/Year Fall 2019

Course  New  Revision  Inactivation   
Milestone  New  Revision  Inactivation

New milestone title: **Master's Language Requirement**

For course revisions, indicate the type(s) of changes:  
(e.g. consent, description, title, requisites)

Course Subject code: Course number:

Course Title (max. 100 characters incl. spaces):

Course Short Title (max. 30 characters incl. spaces):

Grading Basis:

Course Credit Weight:

Course Consent Required:

Course Description:

New course description (for revision only):

Meet Type(s):

Primary Meet Type:

[Requisites:](#)

Special topics course: Yes  No

Cross-listed: Yes  No

Course Subject(s) to be cross-listed with and approval status:

Sections combined/heldwith:

### Rationale for request:

The milestone should be removed from the following programs:

- 1) Master of Arts (MA) in English - Experimental Digital Media
- 2) Master of Arts (MA) in English - Experimental Digital Media – Co-operative Program
- 3) Master of Arts (MA) in English - Literary Studies
- 4) Master of Arts (MA) in English - Literary Studies – Co-operative Program
- 5) Master of Arts (MA) in English - Rhetoric and Communication Design
- 6) Master of Arts (MA) in English - Rhetoric and Communication Design – Co-operative Program

Prepared by: Marcel O’Gorman

Date: 27-Feb-19

Prior to form submission, review the [content revision instructions](#) and information regarding [major/minor modifications](#). For questions about the form submission, contact [Trevor Clews](#), Graduate Studies Office.

**Faculty:** Arts and Environment

**Program:** Master of Arts (MA) in Global Governance - Co-operative Program

**Program contact name(s):** Suzan Ilcan, Andrew Thompson, Shelby Davies

**Form completed by:** Shelby Davies

**Description of proposed changes:**

Note: changes to courses and milestones also require the completion/submission of the SGRC Course/Milestone-New/Revision/Inactivation form ([PC docx version](#) or [MAC docx version](#)).

*Students will have the option to complete the co-op or internship stream of the MA Global Governance program. They cannot complete both. Co-op students will complete one 4-month work term, and submit a work term report within one month of the completion of the work term. The work term report will be recorded as an official milestone (see milestone activation form). Students may only complete one 4-month work term, to be completed during their third or fourth term of the program. Students will apply for co-op after they have gained admission to the program in September, and will be setup with a work term sequence of Spring and Fall (their third and fourth terms).*

**Is this a [major modification](#) to the program?** Yes

**Rationale for change(s):**

*One of the degree requirements for students in the MA Global Governance program is a four-month internship, which the program facilitates. The internship term is designed to give students valuable work experience with professional organizations working in the field of global governance. The internship allows students to learn from and gain experience over a period of working in the public, private, international, or NGO sector where they gain practical and academic knowledge and skills which are applicable to understanding the challenges that global issues and problems present in a professional context. The program is committed to facilitating professional opportunities for our students with leading international non-governmental organizations, government agencies and international organizations. Indeed, one of the draws of the MAGG is the opportunity to work for leading international NGOs or even the United Nations.*

*In response to the external evaluation from its 2017-2018 cyclical review, the program would like to add a co-op stream that complements the internship stream for the following three reasons:*

*Growth: The MAGG is growing. Historically, the program has admitted 15 to 17 students/year. However, in 2018-2019 it admitted 20 students, its biggest class to date. Eventually, the program would like to be in a position whereby it could admit 25 to 30 per year. Adding a co-op stream would make current and future growth more sustainable, by allowing students to access job opportunities through UW's co-op system without placing additional administrative demands on the program.*

*International versus Domestic placements: At present, about one-third of MAGG students go abroad for their placements. Relevant international placements tend to be unpaid (for example, the United Nations does not offer paid positions), and the students who wish to go abroad can mitigate the costs of their placements by applying for International Experience Award funding. The rest of the students do placements in Canada (usually with the federal government), and these are generally paid opportunities. Establishing a co-op stream would help to generate additional paid opportunities for those students who wish to do their placements in Canada.*

*Equity: At present, students in the MAGG pay full-tuition while on placement, whereas students in co-op programs at UW only pay an administrative fee, which the program believes raises questions of fairness. For example, the MAGG is one of the federal government's recognized "internship/co-op" programs, and every year the program sends students to various departments in Ottawa. However, to be eligible for the placements students must be registered a full-time status. By adding a co-op stream, students would be able to take advantage of these same opportunities without having to pay full tuition.*

**Proposed effective date:** Term: Fall Year: 2020

**Current [Graduate Studies Academic Calendar \(GSAC\)](#) page** (include the link to the web page where the changes are to be made):

<https://uwaterloo.ca/graduate-studies-academic-calendar/arts/global-governance>

<https://uwaterloo.ca/graduate-studies-academic-calendar/environment/global-governance>

Current MA in Global Governance Graduate Studies Academic Calendar content:	Proposed MA in Global Governance - Co-operative Program Graduate Studies Academic Calendar content:
<p><b>Master of Arts (MA) in Global Governance</b></p> <p><b>Fields (areas of research)</b></p> <ul style="list-style-type: none"> <li>• Conflict and Security</li> <li>• Global Environment</li> <li>• Global Justice and Human Rights</li> <li>• Global Political Economy</li> <li>• Global Social Governance</li> <li>• Multilateral Institutions and Diplomacy</li> </ul> <p><b>Program information</b></p> <ul style="list-style-type: none"> <li>• Admit term(s) <ul style="list-style-type: none"> <li>○ Fall</li> </ul> </li> <li>• Delivery mode <ul style="list-style-type: none"> <li>○ On-campus</li> </ul> </li> <li>• Length of program <ul style="list-style-type: none"> <li>○ The program is designed to be completed in 4 terms.</li> </ul> </li> <li>• Program type <ul style="list-style-type: none"> <li>○ Master's</li> <li>○ Research</li> </ul> </li> <li>• Registration option(s) <ul style="list-style-type: none"> <li>○ Full-time</li> <li>○ Part-time</li> </ul> </li> <li>• Registration option(s) information <ul style="list-style-type: none"> <li>○ This program will not normally be offered on a part-time basis. In exceptional circumstances, students may assume part-time status after their formal course work has been completed.</li> </ul> </li> <li>• Study option(s)</li> </ul>	<p><b>Master of Arts (MA) in Global Governance - <u>Co-operative Program</u></b></p> <p><b>Fields (areas of research)</b></p> <ul style="list-style-type: none"> <li>• Conflict and Security</li> <li>• Global Environment</li> <li>• Global Justice and Human Rights</li> <li>• Global Political Economy</li> <li>• Global Social Governance</li> <li>• Multilateral Institutions and Diplomacy</li> </ul> <p><b>Program information</b></p> <ul style="list-style-type: none"> <li>• Admit term(s) <ul style="list-style-type: none"> <li>○ Fall</li> </ul> </li> <li>• Delivery mode <ul style="list-style-type: none"> <li>○ On-campus</li> </ul> </li> <li>• Length of program <ul style="list-style-type: none"> <li>○ The program is designed to be completed in 4 terms.</li> </ul> </li> <li>• Program type <ul style="list-style-type: none"> <li>○ <u>Co-operative</u></li> <li>○ Master's</li> <li>○ Research</li> </ul> </li> <li>• Registration option(s) <ul style="list-style-type: none"> <li>○ Full-time</li> <li>○ Part-time</li> </ul> </li> <li>• Registration option(s) information <ul style="list-style-type: none"> <li>○ This program will not normally be offered on a part-time basis. In exceptional circumstances, students may assume part-time status after their formal course work has been completed.</li> </ul> </li> </ul>

Current MA in Global Governance Graduate Studies Academic Calendar content:	Proposed MA in Global Governance - Co-operative Program Graduate Studies Academic Calendar content:
<p data-bbox="233 163 613 193">○ <a href="#">Master's Research Paper</a></p> <p data-bbox="90 235 435 264"><b>Admission requirements</b></p> <ul data-bbox="139 306 799 1205" style="list-style-type: none"> <li>• Minimum requirements <ul data-bbox="233 340 799 835" style="list-style-type: none"> <li>○ Successful completion of an Honours Degree in Political Science, Economics, History or a related field (including international, environmental or global studies undergraduate degrees) with an overall average of at least 78% in the final 20 courses.</li> <li>○ Successful completion of at least one introductory course in economics at the university level before commencing the program.</li> <li>○ Experienced professionals in the private or public sectors will be considered for admission, but additional course work may be required.</li> </ul> </li> <li>• Application materials <ul data-bbox="233 869 701 1003" style="list-style-type: none"> <li>○ Résumé</li> <li>○ Supplementary information form</li> <li>○ Transcript(s)</li> <li>○ Writing sample</li> </ul> </li> <li>• References <ul data-bbox="233 1037 662 1138" style="list-style-type: none"> <li>○ Number of references: 3</li> <li>○ Type of references: at least 2 academic.</li> </ul> </li> <li>• <a href="#">English language proficiency (ELP)</a> (if applicable)</li> </ul> <p data-bbox="90 1247 386 1276"><b>Degree requirements</b></p> <p data-bbox="90 1339 545 1369"><b>Master's Research Paper option:</b></p> <ul data-bbox="139 1411 799 1936" style="list-style-type: none"> <li>• <a href="#">Graduate Academic Integrity Module (Graduate AIM)</a></li> <li>• <b>Courses</b> <ul data-bbox="233 1549 799 1936" style="list-style-type: none"> <li>○ Students must complete 6 courses during the first two terms, as follows: <ul data-bbox="328 1612 799 1936" style="list-style-type: none"> <li>▪ Core course component: GGOV 600 Global Governance</li> <li>▪ History component: HIST 605 Global Governance in Historical Perspective</li> <li>▪ Economics component: ECON 637 Economic Analysis and Global Governance <ul data-bbox="422 1885 799 1936" style="list-style-type: none"> <li>▪ Students with more advanced economics</li> </ul> </li> </ul> </li> </ul> </li> </ul>	<ul data-bbox="873 163 1351 226" style="list-style-type: none"> <li>• Study option(s) <ul data-bbox="967 197 1351 226" style="list-style-type: none"> <li>○ <a href="#">Master's Research Paper</a></li> </ul> </li> </ul> <p data-bbox="824 268 1169 298"><b>Admission requirements</b></p> <ul data-bbox="873 340 1529 634" style="list-style-type: none"> <li>• Minimum requirements <ul data-bbox="967 373 1529 634" style="list-style-type: none"> <li>○ <u>After students have been admitted to the MA in Global Governance program they can apply to transfer into the MA in Global Governance Co-operative Program. Admittance will be decided based on the student's academic progress to date, and is subject to approval by the Graduate Officer.</u></li> </ul> </li> </ul> <p data-bbox="824 676 1117 705"><b>Degree requirements</b></p> <p data-bbox="824 747 1279 777"><b>Master's Research Paper option:</b></p> <ul data-bbox="873 819 1529 1936" style="list-style-type: none"> <li>• <a href="#">Graduate Academic Integrity Module (Graduate AIM)</a></li> <li>• <b>Courses</b> <ul data-bbox="967 949 1529 1936" style="list-style-type: none"> <li>○ Students must complete 6 courses during the first two terms, as follows: <ul data-bbox="1062 1012 1529 1936" style="list-style-type: none"> <li>▪ Core course component: GGOV 600 Global Governance</li> <li>▪ History component: HIST 605 Global Governance in Historical Perspective</li> <li>▪ Economics component: ECON 637 Economic Analysis and Global Governance <ul data-bbox="1156 1285 1529 1936" style="list-style-type: none"> <li>▪ Students with more advanced economics background (as a minimum, at least one Economics course above the 100 level that focused on international economics or an equivalent applied course such as development economics, environmental economics) are recommended to replace ECON 637 with one from a list of courses, including internationally oriented Economics courses, some of the PSCI international</li> </ul> </li> </ul> </li> </ul> </li> </ul>

Current MA in Global Governance Graduate Studies Academic Calendar content:	Proposed MA in Global Governance - Co-operative Program Graduate Studies Academic Calendar content:
<p>background (as a minimum, at least one Economics course above the 100 level that focused on international economics or an equivalent applied course such as development economics, environmental economics) are recommended to replace ECON 637 with one from a list of courses, including internationally oriented Economics courses, some of the PSCI international political economy courses, or Faculty of Environment courses that include significant international political economy content.</p> <ul style="list-style-type: none"> <li>▪ Political Science component: 1 of the following courses: <ul style="list-style-type: none"> <li>▪ GGOV 610/PSCI 688 Governance of Global Economy (GV 731 at WLU)</li> <li>▪ GGOV 620/ERS 604/PSCI 604 Advanced Topics in Global Environmental Governance (GV 732 at WLU)</li> <li>▪ GGOV 621/ERS 606/PSCI 606 Governing Global Food and Agriculture Systems</li> <li>▪ GGOV 630/PSCI 678/PACS 634 Security Ontology-Theory (GV 733 at WLU)</li> <li>▪ GGOV 631/PSCI 679/PACS 635 Security Ontology-Issues &amp; Institutions</li> <li>▪ GGOV 640/PSCI 658/PACS 633 Human Rights in the Globalized World</li> </ul> </li> </ul>	<p>political economy courses, or Faculty of Environment courses that include significant international political economy content.</p> <ul style="list-style-type: none"> <li>▪ Political Science component: 1 of the following courses: <ul style="list-style-type: none"> <li>▪ GGOV 610/PSCI 688 Governance of Global Economy (GV 731 at WLU)</li> <li>▪ GGOV 620/ERS 604/PSCI 604 Advanced Topics in Global Environmental Governance (GV 732 at WLU)</li> <li>▪ GGOV 621/ERS 606/PSCI 606 Governing Global Food and Agriculture Systems</li> <li>▪ GGOV 630/PSCI 678/PACS 634 Security Ontology-Theory (GV 733 at WLU)</li> <li>▪ GGOV 631/PSCI 679/PACS 635 Security Ontology-Issues &amp; Institutions</li> <li>▪ GGOV 640/PSCI 658/PACS 633 Human Rights in the Globalized World</li> <li>▪ GGOV 642/PSCI 639 Global Social Governance (GV 735 at WLU)</li> <li>▪ PSCI 657/GGOV 650 International Organizations and Global Governance</li> </ul> </li> <li>▪ Elective component: 2 additional courses chosen from the following list: <ul style="list-style-type: none"> <li>▪ ECON 635 International Trade and Development</li> <li>▪ GGOV 611/PSCI 686 Emerging Economies in Global Governance</li> <li>▪ GGOV 612/PSCI 612/PACS 631 Theories of Globalization</li> </ul> </li> </ul>

Current MA in Global Governance Graduate Studies Academic Calendar content:	Proposed MA in Global Governance - Co-operative Program Graduate Studies Academic Calendar content:
<ul style="list-style-type: none"> <li>▪ GGOV 642/PSCI 639 Global Social Governance (GV 735 at WLU)</li> <li>▪ PSCI 657/GGOV 650 International Organizations and Global Governance</li> <li>▪ Elective component: 2 additional courses chosen from the following list: <ul style="list-style-type: none"> <li>▪ ECON 635 International Trade and Development</li> <li>▪ GGOV 611/PSCI 686 Emerging Economies in Global Governance</li> <li>▪ GGOV 612/PSCI 612/PACS 631 Theories of Globalization</li> <li>▪ GGOV 613/PSCI 668 The Politics of National Innovation Systems</li> <li>▪ GGOV 614/PSCI 614 International Business and Development</li> <li>▪ GGOV 615/PSCI 615 Global Poverty</li> <li>▪ GGOV 618 Special Topics in Global Political Economy</li> <li>▪ GGOV 619 Readings in Global Political Economy</li> <li>▪ GGOV 622 Complexity and Global Governance</li> <li>▪ GGOV 628 Special Topics in Global Environmental Governance</li> <li>▪ GGOV 629 Readings in Global Environmental Governance</li> <li>▪ GGOV 632 Post-War Reconstruction and State Building</li> <li>▪ GGOV 633 Managing Nuclear Risk</li> <li>▪ GGOV 634/PSCI 620 Gender and Global Politics</li> <li>▪ GGOV 638 Special Topics in Conflict and Security</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ GGOV 613/PSCI 668 The Politics of National Innovation Systems</li> <li>▪ GGOV 614/PSCI 614 International Business and Development</li> <li>▪ GGOV 615/PSCI 615 Global Poverty</li> <li>▪ GGOV 618 Special Topics in Global Political Economy</li> <li>▪ GGOV 619 Readings in Global Political Economy</li> <li>▪ GGOV 622 Complexity and Global Governance</li> <li>▪ GGOV 628 Special Topics in Global Environmental Governance</li> <li>▪ GGOV 629 Readings in Global Environmental Governance</li> <li>▪ GGOV 632 Post-War Reconstruction and State Building</li> <li>▪ GGOV 633 Managing Nuclear Risk</li> <li>▪ GGOV 634/PSCI 620 Gender and Global Politics</li> <li>▪ GGOV 638 Special Topics in Conflict and Security</li> <li>▪ GGOV 639 Readings in Conflict and Security</li> <li>▪ GGOV 641 International Human Rights (GV 760 at WLU)</li> <li>▪ GGOV 643 Global Health Governance</li> <li>▪ GGOV 644/SOC 784 International Migration: Practice, Theory and Regulation</li> <li>▪ GGOV 648 Special Topics in Human Rights and Global Justice</li> <li>▪ GGOV 649 Readings in Human Rights and Global Justice</li> <li>▪ GGOV 651/PSCI 617 Unconventional Diplomacy</li> </ul>

Current MA in Global Governance Graduate Studies Academic Calendar content:	Proposed MA in Global Governance - Co-operative Program Graduate Studies Academic Calendar content:
<ul style="list-style-type: none"> <li>▪ GGOV 639 Readings in Conflict and Security</li> <li>▪ GGOV 641 International Human Rights (GV 760 at WLU)</li> <li>▪ GGOV 643 Global Health Governance</li> <li>▪ GGOV 644/SOC 784 International Migration: Practice, Theory and Regulation</li> <li>▪ GGOV 648 Special Topics in Human Rights and Global Justice</li> <li>▪ GGOV 649 Readings in Human Rights and Global Justice</li> <li>▪ GGOV 651/PSCI 617 Unconventional Diplomacy</li> <li>▪ GGOV 652/PSCI 618 Non-State Actors in Global Governance</li> <li>▪ GGOV 653 International Organizations and Public Policy</li> <li>▪ GGOV 658 Special Topics in Multilateral Institutions and Diplomacy</li> <li>▪ GGOV 659 Readings in Multilateral Institutions and Diplomacy</li> <li>▪ GGOV 660 Public International Law</li> <li>▪ GGOV 661 International Organizations Law</li> <li>▪ GGOV 662/SOC 781 Global Development Governance</li> <li>▪ GGOV 663 China and Global Governance</li> <li>▪ GGOV 668 Special Topics in Global Social Governance</li> <li>▪ GGOV 669 Readings in Global Social Governance</li> <li>▪ HIST 604 Theory and Practice of Insurgency and Counterinsurgency: Historical and Contemporary Issues</li> </ul>	<ul style="list-style-type: none"> <li>▪ GGOV 652/PSCI 618 Non-State Actors in Global Governance</li> <li>▪ GGOV 653 International Organizations and Public Policy</li> <li>▪ GGOV 658 Special Topics in Multilateral Institutions and Diplomacy</li> <li>▪ GGOV 659 Readings in Multilateral Institutions and Diplomacy</li> <li>▪ GGOV 660 Public International Law</li> <li>▪ GGOV 661 International Organizations Law</li> <li>▪ GGOV 662/SOC 781 Global Development Governance</li> <li>▪ GGOV 663 China and Global Governance</li> <li>▪ GGOV 668 Special Topics in Global Social Governance</li> <li>▪ GGOV 669 Readings in Global Social Governance</li> <li>▪ HIST 604 Theory and Practice of Insurgency and Counterinsurgency: Historical and Contemporary Issues</li> <li>▪ HIST 606 International Development in Historical Perspective</li> <li>▪ HIST 610 War and Society in the Twentieth Century I</li> <li>▪ HIST 611 War and Society in the Twentieth Century II</li> <li>▪ HIST 626 Modern European History I</li> <li>▪ HIST 627 Modern European History II</li> <li>▪ HIST 632 History of the United States I</li> <li>▪ HIST 651 Historians and Public Policy</li> <li>▪ PSCI 639/GGOV 642 Global Social Governance</li> </ul>

Current MA in Global Governance Graduate Studies Academic Calendar content:	Proposed MA in Global Governance - Co-operative Program Graduate Studies Academic Calendar content:
<ul style="list-style-type: none"> <li>▪ HIST 606 International Development in Historical Perspective</li> <li>▪ HIST 610 War and Society in the Twentieth Century I</li> <li>▪ HIST 611 War and Society in the Twentieth Century II</li> <li>▪ HIST 626 Modern European History I</li> <li>▪ HIST 627 Modern European History II</li> <li>▪ HIST 632 History of the United States I</li> <li>▪ HIST 651 Historians and Public Policy</li> <li>▪ PSCI 639/GGOV 642 Global Social Governance</li> <li>▪ PSCI 651 Democracy and Development</li> <li>▪ PSCI 657/GGOV 650 International Organizations and Global Governance</li> <li>▪ PSCI 658/GGOV 640 Human Rights in the Globalized World</li> <li>▪ PSCI 680 Critical Security Studies</li> <li>▪ PSCI 681 Power Politics and World Order Studies</li> <li>▪ PSCI 684 Special Topics in International Diplomacy</li> <li>▪ Note: Not all courses are offered each year and more courses may be available. Consult the respective departments for information on available courses in any given year. Consult the graduate studies calendar for full course descriptions.</li> </ul> <ul style="list-style-type: none"> <li>• <b>Link(s) to courses</b> <ul style="list-style-type: none"> <li>○ <a href="#">Global Governance (GGOV) courses</a></li> <li>○ <a href="#">Graduate course search</a></li> </ul> </li> <li>• <b>Academic Integrity Workshop</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ PSCI 651 Democracy and Development</li> <li>▪ PSCI 657/GGOV 650 International Organizations and Global Governance</li> <li>▪ PSCI 658/GGOV 640 Human Rights in the Globalized World</li> <li>▪ PSCI 680 Critical Security Studies</li> <li>▪ PSCI 681 Power Politics and World Order Studies</li> <li>▪ PSCI 684 Special Topics in International Diplomacy</li> <li>▪ Note: Not all courses are offered each year and more courses may be available. Consult the respective departments for information on available courses in any given year. Consult the graduate studies calendar for full course descriptions.</li> </ul> <ul style="list-style-type: none"> <li>• <b>Link(s) to courses</b> <ul style="list-style-type: none"> <li>○ <a href="#">Global Governance (GGOV) courses</a></li> <li>○ <a href="#">Graduate course search</a></li> </ul> </li> <li>• <b>Academic Integrity Workshop</b></li> <li>• <b>Master's Seminar</b> <ul style="list-style-type: none"> <li>○ Students must attend the program seminar. The seminar will meet regularly throughout the first and second term. Meetings will include visiting speakers (at both the University of Waterloo and the Centre for International Governance Innovation), guest talks by core faculty members and, during the second term, discussions of the research plans of students for the Master's Research Paper (MRP). Attendance at the Seminar is required, but grades will be assigned on a credit/non-credit (or pass/fail) basis.</li> </ul> </li> </ul>

Current MA in Global Governance Graduate Studies Academic Calendar content:	Proposed MA in Global Governance - Co-operative Program Graduate Studies Academic Calendar content:
<ul style="list-style-type: none"> <li>• <b>Master's Seminar</b> <ul style="list-style-type: none"> <li>○ Students must attend the program seminar. The seminar will meet regularly throughout the first and second term. Meetings will include visiting speakers (at both the University of Waterloo and the Centre for International Governance Innovation), guest talks by core faculty members and, during the second term, discussions of the research plans of students for the Master's Research Paper (MRP). Attendance at the Seminar is required, but grades will be assigned on a credit/non-credit (or pass/fail) basis.</li> </ul> </li>   <li>• <b>Master's Internship</b> <ul style="list-style-type: none"> <li>○ All students are required to spend the equivalent of one academic term as an intern working on global governance issues in the public or private sector, at a research institute, or for a non-governmental organization. The work-term will normally take place in the third term of the program. A written report arising out of the internship experience will be required and will be evaluated. This report is distinct from the MRP, but could build towards it.</li> </ul> </li>   <li>• <b>Master's Research Paper</b> <ul style="list-style-type: none"> <li>○ After the completion of the internship, students will concentrate during their fourth term on the completion of a MRP. The MRP provides students with an opportunity to pursue a specific research topic of their choosing relating to the study of global governance. The minimum length is 40 pages double-spaced and the maximum is 60 pages double-spaced.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Graduate Studies Work Report</u></b> <ul style="list-style-type: none"> <li>○ <u>Students must complete and submit a work term report within one month of the completion of the work term (4 months in length). Students must return to campus following their work term to complete their degree requirements.</u></li> </ul> </li>   <li>• <b>Master's Research Paper</b> <ul style="list-style-type: none"> <li>○ After the completion of the internship, students will concentrate during their fourth term on the completion of a MRP. The MRP provides students with an opportunity to pursue a specific research topic of their choosing relating to the study of global governance. The minimum length is 40 pages double-spaced and the maximum is 60 pages double-spaced.</li> </ul> </li> </ul>

**How will students currently registered in the program be impacted by these changes?**

*New cohort (Fall 2019) will continue in the program with only the internship option available to them. Fall 2020 students will have the option to apply for the co-op program after they begin the program in September, or complete the standard internship stream of the program.*

**Departmental approval date** (mm/dd/yy): November 1, 2018

**Reviewed by GSO** (for GSO use only) X date (mm/dd/yy):11/13/18

**Faculty approval date** (mm/dd/yy): 05/28/19

**Senate Graduate & Research Council (SGRC) approval date** (mm/dd/yy):/

**Senate approval date** (mm/dd/yy) (if applicable):

Faculty: Arts

Effective term: Term/Year Fall ~~2019~~ 2020

Course  New  Revision  Inactivation   
Milestone  New  Revision  Inactivation

New milestone title: **Graduate Studies Work Report**

For course revisions, indicate the type(s) of changes:  
(e.g. consent, description, title, requisites)

Course Subject code: Course number:

Course Title (max. 100 characters incl. spaces):

Course Short Title (max. 30 characters incl. spaces):

Grading Basis: CREDIT/NO CREDIT

Course Credit Weight:

Course Consent Required:

Course Description:

New course description (for revision only):

Meet Type(s):

Primary Meet Type:

[Requisites:](#)

Special topics course: Yes  No

Cross-listed: Yes  No

Course Subject(s) to be cross-listed with and approval status:

Sections combined/heldwith:

**Rationale for request:** In response to the external evaluation from its 2017-2018 cyclical review, the program would like to add a co-op stream that complements the internship stream. A work-term report would be a required milestone of students in the co-op stream. The report would need to be submitted 30 days after the end of the student's work-term placement. This is a credit/no-credit milestone.

The milestone should be applied to the following program: Master of Arts (MA) in Global Governance - Co-operative Program (Arts and Environment)

Prepared by: Shelby Davies

Date: 1-Nov-18



**M E M O**

TO: Kathy Winter

FROM: B. Hellinga, Associate Dean, Graduate Studies  
Faculty of Engineering

RE: Senate Graduate and Research Council Agenda

DATE: May 24, 2019

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Please place the following motions forward for approval at the next meeting of EFC. They were approved by EFC on May 21, 2019.

1. The department of **Electrical and Computer Engineering** would like to propose the following motions:
  - a. A new Specialization in Biomedical Engineering effective Winter 2020.
  - b. A new Specialization in Nanoelectronic Devices and Materials effective Winter 2020.
  - c. A new Specialization in Software effective Winter 2020.

**Rationale for Request:**

- a. The MEng in ECE program will be offering “Graduate Specializations” in a given area, in place of the currently offered Graduate Diplomas. The change from Graduate Diplomas to Graduate Specializations is to better reflect the nature of the course packaging and also to bring the credentialization of focused course selection into line with Faculty of Engineering objectives. Consequently, ECE will be discontinuing the existing Graduate Diplomas offered with the MEng. In their place, Graduate Specializations have been proposed.
2. The **Conrad School of Business and Entrepreneurship** would like to propose that BET 580 be included as part of their GDip in Business and Entrepreneurship.

**Rationale for Request:**

- a. The BET 580 course was designed to meet the needs of both our senior undergraduate and Graduate Diploma requirements.

Your attention to these matters is kindly appreciated.

A handwritten signature in black ink, appearing to read 'Bruce Hellinga', with a long horizontal stroke extending to the right.

Bruce Hellinga

BH/bm

Prior to form submission, review the [content revision instructions](#) and information regarding [major/minor modifications](#). For questions about the form submission, contact [Trevor Clews](#), Graduate Studies and Postdoctoral Affairs.

**Faculty:** Engineering

**Program:** Master of Engineering (MEng) in Electrical and Computer Engineering

**Program contact name(s):** Jessica Rossi

**Form completed by:** Jessica Rossi

**Description of proposed changes:**

Note: changes to courses and milestones also require the completion/submission of the SGRC Course/Milestone-New/Revision/Inactivation form ([PC docx version](#) or [MAC docx version](#)).

*Update of MEng degree requirements to include 3 new specializations.*

*Note: the content in the "Current Graduate Studies Academic Calendar content" column includes material that was approved by SGRC on April 8, 2019 which also takes effect ~~Winter 2020~~. **Fall 2019***

Is this a [major modification](#) to the program? Yes

**Rationale for change(s):**

*The MEng in ECE program will be offering "Graduate Specializations" in a given area, in place of the currently offered Graduate Diplomas. The change from Graduate Diplomas to Graduate Specializations is to better reflect the nature of the course packaging and also to bri*

*ng the credentialization of focused course selection into line with Faculty of Engineering objectives.*

*Consequently, ECE will be discontinuing the existing Graduate Diplomas offered with the MEng. In their place, Graduate Specializations have been proposed.*

**Proposed effective date:** Term: Winter Year: 2020

**Current [Graduate Studies Academic Calendar \(GSAC\)](#) page** (include the link to the web page where the changes are to be made):

<https://uwaterloo.ca/graduate-studies-academic-calendar/engineering/department-electrical-and-computer-engineering/master-engineering-meng-electrical-and-computer-engineering>

<b>Current Graduate Studies Academic Calendar content:</b>	<b>Proposed Graduate Studies Academic Calendar content:</b>
<p><b>Graduate specializations</b></p> <ul style="list-style-type: none"> <li>• Artificial Intelligence and Machine Learning</li> <li>• Computer Networking and Security</li> <li>• Nanoelectronic Circuits and Systems</li> <li>• Sustainable Energy</li> </ul>	<p><b>Graduate specializations</b></p> <ul style="list-style-type: none"> <li>• Artificial Intelligence and Machine Learning</li> <li>• <u>Biomedical Engineering</u></li> <li>• Computer Networking and Security</li> <li>• Nanoelectronic Circuits and Systems</li> </ul>

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
<p><b>Program information</b></p> <ul style="list-style-type: none"> <li>• <b>Admit term(s)</b> <ul style="list-style-type: none"> <li>○ Fall</li> <li>○ Winter</li> <li>○ Spring</li> </ul> </li> <li>• <b>Delivery mode</b> <ul style="list-style-type: none"> <li>○ On-campus</li> </ul> </li> <li>• <b>Length of program</b> <ul style="list-style-type: none"> <li>○ The minimum period of full-time registration for the program is three terms and the maximum allowable time is six terms of active registration. For part-time students, the minimum period of registration for the program is six terms and the maximum allowable time is fifteen consecutive terms.</li> </ul> </li> <li>• <b>Program type</b> <ul style="list-style-type: none"> <li>○ Master's</li> <li>○ Professional</li> </ul> </li> <li>• <b>Registration option(s)</b> <ul style="list-style-type: none"> <li>○ Full-time</li> <li>○ Part-time</li> </ul> </li> <li>• <b>Study option(s)</b> <ul style="list-style-type: none"> <li>○ <a href="#">Coursework</a></li> </ul> </li> </ul> <p><b>Admission requirements</b></p> <ul style="list-style-type: none"> <li>• <b>Minimum requirements</b> <ul style="list-style-type: none"> <li>○ The Department of Electrical and Computer Engineering requires either (i) a 75% overall standing in the last two years, or equivalent, in a relevant four-year Honours Bachelor's degree or equivalent or (ii) a 75% overall standing or equivalent, in a relevant four-year Honours Bachelor's degree or equivalent, as the minimum requirement for admission to a Master's program for applicants educated at a Canadian institution. A 75% overall standing or equivalent, in a relevant four-year Honours Bachelor's degree or equivalent is the minimum requirement for admission to a Master's program for applicants educated outside of Canada.</li> </ul> </li> <li>• <b>Application materials</b> <ul style="list-style-type: none"> <li>○ Résumé</li> <li>○ Supplementary information form</li> <li>○ Transcript(s)</li> </ul> </li> <li>• <b>References</b> <ul style="list-style-type: none"> <li>○ Number of references: 2</li> <li>○ Type of references: at least 1 academic</li> </ul> </li> <li>• <a href="#">English language proficiency (ELP)</a> (if applicable)</li> </ul> <p><b>Degree requirements</b></p>	<ul style="list-style-type: none"> <li>• <a href="#">Nanoelectronic Devices and Materials</a></li> <li>• <a href="#">Software</a></li> <li>• Sustainable Energy</li> </ul> <p><b>Program information</b></p> <ul style="list-style-type: none"> <li>• <b>Admit term(s)</b> <ul style="list-style-type: none"> <li>○ Fall</li> <li>○ Winter</li> <li>○ Spring</li> </ul> </li> <li>• <b>Delivery mode</b> <ul style="list-style-type: none"> <li>○ On-campus</li> </ul> </li> <li>• <b>Length of program</b> <ul style="list-style-type: none"> <li>○ The minimum period of full-time registration for the program is three terms and the maximum allowable time is six terms of active registration. For part-time students, the minimum period of registration for the program is six terms and the maximum allowable time is fifteen consecutive terms.</li> </ul> </li> <li>• <b>Program type</b> <ul style="list-style-type: none"> <li>○ Master's</li> <li>○ Professional</li> </ul> </li> <li>• <b>Registration option(s)</b> <ul style="list-style-type: none"> <li>○ Full-time</li> <li>○ Part-time</li> </ul> </li> <li>• <b>Study option(s)</b> <ul style="list-style-type: none"> <li>○ <a href="#">Coursework</a></li> </ul> </li> </ul> <p><b>Admission requirements</b></p> <ul style="list-style-type: none"> <li>• <b>Minimum requirements</b> <ul style="list-style-type: none"> <li>○ The Department of Electrical and Computer Engineering requires either (i) a 75% overall standing in the last two years, or equivalent, in a relevant four-year Honours Bachelor's degree or equivalent or (ii) a 75% overall standing or equivalent, in a relevant four-year Honours Bachelor's degree or equivalent, as the minimum requirement for admission to a Master's program for applicants educated at a Canadian institution. A 75% overall standing or equivalent, in a relevant four-year Honours Bachelor's degree or equivalent is the minimum requirement for admission to a Master's program for applicants educated outside of Canada.</li> </ul> </li> <li>• <b>Application materials</b> <ul style="list-style-type: none"> <li>○ Résumé</li> <li>○ Supplementary information form</li> <li>○ Transcript(s)</li> </ul> </li> <li>• <b>References</b> <ul style="list-style-type: none"> <li>○ Number of references: 2</li> <li>○ Type of references: at least 1 academic</li> </ul> </li> <li>• <a href="#">English language proficiency (ELP)</a> (if applicable)</li> </ul>

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
<ul style="list-style-type: none"> <li>• <a href="#">Graduate Academic Integrity Module (Graduate AIM)</a></li> <li>• <b>Courses</b> <ul style="list-style-type: none"> <li>• Students must successfully complete 8 one-term courses (0.50 unit weight) acceptable for credit by the Department.</li> <li>• Students may register for any ECE course at the 600 or 700 levels.</li> <li>• A minimum of 5 courses must be taken from within the ECE Department. A maximum of 3 courses may be taken from outside the Department but must be from the faculties of Engineering, Math and Science.</li> <li>• A minimum grade of 65% in each of the 8 courses and a minimum cumulative average of 70% are required to remain in the program.</li> <li>• Students wishing to complete a Graduate Specialization as part of their MEng program should consult the list of required courses for each Graduate Specialization before selecting courses.</li> </ul> </li> </ul> <p>Students in the MEng in Electrical and Computer Engineering program may choose to pursue one of the following Graduate Specializations:</p> <ol style="list-style-type: none"> <li>1. Artificial Intelligence and Machine Learning</li> <li>2. Computer Networking and Security</li> <li>3. Nanoelectronic Circuits and Systems</li> <li>4. Sustainable Energy</li> </ol> <p>A Graduate Specialization is a University credential that is recognized on the student's transcript but not on the diploma and is intended to reflect that a student has successfully completed a set of courses that together provide an in-depth study in the area of the Graduate Specialization. A student will only obtain the Graduate Specialization on their transcript if they have completed the requirements associated with the MEng degree and the requirements associated with the Graduate Specialization.</p> <p>All MEng Graduate Specializations in Electrical and Computer Engineering consist of a set of at least 5 graduate (0.50 weight) level courses and this set is comprised of a mix of <i>compulsory</i> and <i>elective</i> courses. <i>Compulsory</i> courses are those that are prescribed as part of the Graduate Specialization. <i>Elective</i> courses are those that are on a list of courses designated as electives for a given Graduate Specialization. The requirements for each of the Graduate Specializations are described below.</p> <ol style="list-style-type: none"> <li>1. Graduate Specialization in Artificial Intelligence and Machine Learning <ul style="list-style-type: none"> <li>• To receive the Graduate Specialization in Artificial Intelligence and Machine Learning, students must successfully complete 2 compulsory courses and 3 elective courses:</li> </ul> </li> </ol>	<h2 style="margin: 0;">Degree requirements</h2> <ul style="list-style-type: none"> <li>• <a href="#">Graduate Academic Integrity Module (Graduate AIM)</a></li> <li>• <b>Courses</b> <ul style="list-style-type: none"> <li>• Students must successfully complete 8 one-term courses (0.50 unit weight) acceptable for credit by the Department.</li> <li>• Students may register for any ECE course at the 600 or 700 levels.</li> <li>• A minimum of 5 courses must be taken from within the ECE Department. A maximum of 3 courses may be taken from outside the Department but must be from the faculties of Engineering, Math and Science.</li> <li>• A minimum grade of 65% in each of the 8 courses and a minimum cumulative average of 70% are required to remain in the program.</li> <li>• Students wishing to complete a Graduate Specialization as part of their MEng program should consult the list of required courses for each Graduate Specialization before selecting courses.</li> </ul> </li> </ul> <p>Students in the MEng in Electrical and Computer Engineering program may choose to pursue one of the following Graduate Specializations:</p> <ol style="list-style-type: none"> <li>1. Artificial Intelligence and Machine Learning</li> <li>2. <a href="#">Biomedical Engineering</a></li> <li>3. Computer Networking and Security</li> <li>4. Nanoelectronic Circuits and Systems</li> <li>5. <a href="#">Nanoelectronic Devices and Materials</a></li> <li>6. <a href="#">Software</a></li> <li>7. Sustainable Energy</li> </ol> <p>A Graduate Specialization is a University credential that is recognized on the student's transcript but not on the diploma and is intended to reflect that a student has successfully completed a set of courses that together provide an in-depth study in the area of the Graduate Specialization. A student will only obtain the Graduate Specialization on their transcript if they have completed the requirements associated with the MEng degree and the requirements associated with the Graduate Specialization.</p> <p>All MEng Graduate Specializations in Electrical and Computer Engineering consist of a set of at least 5 graduate (0.50 weight) level courses and this set is comprised of a mix of <i>compulsory</i> and <i>elective</i> courses. <i>Compulsory</i> courses are those that are prescribed as part of the Graduate Specialization. <i>Elective</i> courses are those that are on a list of courses designated as electives for a given Graduate Specialization. The requirements for each of the Graduate Specializations are described below.</p> <ol style="list-style-type: none"> <li>1. Graduate Specialization in Artificial Intelligence and Machine Learning</li> </ol>

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
<ul style="list-style-type: none"> <li>○ Compulsory courses: <ul style="list-style-type: none"> <li>▪ ECE 657: Tools of Intelligent Systems Design</li> <li>▪ ECE 657A: Data and Knowledge Modelling and Analysis</li> </ul> </li> <li>○ Elective courses (choose 3 from the following list): <ul style="list-style-type: none"> <li>▪ ECE 602 Introduction to Optimization</li> <li>▪ ECE 603 Statistical Signal Processing</li> <li>▪ ECE 606 Algorithm Design and Analysis</li> <li>▪ ECE 607 Fundamentals of Ultrasonics</li> <li>▪ ECE 613 Image Processing and Visual Communication</li> <li>▪ ECE 659 Intelligent Sensors and Sensor Networks</li> <li>▪ ECE 700 Topic-7: Game Theory with Engineering Applications</li> <li>▪ ECE 750 Topic-33: Artificial Life: Biology and Computation</li> <li>▪ ECE 750 Topic-34: Artificial Life: Embodied Intelligence</li> <li>▪ ECE 750 Topic-35: Applied Topics in Artificial Intelligence</li> <li>▪ MSCI 718: Statistical Methods for Data Analytics</li> </ul> </li> </ul> <p>2. Graduate Specialization in Computer Networking and Security</p> <ul style="list-style-type: none"> <li>• To receive the Graduate Specialization in Computer Networking and Security, students must successfully complete 3 compulsory courses and 2 elective courses: <ul style="list-style-type: none"> <li>○ Compulsory courses: <ul style="list-style-type: none"> <li>▪ ECE 610 Broadband Communication Networks</li> <li>▪ ECE 628 Computer Network Security</li> <li>▪ ECE 655 Protocols, Software, and Issues in Mobile Systems</li> </ul> </li> <li>○ Elective courses (choose 2 from the following list): <ul style="list-style-type: none"> <li>▪ ECE 606 Algorithm Design and Analysis</li> <li>▪ ECE 611 Digital Communications</li> <li>▪ ECE 612 Information Theory</li> <li>▪ ECE 656 Database Systems</li> <li>▪ ECE 657 Tools of Intelligent Systems Design</li> <li>▪ ECE 659 Intelligent Sensors &amp; Wireless Sensor Network</li> <li>▪ ECE 715 Wireless Communication Networks</li> <li>▪ ECE 716 Communication Security</li> </ul> </li> </ul> </li> </ul> <p>3. Graduate Specialization in Nanoelectronic Circuits and Systems</p> <ul style="list-style-type: none"> <li>• To receive the Graduate Specialization in Nanoelectronic Circuits and Systems students, must</li> </ul>	<ul style="list-style-type: none"> <li>• To receive the Graduate Specialization in Artificial Intelligence and Machine Learning, students must successfully complete 2 compulsory courses and 3 elective courses: <ul style="list-style-type: none"> <li>○ Compulsory courses: <ul style="list-style-type: none"> <li>▪ ECE 657: Tools of Intelligent Systems Design</li> <li>▪ ECE 657A: Data and Knowledge Modelling and Analysis</li> </ul> </li> <li>○ Elective courses (choose 3 from the following list): <ul style="list-style-type: none"> <li>▪ ECE 602 Introduction to Optimization</li> <li>▪ ECE 603 Statistical Signal Processing</li> <li>▪ ECE 606 Algorithm Design and Analysis</li> <li>▪ ECE 607 Fundamentals of Ultrasonics</li> <li>▪ ECE 613 Image Processing and Visual Communication</li> <li>▪ ECE 659 Intelligent Sensors and Sensor Networks</li> <li>▪ ECE 700 Topic-7: Game Theory with Engineering Applications</li> <li>▪ ECE 750 Topic-33: Artificial Life: Biology and Computation</li> <li>▪ ECE 750 Topic-34: Artificial Life: Embodied Intelligence</li> <li>▪ ECE 750 Topic-35: Applied Topics in Artificial Intelligence</li> <li>▪ MSCI 718: Statistical Methods for Data Analytics</li> </ul> </li> </ul> </li> </ul> <p>2. Graduate Specialization in Biomedical Engineering</p> <ul style="list-style-type: none"> <li>• <u>To receive the Graduate Specialization in Biomedical Engineering, students must successfully complete 3 compulsory courses and 2 elective courses:</u> <ul style="list-style-type: none"> <li>○ <u>Compulsory courses:</u> <ul style="list-style-type: none"> <li>▪ <u>ECE 601 Foundations of Biology in Engineering</u></li> <li>▪ <u>ECE 608 Quantitative Methods in Biomedical Engineering</u></li> <li>▪ <u>ECE 609 Engineering Analysis of Living Cells</u></li> </ul> </li> <li>○ <u>Elective courses (choose 2 from the following list):</u> <ul style="list-style-type: none"> <li>▪ <u>ECE 607 Fundamentals of Ultrasonics</u></li> <li>▪ <u>ECE 613 Image Processing and Visual Communications</u></li> <li>▪ <u>ECE 675 Radiation and Propagation of Electromagnetic Fields</u></li> <li>▪ <u>ECE 750 T33 Artificial Life: Biology and Computation</u></li> <li>▪ <u>ECE 750 T34 Artificial Life: Embodied Intelligence</u></li> <li>▪ <u>SYDE 677 Medical Imaging</u></li> </ul> </li> </ul> </li> </ul> <p>3. Graduate Specialization in Computer Networking and Security</p>

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
<p>successfully complete 1 compulsory project course (1.0 unit), and 5 elective courses:</p> <ul style="list-style-type: none"> <li>○ Compulsory course: <ul style="list-style-type: none"> <li>▪ ECE 740 Topic-5: Nanoelectronic Circuits and Systems Project (1.0 unit)</li> </ul> </li> <li>○ Elective courses Set-A (choose 2 from the following list): <ul style="list-style-type: none"> <li>▪ ECE 621 Computer Organization</li> <li>▪ ECE 627 Register-transfer-level Digital Systems</li> <li>▪ ECE 630 Physics &amp; Models Semiconductor Devices</li> <li>▪ ECE 631 Microelectronic Processing Technology</li> <li>▪ ECE 636 Advanced Analog Integrated Circuits</li> <li>▪ ECE 637 Digital Integrated Circuits</li> <li>▪ ECE 642 Radio Frequency IC Design</li> <li>▪ ECE 671 Microwave &amp; RF Engineering</li> </ul> </li> <li>○ Elective courses Set-B (choose 3 from the following list): <ul style="list-style-type: none"> <li>▪ ECE 606 Algorithm Design and Analysis</li> <li>▪ ECE 638 CMOS Sensor Integrated Circuits</li> <li>▪ ECE 730 Topic 9: VLSI Quality, Reliability and Yield Engineering</li> <li>▪ ECE 730 Topic 16: Semiconductor Memories</li> <li>▪ ECE 730 Topic 30: Advanced VLSI Devices</li> <li>▪ ECE 738 VLSI Circuits for Wireless Communication</li> <li>▪ ECE 740 Topic 3: CMOS Data Converters</li> <li>▪ ECE 770 Topic 22: Wireless Radio Systems</li> </ul> </li> </ul> <p>4. Graduate Specialization in Sustainable Energy</p> <ul style="list-style-type: none"> <li>• To receive the Graduate Specialization in Sustainable Energy, students must successfully complete 2 compulsory courses and 3 elective courses: <ul style="list-style-type: none"> <li>○ Compulsory courses: <ul style="list-style-type: none"> <li>▪ ECE 663 Energy Processing</li> <li>▪ ECE 760 Topic-10: Operation and Control of Future Integrated Energy Systems</li> </ul> </li> <li>○ Elective courses (choose 3 from the following list): Note: not all elective courses may be offered each year. <ul style="list-style-type: none"> <li>▪ ECE 661 HVDC and FACTS</li> <li>▪ ECE 662 Power System Analysis and Control</li> <li>▪ ECE 664 Power System Components and Modelling</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• To receive the Graduate Specialization in Computer Networking and Security, students must successfully complete 3 compulsory courses and 2 elective courses: <ul style="list-style-type: none"> <li>○ Compulsory courses: <ul style="list-style-type: none"> <li>▪ ECE 610 Broadband Communication Networks</li> <li>▪ ECE 628 Computer Network Security</li> <li>▪ ECE 655 Protocols, Software, and Issues in Mobile Systems</li> </ul> </li> <li>○ Elective courses (choose 2 from the following list): <ul style="list-style-type: none"> <li>▪ ECE 606 Algorithm Design and Analysis</li> <li>▪ ECE 611 Digital Communications</li> <li>▪ ECE 612 Information Theory</li> <li>▪ ECE 656 Database Systems</li> <li>▪ ECE 657 Tools of Intelligent Systems Design</li> <li>▪ ECE 659 Intelligent Sensors &amp; Wireless Sensor Network</li> <li>▪ ECE 715 Wireless Communication Networks</li> <li>▪ ECE 716 Communication Security</li> </ul> </li> </ul> </li> </ul> <p>4. Graduate Specialization in Nanoelectronic Circuits and Systems</p> <ul style="list-style-type: none"> <li>• To receive the Graduate Specialization in Nanoelectronic Circuits and Systems students, must successfully complete 1 compulsory project course (1.0 unit), and 5 elective courses: <ul style="list-style-type: none"> <li>○ Compulsory course: <ul style="list-style-type: none"> <li>▪ ECE 740 Topic-5: Nanoelectronic Circuits and Systems Project (1.0 unit)</li> </ul> </li> <li>○ Elective courses Set-A (choose 2 from the following list): <ul style="list-style-type: none"> <li>▪ ECE 621 Computer Organization</li> <li>▪ ECE 627 Register-transfer-level Digital Systems</li> <li>▪ ECE 630 Physics &amp; Models Semiconductor Devices</li> <li>▪ ECE 631 Microelectronic Processing Technology</li> <li>▪ ECE 636 Advanced Analog Integrated Circuits</li> <li>▪ ECE 637 Digital Integrated Circuits</li> <li>▪ ECE 642 Radio Frequency IC Design</li> <li>▪ ECE 671 Microwave &amp; RF Engineering</li> </ul> </li> <li>○ Elective courses Set-B (choose 3 from Set A + Set B lists): <ul style="list-style-type: none"> <li>▪ ECE 606 Algorithm Design and Analysis</li> <li>▪ ECE 638 CMOS Sensor Integrated Circuits</li> <li>▪ ECE 730 Topic 9: VLSI Quality, Reliability and Yield Engineering</li> </ul> </li> </ul> </li> </ul>

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
<ul style="list-style-type: none"> <li>▪ ECE 665 High Voltage Engineering Applications</li> <li>▪ ECE 666 Power Systems Operation</li> <li>▪ ECE 667 Sustainable Distributed Power Generation</li> <li>▪ ECE 668 Distribution System Engineering</li> <li>▪ ECE 669 Dielectric Materials</li> <li>▪ ECE 768 Power System Quality</li> <li>▪ ECE 765 Power System Protection and Relaying</li> </ul>	<ul style="list-style-type: none"> <li>▪ ECE 730 Topic 16: Semiconductor Memories</li> <li>▪ ECE 730 Topic 30: Advanced VLSI Devices</li> <li>▪ ECE 738 VLSI Circuits for Wireless Communication</li> <li>▪ ECE 740 Topic 3: CMOS Data Converters</li> <li>▪ ECE 770 Topic 22: Wireless Radio Systems</li> </ul> <p>5. <u>Graduate Specialization in Nanoelectronic Devices and Materials</u></p> <ul style="list-style-type: none"> <li>• <u>To receive the Graduate Specialization in Nanoelectronic Devices and Materials, students must successfully complete 2 compulsory courses and 3 elective courses:</u> <ul style="list-style-type: none"> <li>○ <u>Compulsory course:</u> <ul style="list-style-type: none"> <li>▪ <u>ECE 630 Physics and Models of Semiconductor Devices</u></li> <li>▪ <u>ECE 631 Microelectronic Processing Technology</u></li> </ul> </li> <li>○ <u>Elective courses (choose 3 from the following list):</u> <ul style="list-style-type: none"> <li>▪ <u>ECE 632 Photovoltaic Energy Conversion</u></li> <li>▪ <u>ECE 633 Nanoelectronics</u></li> <li>▪ <u>ECE 634 Organic Electronics</u></li> <li>▪ <u>ECE 635 Fabrication in the Nanoscale: Technology and Applications</u></li> <li>▪ <u>ECE 672 Optoelectronic Devices</u></li> <li>▪ <u>NANO 600 Introduction to Nanotechnology</u></li> </ul> </li> </ul> </li> </ul> <p>6. <u>Graduate Specialization in Software</u></p> <ul style="list-style-type: none"> <li>• <u>To receive the Graduate Specialization in Software, students must successfully complete 3 compulsory courses and 2 elective courses:</u> <ul style="list-style-type: none"> <li>○ <u>Compulsory courses:</u> <ul style="list-style-type: none"> <li>▪ <u>ECE 650 Methods and Tools for Software Engineering</u></li> <li>▪ <u>ECE 651 Foundations of Software Engineering</u></li> <li>▪ <u>ECE 653 Software Testing, Quality Assurance and Maintenance</u></li> </ul> </li> <li>○ <u>Elective courses (choose 2 from the following list):</u> <ul style="list-style-type: none"> <li>▪ <u>ECE 606 Algorithm Design and Analysis</u></li> <li>▪ <u>ECE 655 Protocols, Software, Issues in Mobile Systems</u></li> <li>▪ <u>ECE 656 Database Systems</u></li> <li>▪ <u>ECE 657 Tools of Intelligent Systems Design</u></li> <li>▪ <u>ECE 658 Component Based Software</u></li> </ul> </li> </ul> </li> </ul>

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
	<p>7. Graduate Specialization in Sustainable Energy</p> <ul style="list-style-type: none"> <li>• To receive the Graduate Specialization in Sustainable Energy, students must successfully complete 2 compulsory courses and 3 elective courses: <ul style="list-style-type: none"> <li>○ Compulsory courses: <ul style="list-style-type: none"> <li>▪ ECE 663 Energy Processing</li> <li>▪ ECE 760 Topic-10: Operation and Control of Future Integrated Energy Systems</li> </ul> </li> <li>○ Elective courses (choose 3 from the following list): Note: not all elective courses may be offered each year. <ul style="list-style-type: none"> <li>▪ ECE 661 HVDC and FACTS</li> <li>▪ ECE 662 Power System Analysis and Control</li> <li>▪ ECE 664 Power System Components and Modelling</li> <li>▪ ECE 665 High Voltage Engineering Applications</li> <li>▪ ECE 666 Power Systems Operation</li> <li>▪ ECE 667 Sustainable Distributed Power Generation</li> <li>▪ ECE 668 Distribution System Engineering</li> <li>▪ ECE 669 Dielectric Materials</li> <li>▪ ECE 768 Power System Quality</li> <li>▪ ECE 765 Power System Protection and Relaying</li> </ul> </li> </ul> </li> </ul>

**How will students currently registered in the program be impacted by these changes?**

*Students who were enrolled in the MEng in ECE program prior to Winter 2020 who complete the course requirements for one of the Graduate Specializations will be permitted to receive credentialization for the Graduate Specialization at the time of degree completion.*

*Students who were enrolled in the MEng in ECE program prior to Winter 2020 who meet the criteria for both a GDip and a Graduate Specialization cannot receive both credentials. They must select which credential they want to receive at the time of degree completion and inform the Department of their selection.*

**Departmental approval date** (mm/dd/yy): 04/03/19

**Reviewed by GSPA** (for GSPA use only)  date (mm/dd/yy): 04/16/2019

**Faculty approval date** (mm/dd/yy): 05/21/2019

**Senate Graduate & Research Council (SGRC) approval date** (mm/dd/yy):

**Senate approval date** (mm/dd/yy) (if applicable):

Prior to form submission, review the [content revision instructions](#) and information regarding [major/minor modifications](#). For questions about the form submission, contact [Trevor Clews](#), Graduate Studies and Postdoctoral Affairs (GSPA).

**Faculty:** Engineering

**Program:** Graduate Diploma (GDip) in Business and Entrepreneurship

**Program contact name(s):** Mark Weber

**Form completed by:** Jeannette Friend

**Description of proposed changes:**

Note: changes to courses and milestones also require the completion/submission of the SGRC Course/Milestone-New/Revision/Inactivation form ([PC docx version](#) or [MAC docx version](#)).

*Updating the course requirements to include BET 580 as part of the course offerings.*

**Is this a [major modification](#) to the program?** No

**Rationale for change(s):**

*The BET 580 course was designed to meet the needs of both our senior undergraduate and Graduate Diploma requirements.*

**Proposed effective date:** Term: Fall Year: 2019

**Current [Graduate Studies Academic Calendar \(GSAC\)](#) page** (include the link to the web page where the changes are to be made):

<https://uwaterloo.ca/graduate-studies-academic-calendar/engineering/conrad-school-entrepreneurship-and-business/graduate-diploma-gdip-business-and-entrepreneurship-direct-entry>

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
<p><b>Degree requirements</b> <b>Coursework option:</b></p> <ul style="list-style-type: none"> <li>• Courses               <ul style="list-style-type: none"> <li>◦ Students are required to successfully complete any 6 courses from the BE course series for the GDip. BET 600 and 700 level courses are also eligible to be counted towards the 6 course GDip requirement, <del>though these courses are restricted to students enrolled in the MBET program.</del></li> </ul> </li> </ul>	<p><b>Degree requirements</b> <b>Coursework option:</b></p> <ul style="list-style-type: none"> <li>• Courses               <ul style="list-style-type: none"> <li>◦ Students are required to successfully complete any 6 courses from the BE course series for the GDip. <u>BET 580</u>, BET 600 and <u>BET 700</u> level courses are also eligible to be counted towards the 6 course GDip requirement. <u>However, BET 600 and 700 courses</u></li> </ul> </li> </ul>

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
	are restricted to students enrolled in the MBET program.

**How will students currently registered in the program be impacted by these changes?**

*Proposed changes will apply to new admits only.*

- Department/School approval date** (mm/dd/yy): 03/21/19
- Reviewed by GSPA** (for GSPA use only)  date (mm/dd/yy): 04/30/2019
- Faculty approval date** (mm/dd/yy): 05/21/2019
- Senate Graduate & Research Council (SGRC) approval date** (mm/dd/yy):
- Senate approval date** (mm/dd/yy) (if applicable):

## Memorandum

**To:**           **Members**  
                  **Senate Graduate and Research Council**

**From:**       **Julie Joza**  
                  **Director, Research Ethics**

**Date:**        **May 27, 2019**

**Subject:**     **Membership on the Clinical and Human Research Ethics Committees**

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The following is information for consideration by the Senate Graduate and Research Council. This memo outlines a new member seeking appointment on the Clinical Research Ethics Committee (CREC), two members renewing their term on CREC, one member renewing their term on the Human Research Ethics Committee (HREC), and role changes on CREC and HREC.

### New Member Appointment:

Dr. Daphne McCulloch, OD, PhD, Professor, School of Optometry and Vision Sciences will begin a 3-year term on CREC starting September 1, 2019 and continuing through to August 31, 2022. She will be replacing Dr. Elizabeth Irving as the faculty member from Optometry on the committee. Dr. McCulloch has both clinical and basic research experience, as well as experience serving on a research ethics committee. Her research interest is on the maturation of the retina and of the visual pathways in human infants and in animal models, and she is active in paediatric vision research. See attached CV and statement of interest.

### Member Renewals:

Dr. Richard Hughson, PhD, Professor, Department of Kinesiology will be renewing his term on CREC for 2 years. Dr. Hughson's second term on CREC will begin October 1, 2019 and continue through to September 30, 2021. Dr. Hughson is the faculty member from Kinesiology on CREC, the current Schlegel Research Chair in Vascular Aging and Brain Health and a Fellow of the Canadian Academy of Health Sciences. See attached CV.

Dr. Kelly Grindrod, PharmD, Associate Professor, School of Pharmacy will be completing her second 3-year term, and will renew for a third 3-year term, beginning October 1, 2019 and continuing through to September 30, 2022. Dr. Grindrod is an experienced member of CREC and will assume the role of CREC chair on September 1, 2020 upon her return from a 12-month sabbatical. See attached CV.

Dianna Fong Lee, MA, will renew her term for three years in the role of community member on HREC. Dianna's second term on HREC will begin September 1, 2019 and continue through to August 31, 2022. See attached CV.

Role Changes:

Dr. Hilary Bergseiker, HREC Chair, will be taking a 6-month sabbatical from July 1, 2019 through to December 31, 2019. During this time, Dr. Ramona Bobocel, PhD, Professor, Department of Psychology, will be assuming the role of HREC Chair. Dr. Bobocel has been a member of HREC and the Chair of the Delegated Research Ethics Committee since September 1, 2018.

Dr. Mathieu Doucet, PhD, Associate Professor, Department of Philosophy, will be assuming the role of CREC Chair for a 12-month period from September 1, 2019 through to August 31, 2020 while Dr. Grindrod is on sabbatical. Dr. Doucet has a research interest in Bioethics and is currently serving his second term on CREC.

Curriculum vitae can be found [here](#)



May 27, 2019

TO: Kathy Winter, Privacy Officer and Assistant University Secretary, Senate Graduate and Research Council

FROM: Heidi Mussar, Associate Director, Graduate Financial Aid & Awards

RE: **Agenda items for Senate Graduate & Research Council – June 2019**

**Items for Approval**

a) **Master of Data Science and Artificial Intelligence (MDSAI) Graduate Scholarship – operating**  
Scholarships valued at \$17,500 per year will be awarded to graduate students registered full time in the Master of Data Science and Artificial Intelligence (MDSAI) program in the Faculty of Mathematics at the University of Waterloo. Students will be selected based on academic excellence (minimum cumulative average of 80% or equivalent). A committee chaired by the Director of Data Science will automatically select recipients annually based on their application for admission to the program.

b) **Raymond Laflamme and Janice Gregson Graduate Scholarship for Women in Quantum Information Science – research**

One scholarship, valued at \$7,500, is awarded annually to a new female graduate student entering the Institute for Quantum Computing (IQC) in the Fall or Winter term.

The scholarship not only acknowledges students who demonstrate strong academic achievement and potential for research excellence but also recognizes women in Quantum Information Science and Technology.

This scholarship was created to celebrate Raymond Laflamme’s leadership and contributions over his 15-year tenure as IQC’s Executive Director (2002-2017). Under Professor Laflamme’s direction, the Institute for Quantum Computing has become a premier quantum research center. He is a world-renowned physicist and has successfully attracted top researchers from around the globe to IQC and Canada. Professor Laflamme holds the Mike and Ophelia Lazaridis “John von Neumann” Chair in Quantum Information, a Canada Research Chair (CRC) in Quantum Information and was named an Officer of the Order of Canada in 2017.

Selection will be based on strong academic achievement and potential for research excellence as demonstrated through their academic contributions and references. Candidates must be conducting research in quantum information science and technology at IQC with an IQC faculty member or IQC affiliate as a supervisor or co-supervisor. Candidates must self-identify as female in their graduate application for admission. IQC scholarship committee members will select a recipient annually in the Winter term based on the applicant’s application for admission to the graduate program for the upcoming Fall term or following Winter term and supervisor nominations.

**Items for Information**

**c) International Doctoral Student Award (IDSA) - operating item tabled**

With the creation of the International Master’s Award of Excellence (IMAE) in 2019, the terms of the IDSA have changed slightly for students who were either directly admitted or transferred to a doctoral program, and had not previously received either an International Master’s Student Award (IMSA) or IDSA prior to spring 2019. The changes are captured in the table below:

IDSA terms applicable to students admitted into program prior to Spring 2019	IDSA terms applicable to students admitted into program beginning Spring 2019
Students are not able to concurrently have other funding in excess of \$7,000/term	Students are not able to concurrently have other funding in excess of the value of minimum PhD funding
Nothing formal in place	If a student’s sponsorship is interrupted as a result of a state of crisis or emergency in the country or as a result of a government decision (e.g., Turkey, Libya, Saudi Arabia, etc), an IDSA will be provided as long as the student is still otherwise eligible and the Faculty, department or supervisor are providing funding at the minimum PhD level.
Nothing formal in place	Self-funded or privately/non-federal government funded (e.g., family, corporation, foundations, etc) students whose funding falls through will not be considered for IDSA.
Eligible students can receive IDSA up to term count 15.0 of their doctoral program where appropriate (students would have received IMSA for up to term 6.0 of their master’s program and IDSA up to term )	Eligible students will receive IDSA up to term count 14.0 of their doctoral program.  <i>(the maximum number of allowable terms a student can receive an IMAE for (or IDSA at the IMAE value) is 5 terms. This means students will receive a maximum of 14 terms as opposed to the original funding which allowed for 15 terms.)</i>

**d) Donald E. Grierson Memorial Award – endowment**

Previously approved at SG&RC in June 2014, an amendment is being made to remove the financial need component from the award eligibility and selection criteria of this award. Instead, a preference that the award be given to students who do not hold major external scholarships exceeding \$15,000 per year at the time of being considered will be included in the eligibility and selection criteria.

Students will also no longer be required to complete and submit an application to GSPA for assessment; instead, they will submit a one-page summary to the Department of Civil & Environmental Engineering to explain how they meet the eligibility of the award.

#### **e) Master of Environment and Business Award – operating**

The Master of Environment and Business program would like to amend the existing terms of reference originally approved at SG&RC in March 2017 in regards to:

##### **Award Description:**

###### **Current**

The Master of Environment and Business Award is available every year to eligible students registered in the MEB program, based on financial need. Students may apply each year they are enrolled if their individual income is less than \$50,000/year, or in the case of married students, their household income is less than \$100,000/year. The MEB Graduate Program Administrator sends application forms to all MEB students via email in April of each year.

###### **Proposed**

The Master of Environment and Business Awards are available annually to eligible MEB students who are currently registered or will be registered in the MEB program and who are not receiving full tuition funding from their employer or another source. Selection will be based on diversity of sector involvement in a specific cohort as well as financial need. Financial need will be based on personal/household income.

Students may apply annually if their individual income is less than \$50,000/year, or in the case of married students, less than \$100,000/year. Application forms will be emailed annually in April to all MEB students.

Consideration for late applications is subject to funding availability.

##### **Value:**

###### **Current**

Awards will be valued at up to 60% of tuition costs (e.g., \$500 - \$2,000 per course); normally, the average value of a bursary will be 30% of tuition costs, but depending on the assessment, the value could be up to 60% of the costs.

###### **Proposed**

\$500 - \$2,000 per course

#### **f) Ontario Trillium Scholarship – trust**

Previously approved at SG&RC in September 2011, the following are changes that are being made to the internal terms of reference:

- Adding clarification that this scholarship is for new (i.e., incoming) international graduate students.
- Adding details with regards to when an OTS recipient becomes a permanent resident -> they will no longer be eligible to receive the International Doctoral Student Award (IDSA) which provided the 1/3 match to the Ministry's portion; as such, it will be the responsibility of the student's Faculty/department/supervisor as appropriate, to provide the 1/3 matching funds (i.e., \$13,333) for the remaining terms of the OTS.
- In the past, efforts were made to try and allocate one scholarship per Faculty. The terms are being updated to reflect that it will now be top candidates who are offered a scholarship regardless of their Faculty.
- Clarifying that academic merit is the defining criterion for selecting recipients.
- Adding details surrounding other funding that recipients are restricted from holding concurrently.