UNIVERSITY OF WATERLOO
SENATE GRADUATE & RESEARCH COUNCIL
NOTICE OF MEETING

DATE:	Monday 11 June 2018	Chair – C. Dean
TIME:	10:30 a.m. – 12:00 noon	
PLACE:	Needles Hall, Room 3318	

AGENDA

Item	Action
1. Declarations of Conflict of Interest	
a. Excerpt from Bylaw 1, section 8*	Information
2. Minutes of 14 May 2018* and Business Arising	Decision (SGRC)
3. Co-chairs' Remarks	Information
4. Research Centres and Institutes	
a. Global Health Policy and Innovation Research Centre-NEW* (Hanning)	SEN-Regular
b. Renewal Extensions* – 4 Centres/Institutes	Information
5. Curricular Submissions	
a. Applied Health Sciences*	Decision (SGRC)
b. Arts*	Decision (SGRC)
c. Engineering*	Decision (SGRC)
d. Environment*	Decision (SGRC)
6. University Research	
a. Mitacs (Ashley Hannon)	Information
b. KUALI* (Julie Joza)	Information
c. Research Ethics Committees - Membership changes*	Decision (SGRC)
d. Predatory Journals: please alert Faculty, especially new investigators*	Information
7. Academic Program Review Reports	
a. Guiding Questions for Final Assessment Reports and Two-Year Progress Reports*	Information
b. Final Assessment Report – Guelph-Waterloo Centre for Graduate Work in Chemistry and Biochemistry $(GWC)^2$*	Decision (SGRC)
8. Task Force on Graduate Student Supervision – Terms of Reference* (Judge)	Decision (SGRC)
9. Office of Registrar – Academic Calendar update re fall 2018 Convocation*	Information
10. Institutional Quality Assurance Program (IQAP)	
a. Approval Process New Programs* (McKenzie)	Information
b. Type II Graduate Diplomas - Quality Council Updates (Casello)	Information
11. Graduate Awards*	
a. Ginny Dybenko Experiential Learning Award – internal endowment	Decision (SGRC)
b. JD Leslie Graduate Award - endowment	Decision (SGRC)
c. Engineering Excellence Master's and Doctoral Fellowhips – operating**	Decision (SGRC)
d. Faculty of Engineering Graduate Dean's Entrance Awards – operating**	Decision (SGRC)
e. Renison Town and Gown Society Award – Renison endowment	Information
f. Flora T.T. NG and Garry L. Rempel Doctoral Scholarship in Sustainable Development - endowment	Information

12. Other Business Information

13. Next Meeting: 10 September 2018 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

4 June 2018

Kathy Winter, PhD, CPsych
Assistant University Secretary

Excerpt from Senate Bylaw 1

8. Declarations of conflict of interest

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

University of Waterloo
SENATE GRADUATE & RESEARCH COUNCIL
Minutes of the 14 May 2018 Meeting
[in agenda order]

Present: Jeremy Bergen, Jeff Casello, Tara Collington, David Clausi, Amelia Clarke, Rhona Hanning, Bruce Hellinga, Lynn Judge, Christiane Lemieux, Daniel Martel, Kirsten Müller, Daniela O'Neill, Naima Samuel, Kathy Szigeti, Takin Tadayon, Sverrir Thorgeirsson, Kathy Winter (secretary)

Resources: Trevor Clews, Jennifer Kieffer, Amanda McKenzie

Guests: Eric Croiset (5b), Joanna Eidse (8b), Ashley Hannon (8a), Walter Mittelstaedt (4), Chris Read (4), Heather Root (8b), Tom Ruttan (4), Dan Scott (5a), Alyssa Voigt

Regrets: Raouf Boutaba*, Emily Cyr, Charmaine Dean*, Bernard Duncker*, Ana Ferer, Julie Joza*, Raymond Legge*, Bruce Muirhead*, Max Salman, Simron Singh*, Richard Staines, Mike Szarka, John Thompson, Linda Warley*

Organization of Meeting: Jeff Casello, 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 9 APRIL 2018 AND BUSINESS ARISING
The minutes were approved as distributed. Hellinga and Judge. Carried.

3. CO-CHAIRS' REMARKS
Casello provided relevant highlights from the recent Executive Retreat: exploration of intersection (through Wellness) between graduate studies' portfolios and Waterloo's Strategic Plan (vibrant graduate student experience, internationalization, experiential learning and others). Casello underscored dedication to this endeavour through: creating a working group on graduate student supervision (terms of reference complete), gaining increased clarity/direction as to "what it means to be a good supervisor?", and increasing awareness of cultural diversity and norms. Casello will seek input from, but not limited to, other portfolios engaged in the strategic planning process including empowering people (led by Marilyn Thompson) and internationalization (led by Ian Rowlands).

4. STUDENT MENTAL HEALTH
Council received a PowerPoint presentation on Graduate Student Mental Health, as information, from Walter Mittelstaedt (Director, Campus Wellness)—with similar being provided in the past to Senate and Board of Governors. Council engaged in discussion on topics that included: timing of student mental health surveys (such as American College Health Association, National College Health Assessment – conducted at Waterloo every 3 years), impact of things such as finances and PhD comprehensives on graduate students' perceived stress, use of findings to better educate and inform the supervisor-supervisee relationship, graduate students as mental health ambassadors, essential focus on and resources for faculty/supervisor mental health, campus mental health training initiatives. Further questions can be directed to Walter Mittelstaedt (Director, Campus Wellness), Chris Read (associate Provost, Students), Tom Ruttan (Director, Counselling Services), or John Hirdes (Implementation Team Lead - President's Advisory Committee on Student Mental Health). Slides used in the presentation may be seen here: https://uwaterloo.ca/secretariat/sites/ca.secretariat/files/uploads/files/senate_grc_-_may_14_2018.pptx

5. RESEARCH CENTRES AND INSTITUTES
a. Interdisciplinary Centre of Climate Change (IC^3). Council heard a motion to recommend to Senate, as presented, the approval for the Interdisciplinary Centre on Climate Change (IC^3) to transition from a Research Centre (as established 1 June 2008) to a University Research Centre, as presented. Dan Scott (Executive Director, IC^3) provided a short PowerPoint presentation and answered council questions: proposal received unanimous

support from the Research Leadership Council (11 May 2018), Provost's support increased to $350 thousand annually from $280 thousand annually commensurate with other University Research Centres/Institutes, faculty support is pro-rated based on size and membership. Clarke and Müller. Carried.

b. Waterloo Centre for Electrochemical Energy. Council heard a motion to recommend to Senate, as presented, the establishment of the Waterloo Centre for Electrochemical Energy (WCEE). Eric Croiset (Proposed WCEE Founding Member; Professor and Department Head, Chemical Engineering) provided a short PowerPoint presentation highlighting how the establishment of WCEE will contribute both nationally and internationally in electrochemical energy R&D—boosting it to a higher level in terms of quality and quantity; increasing visibility of research carried out at the University of Waterloo in this domain and attracting high caliber graduate students and postdoctoral fellows to its programs. Hellinga and Müller. Carried with 1 abstension.

6. CURRICULAR SUBMISSIONS

a. Arts. Council heard an omnibus motion to approve items 1a, 2a, 2c as presented. Collington and Bergen. Carried. Council heard a motion to recommend to Senate the approval of 4 changes to the Master of Fine Arts (MFA) in Studio Art, effective fall 2018: Lower the minimum admission average from 80% to 75%; lower the number of references required for admission from 3 to 2 and change the type of references required from "academic" to "academic and/or professional"; update the current "Fields" (areas of research); input name change from Keith and Win Shantz Summer Internship to Keith and Win Shantz International Scholarship, as presented. The changes came following review of 20 Master of Fine Arts programs from Across Canada, where the program discovered that UW Fine Arts is not in-line with some of the requirements of its competitors. Collington and Bergen. Carried.

b. Mathematics. Council heard a motion to approve, as presented item 1 (Lemieux and Müller. Carried), item 2 (Lemieux and Judge. Carried–noting one friendly amendment to change effective date to fall 2018 from spring 2018) and item 3 (Lemieux and Szigeti. Carried). Council heard a motion to recommend to Senate, as presented, the approval of a new Computer Science PhD program with a required internship and create the corresponding milestone for the internship. It was highlighted that by transferring into this new PhD program with a required internship, international students will be able to obtain a work permit to do an internship in any term, subject to stated conditions. It was clarified that: this is not considered co-op, internships can be arranged independently or through one's supervisor, flexible timing of enrolment of this supervisor-approved transfer into the program, discussions with Finance are in progress to resolve final tuition amounts. Lemieux and Judge. Carried.

7. CHANGES TO GRADUATE STUDIES REGULATIONS AND ACADEMIC CALENDAR

Council heard a motion to recommend to Senate, as presented, the approval of 5 changes to Academic Calendar and Graduate Studies Regulations: drop/add deadline date, fee arrangement deadlines, graduate student class enrolment (Judge and Müller. Carried); apply for graduation (Judge and Hellinga. Carried); inactive status (Judge and Clarke. Carried); Master's thesis regulations (Judge and Hellinga. Carried); PhD comprehensive examinations (Judge and Hellinga. Carried). With regard to Master's thesis regulations, council raised no objection over wording, though discussed notion of tenure or tenure track and continuing lecturers. With regard to PhD comprehensive examinations, Casello stated that a concise document ("core of what a student needs to know") will be distributed by GSPA in Fall 2018.

8. UNIVERSITY RESEARCH

Due to time constraints, Casello announced that information items (a) through (c) would be moved to the 11 June 2018 Senate Graduate and Research Council agenda.

9. GRADUATE AWARDS

Council heard a motion to approve items (a) through (c). Judge and Lemieux. Carried. Council received items (d) through (f) for information.

10. OTHER BUSINESS
There was no other business.

11. NEXT MEETING
The next meeting will be on Monday 11 June 2018 from 10:30 a.m. to 12 noon in NH 3318.

29 May 2018

Kathy Winter, PhD, CPsych
Associate University Secretary

Proposal for Global Health Policy and Innovation Research Centre at University of Waterloo

May 2, 2018.

Overview

Globalization has brought great benefits and great threats to human health. The heavy focus on maternal and child health as well as major infectious diseases in the Millennium Development Goals (MDGs: 2000-2015) was associated with large declines in maternal, infant and child deaths, with sharp increases in funding available for international health, and with new institutions such as the three Global Funds/Alliances.

The Sustainable Development Goals (SDGs: 2015-2030) have more ambitious health goals and a broader perspective than the MDGs, with the focus on progress towards Universal Health Coverage and 26 health indicators (more than for any other individual SDG). There is strong focus on improving health systems (including providing financial protection) whereas the MDGs had more of a focus on specific key diseases.

At the same time, with increased travel new threats have emerged and spread rapidly internationally, such as SARS, MERS, Ebola and the Zika virus. This is occurring at the same time as slowing population growth is leading to population aging, with corresponding increases in non-communicable diseases. Profound inequities in health exist globally, and concerning signs are visible (such as the recent decline in international funding for HIV/AIDS after years of a trend increase). Work on global health policy is therefore very timely.

Work on global health policy is inherently multi-disciplinary. The University of Waterloo has faculty in at least three different Faculties currently working on the topic, as well as linkages with a similar group at Laurier which have been further fostered by activities at the Balsillie School. Last year, the group came together (along with colleagues from McMaster University, University of Guelph and Brock University) with the support of the Canadian Coalition for Global Health Research to run a very successful "Ontario Coalition Institute" at the Balsillie School September 29 to October 2 2016, which brought together 25 new scholars at four different universities, with mentors and resource persons working in global health from the University of Waterloo, Laurier, and three other nearby institutions.

This recent initiative has led to a number of additional efforts by participants and colleagues to advance global health research and policy. For example, Sue Horton and Craig Janes from University of Waterloo, and Karen Grépin from Wilfrid Laurier University received, a CIHR-ICS Planning and Dissemination grant focused on access to diagnostic technology in LMIC settings, and Craig Janes and Plinio Morita have developed programs focused on addressing adolescent mental health issues in Mongolia. Susan Elliott, as well as key researchers from the Water Institute, continues to lead a capacity building initiative among young scholars through the Queen Elizabeth Scholars Program. She also applied for a CIHR Planning and Dissemination grant to develop a water-health research program with a government funded water institute in Cancun, Mexico.

There is strong student interest in global health. There is an undergraduate chapter of the Canadian Coalition for Global Health Research at the University of Waterloo which had about 60 members last academic year, and which held a number of successful events on campus and also participated in a larger end-of-year conference with student colleagues from McMaster, Guelph and Brock Universities. At the graduate level there are a group of students pursuing Master's and PhD degrees with a global health focus, as well as in the Master's and PhD programs in Global Governance at the Balsillie School, and the Master's of Development Practice in the Faculty of Environment. The School is currently augmenting the existing courses in global health to build a stream of graduate courses in Global Health which could be used as the basis for a research field in the area, or a graduate diploma. The School also just made a new tenure-stream appointment in global health that will help to augment the availability of courses in the area. Development of courses and programming in global health is very much complementary to development of a research centre.

This is therefore an opportune time at which to propose a research centre in Global Health Policy and Innovation. This is initially planned as a centre in Applied Health Sciences, reporting to the Dean of Applied Health Sciences, with participation from members of other Faculties at the University of Waterloo, and active involvement of colleagues affiliated with the Global Governance programs at the Balsillie School (including colleagues from Laurier).

Mission

The Research Centre for Global Health Policy and Innovation aims:

- To enhance the health and wellbeing of populations internationally
- To alleviate global health inequities by creating solutions that target underserved and vulnerable communities
- To provide training and mentoring to create the health leadership the world needs to continue to meet global health challenges in the future

This mission sits at the intersection of two of the University of Waterloo's eight strategic research objectives, namely enhancing quality of life (health and well-being), and supporting change (society, culture and governance) (University of Waterloo, undated). The mission supports two of the eight themes of the university's strategic plan (2013), namely transformational research and global prominence and internationalization. It is also consistent with some key themes in the Faculty of Applied Health Science including partnerships and collaboration, leveraging technology and innovation, and international impact.

Objectives

To meet this mission, objectives of the centre are:

- Facilitating joint research projects by faculty members working across faculties;
- Raising the profile of global health policy research by hosting high profile events such as visiting speakers and film screenings to present on topics of global interest

- Training and mentoring students, e.g. by offering opportunities as assistants on research projects, by providing information about experiential opportunities off campus, and (when funding is available) supporting students in innovative projects in health
- Raising the profile of global health policy at the university, and linking with other groups engaged in similar work (other research organizations, government and non-government organizations engaged in promoting global health, other research groups at the university with activities in global health, organizations such as the Canadian Coalition of Global Health Research (CCGHR; http://www.ccghr.org) and the Canadian Society for International Health (http://www.csih.org/en).
- Contributing to the generation of applied research by responding selectively to requests-for-proposals related to global health policy of interest to centre members
- Hosting occasional public events, depending on interest of faculty members

In order to document success of the Centre in these objectives, we will maintain information on:

- Numbers of graduate students involved with the Centre and receiving information about activities related to global health. Undergraduate students will also receive information, and are already organized through the chapter of the Canadian Coalition for Global Health Research.
- Numbers of events organized by the Centre
- Applications for and receipt of grants involving more than one member of the Centre
- Applications for and receipt of contracts involving more than one member of the Centre
- Other linkages in global health promoted by the Centre

Related initiatives in Applied Health Sciences

Two other new initiatives in AHS will also help to raise the profile of global health. One is an initiative to promote student innovations with a global health focus (in development) and the other is an initiative to provide modest seed funding for graduate students to undertake international research. Although these initiatives are not connected directly with the Research Centre, many of the same faculty members are likely to be involved in the three initiatives. All three initiatives can help raise the profile of global health.

Global Health/Policy Research at other institutions

A number of units work on global health at other Canadian universities. Most of the other research-intensive universities have one (or more) global health units, offering academic programs or conducting research (or both). Examples include:

- University of British Columbia: Global Health Research Program in the School of Public Health
- University of Manitoba: Centre for Global Public Health

- Western University: Africa Centre and Global Health Conversations Series in the Schulich School of Medicine and Dentistry
- University of Ottawa: Centre for Global Health
- Dalhousie University: Global Health Office
- University of Toronto: Institute for Global Health Equity and Innovation in the Dalla Lana School; and in the affiliated medical institutions the Centre for Global Health Research (St. Michael's Hospital), the Centre for Global Child Health (Hospital for Sick Children), Office of Transformative Global Health (CAMH)
- University of Alberta School of Public Health: MSc in Global Health
- University of Calgary School of Medicine: Global Health and International Partnerships
- McMaster University: global health research in Family Medicine; Global Health Office and MSc in Faculty of Health Sciences
- Université de Montréal: Unité de Santé Internationale
- McGill University: Global Health Office, Faculty of Medicine

Some universities without medical schools also have programs and research, e.g.:

- Ryerson University: Centre for Global Health and Health Equity
- York University: BA, BSc in Global Health

There are also a select group of units focusing on health policy across Canada. These include:

- University of British Columbia: Centre for Health Services and Policy Research
- University of Toronto Institute for Health Policy, Management and Evaluation
- McMaster University Centre for Health Economics and Policy Analysis

And these units engage in international research, although their primary focus is domestic; however, there are few if any units in Canada working explicitly on global health policy.

Examples of other groups working on global health policy internationally include the Centre for Global Development in Washington DC, the Centre for Disease Dynamics Economics and Policy in Washington DC and the Institute of Cancer Policy at King's College London. There are teaching programs in global health policy at a variety of universities (Edinburgh, Harvard, Princeton, London School of Tropical Medicine and Hygiene, for example).

Examples of global policy research of centre participants

Tobacco policy: Geoff Fong heads the International Tobacco Control (ITC) Project which conducts research in 28 countries to evaluate the impact of the WHO Framework Convention on Tobacco Control, the global tobacco control treaty; the ITC Project is the world's largest tobacco research program. David Hammond has collaborated on papers from the project, and also independently advised governments in half-a-dozen countries on tobacco control. Kitty Corbett has worked on tobacco use (as well as alcohol and marijuana use) in youth, with a particular focus on differences between men and women, as well as among visible minorities in North America.

*Food policy***:** David Hammond works on obesity prevention and topics such as food labelling and taxation of sugar-sweetened beverages (primarily in Canada); Rhona Hanning works on healthy eating in youth, with projects focusing on Aboriginal peoples in Canada and community-level

determinants of maternal child health and nutrition in Africa. Susan Horton works on nutritional status and micronutrients, also in Africa and her findings have been used to strengthen international advocacy efforts around improved nutrition. Susan Elliott works on allergens, many of which are in food. Shannon Majowicz works on food safety, with a focus on synthesizing evidence to inform national and international food standards, including via the Codex Alimentarius Commission.

*Environment and resources issues***:** Susan Elliott works on policies for clean water and adequate sanitation, particularly in sub-Saharan Africa. Brian Laird works on contaminants in the environment, such as arsenic in rice and mercury in seafood, and many of the policy solutions to these problems require concerted international action. Craig Janes has worked with a team in Mongolia to build capacity to undertake health assessments in the mining sector. Working with partners from the World Health Organisation, civil society and several government Ministries, they have achieved success in improving policy, including two important new pieces of legislation.

*Infectious disease***:** Kitty Corbett and Craig Janes have worked on emerging infectious disease; Alan Whiteside (Laurier) has a long-standing program of working on policy for HIV-AIDS in sub-Saharan Africa. Shannon Majowicz works on infections transmitted via food and water, with both a Canadian and a global burden focus, and has consulted for the World Health Organizationa and the Food and Agriculture Organization of the United Nations in this regard.

*Evaluation of health programs/interventions***:** Karen Grépin (Laurier) and Susan Horton (both economists) have worked on evaluating health programs and interventions, and have interests in health systems in low- and middle-income countries. As noted above, the ITC Project (Geoff Fong and David Hammond) has conducted evaluation studies of tobacco control policies; these evaluations have also included evaluation of policies in low- and middle-income countries.

The faculty group bring a range of disciplinary expertise to bear on health issues. This includes medical anthropology (Kitty Corbett, Craig Janes, Jennifer Liu); psychology (David Hammond, Geoff Fong); sociology (John Hirdes), economics (Karen Grépin, Susan Horton, Alan Whiteside); geography (Susan Elliott), tourism (Karla Boluk), nutrition (Rhona Hanning), health studies (Kelly Skinner), environmental science (Brian Laird), epidemiology and public health practice (Shannon Majowicz), and engineering (Plinio Morita).

Constitution

The constitution of the centre is governed by Policy 44 of the University Secretariat. https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-44-research-centres-and-institutes

Organizational and Reporting Structure

The centre is composed of Regular Members and Limited-Term Members (defined below). Centre members meet at least once a year (Annual General Meeting) and more frequently as required. At the Annual General Meeting which is chaired by the Dean of Applied Health Sciences, all Members are entitled to speak (as recognized by the chair of the meeting), and

decisions are preferably made by consensus. Where a formal vote is required (e.g. on matters such as appointing a Director, disposition of budget, or amending the constitution of the centre), only Regular Members can vote. Quorum at the Annual General Meeting requires that 50% plus one of voting members are faculty members of the University of Waterloo.

Membership

The membership of the centre consists of Regular Members and Limited Term Members whose interests are in accordance with the centre's mission.

Regular Members are full-time faculty members at either University of Waterloo or another university. Limited-Term Members include students, postdoctoral fellows, staff or non-full-time faculty at University of Waterloo or another university, subject to the restriction that the majority of Limited Term Members shall be from the University of Waterloo. Regular and Limited-Term Members from another university are limited to those actively involved in centre activities. Applications for Membership will be reviewed at the Annual Meeting of Members, and in between such meetings, by the Executive Committee (below).

Non-university members are invited to participate in activities of the centre, but not accorded membership.

Committees

Executive Committee

An Executive Committee will carry out business of the centre in between General Meetings of the members. The Executive Committee is chaired by the Dean or his/her delegate, and includes the Director, the Scientific Director (if one is appointed in the future), and others as determined by the Dean. The Executive Committee provides advice to the Dean, Director and (if one is appointed in the future), the Scientific Director.

Other committees can be set up by decision of the Annual General Meeting, as needed.

Meetings of the Executive Committee and the Membership require circulation of an agenda to all Members one week in advance; following the meeting minutes will be circulated promptly.

Director

The Director of the Centre reports to the Dean of Applied Health Sciences. The Dean of Applied Health Sciences will also consult as needed with the relevant Deans from other Faculties at University of Waterloo from which Regular Members are drawn (initially Arts and Environment). The Director shall normally be a full-time faculty member from the Faculty of Applied Health Sciences at the University of Waterloo, but by decision of the Dean can also be a staff member of the University or an external appointee.

A nominating committee chaired by a faculty member nominated by the Dean of the Faculty, will provide advice to the Dean on the appointment or reappointment of the Director. This committee will consist of representatives of the Membership, as approved by the Dean, and may

include a range of participants in the centre (i.e. Regular Members, Limited Term Members, staff, students may be selected).

The Director is appointed for an initial term of up to three years and may normally be reappointed once only for a term of up to three years.

The Director is responsible for the overall management of the Institute, the preparation of the annual budget, and supervision for Institute employees (if any). Unless a Scientific Director is appointed, the Director is also responsible for guiding the research agenda of the centre, with input from the Executive Committee and from the Membership.

Budget

The Centre will receive modest seed support from the Faculty Dean, of $10,000/year for five years (2018-2022). The intention is to use this to raise profile and collaboration, and to facilitate applications for external funding.

It is proposed to allocate $7000 per year to administrative support (web page, organizing events, etc.) and $3000 per year to funding events (public events, film screenings, networking events, etc.)

Short Biographies of Proposed Regular Members

Karla Boluk

Kitty Corbett

Warren Dodd

Susan Elliott

Geoff Fong

Karen Grépin

David Hammond

Rhona Hanning

John Hirdes

Susan Horton

Craig Janes

Brian Laird

Jennifer Liu

Shannon Majowicz

Plinio Morita

Kelly Skinner

Alan Whiteside

Karla Boluk (Assistant Professor, RLS)

Research Interests

Karla Boluk uses a critical lens in her research to examine the social impact commitments of tourism businesses. Additionally, she challenges the dominant discourse in higher education. Specifically, her research explores ways to sustainably engage and empower communities in poverty eradication, positioning tourism as a mechanism for the creation of positive change. Her current research projects in these areas include exploring mechanisms Fairmont Mara Safari Club in Maasai Mara, Kenya have activated to determine desirable outcomes for their communities; an examination of the social impact of a local volunteer tourism organization called New World Community and CLOUD projects, a cross-country case study comparison of social entrepreneurs (in South Africa, U.S., Ireland), and an examination of how critical pedagogy following Freirean philosophy can be implemented into Tourism curriculum. Demonstrating the intersection between her two passions for social responsibility and critical pedagogy she has co-created two brands at the University of Waterloo including the *Big Ideas Challenge* and *Hack4Health.*

Education
BA (Brock)
PhD (Otago, New Zealand)
PDF (Dalarna, Sweden)

Selected publications

Boluk, K. & Carnicelli, S. (2015). Activism and critical reflection through experiential learning. *Journal of Teaching in Travel & Tourism*, 15(3), 242-251.

Boluk, K., & Mottiar, Z. (2014). Motivations of social entrepreneurs: Blurring the social contribution and profits dichotomy. *Journal of Social Enterprise*, *10*(1), 53-68.

Weeden, C., & Boluk, K. (2014). (eds.) *Managing Ethical Consumption in Tourism*. London: Routledge.

Boluk, K. (2013). Using CSR as a tool for development: An investigation of the Fair Hotels Scheme in Ireland. *Journal of Quality Assurance in Hospitality & Tourism*, 14(1), 49-65.

Engström, C. and Boluk, K. (2012). The battlefield of the mountain: Exploring the conflict of tourism development on the three peaks in Idre, Sweden. *Tourism Planning and development*, *9*(4), 441-427.

Boluk, K. (2011). Fair Trade Tourism South Africa: A pragmatic poverty reduction mechanism? *Tourism Planning and Development*, *8*(3), 237-251.

Boluk, K. (2011). In consideration of a *new* approach to tourism: A critical review of fair trade tourism. *The Journal of Tourism and Peace Research*, *1*(3), 27-37

Kitty Corbett (Professor, SPHHS)

Contact information

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Research interests

Kitty Corbett is a medical anthropologist committed to public health. Her research is about and for change, emphasizing social science theory, methodology, and tools for knowledge translation, health communication, quality improvement, and health promotion. She has worked on teams addressing diverse multidisciplinary challenges related to infectious disease (e.g., antibiotic resistance, HIV, Chagas); non-communicable diseases (e.g., oral cancer, mental health, tobacco-related diseases); environment and global health; traditional and local food ways; etc. Beyond Canada and the US, She has been a Fulbright Scholar in Mexico and Taiwan, worked on projects in Argentina, Mongolia, Russia, and more, and has supervised students' work in over 20 countries.

Education

AB, Anthropology (1975 Stanford University)
MPH, Behavioral Sciences (1980, University of California Berkeley)
MA, Anthropology (1981, University of California Berkeley)
PhD, Medical Anthropology (1986, University of California Berkeley & San Francisco)

Selected publications

Janes CR, KK Corbett, JH Jones, J Trostle. Emerging infectious diseases: the role of social sciences *The Lancet*, 380: 1884-1886, 2012.

Janes CR**,** KK Corbett**.** Anthropology and global health**.** *Annual Review of Anthropology* 38: 167-183, 2009

Dreser A**,** VJ Wirtz**,** KK Corbett**,** G Echániz Uso de antibióticos en México: revisión de problemas y políticas**-** *salud pública de méxico*, 2008

Yuksel H**,** KK Corbett**.** Mixed messages: a qualitative study of the meanings and context of high school students' tobacco use in Turkey**.** *Health promotion international*, 20: 360-366, 2005

Warren Dodd (Assistant Professor, SPHHS)

Research interests

Warren completed his collaborative PhD in Population Medicine and International Development Studies at the University of Guelph in 2016. For his PhD research, he investigated the connections between labour mobility, health, and rural livelihoods among small-scale farming households in South India. Warren is currently engaged in interdisciplinary research projects with community partners in Yellowknife, NWT and Honduras. He joins University of Waterloo in July 2018.

Selected publications

Dodd, W., Humphries, S., Patel, K., Majowicz, S., & Dewey, C (in press). The internal migration development nexus: evidence from southern India. *Asian and Pacific Migration Journal*.

Nelson, E. & **Dodd, W**. (in press). Collaborating for community food security: Emerging scholar participation in a community-university partnership. *Action Research.* doi:10.1177/1476750316656041

Dodd, W., Humphries, S., Patel, K., Majowicz, S., & Dewey, C. (2016). Determinants of temporary labour migration in southern India. *Asian Population Studies*, 12(3), 294-311.

Dodd, W., King, N., Humphries, S., & Dewey, C (2016). Self-reported morbidity and health service utilization in rural Tamil Nadu, India. *Social Science & Medicine*, 161, 118-125.

Preibisch, K., **Dodd, W.**, & Su, Y. (2016). Pursuing the capabilities approach within the migration development nexus. *Journal of Ethnic and Migration Studies*, 42(13), 2111-2127.

Little, M., Humphries, S., Patel, K., **Dodd, W**., & Dewey, C. (2016). Factors associated with glucose tolerance, pre-diabetes, and type 2 diabetes in a rural community of south India: A cross sectional study. *Diabetology and Metabolic Syndrome*, 8(21), 1-11.

Susan Elliott (Professor, Geography)

Contact Information

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elliotts@uwaterloo.ca

Research interests

Susan is a medical geographer with particular interests in global environmental health. She is an Adjunct Professor with the United Nations University Institute for Water, Environment and Health (UNU-INWEH), a partner in much of the global water and sanitation research that she undertakes. She is also a research lead for the AllerGen national centres of excellence on gene-environment interactions and allergic disease.

Selected publications

Barber, H., Dickson-Anderson, S., Schuster-Wallace C.J., **Elliott, S.J.**, & Tema, S. Designing a Mixed-Methods Approach for Collaborative Local Water Security: Findings from a Kenyan Case Study. *Expo Health.* 2017. DOI: 10.1007/s12403-017-0251-0

Elliott SJ., Dixon J., Bisung E. and Kangmennaang J. (in press). Taking it global: toward an index of wellbeing for low to middle income countries. *International Journal of Wellbeing*.

Harrington D.W., McLafferty S.L. and **Elliott S.J**. (eds.), Population Health Intervention Research: Geographical Perspectives. *Routledge: Taylor & Francis Group*: New York. 2016.

Bisung, E., Karanja, D. M., Abudho, B., Oguna, Y. Mwaura, N. Ego, P., Shuster-Wallace, C.J., and **Elliott, S.J**. One community's journey to lobby for water in an environment of privatized water: Is Usoma too poor for the pro-poor program? *African Geographical Review*. 2016, 35(1): 70-82

Atiim, G.A. & **Elliott, S.J**. The Global Epidemiologic Transition: Noncommunicable Diseases and Emerging Health Risk of Allergic Disease in Sub-Saharan Africa. *Health and Education Behaviour*.2016. 41(IS) 37S-55S. DOI: 0.1177/1090198115606918

Bisung, E. & **Elliott, S.J**. 'Everyone is exhausted and frustrated': exploring psychosocial impacts of the lack of access to safe water and adequate sanitation in Usoma, Kenya. *Journal of Water Sanitation and Hygiene for Development.* 2016. 6(2): 205-214. DOI: 10.2166/washdev.2016.122

Mulligan, K., Dixon, J., Sinn, C.J., & **Elliott, S.J.** (2015). Is dengue a disease of poverty? A systematic review. *Pathogens and global health*, *109*(1), 10-18.

Geoff Fong (Professor, Psychology)

Selected awards:

2015 American Cancer Society, Luther L. Terry Award for "Outstanding Research Contribution"

2009 Canadian Institutes of Health Research and *Canadian Medical Association Journal*, "Top Canadian Achievement in Health Research"

2011 Canadian Institutes of Health Research, "Knowledge Translation Award"

2011-2016 Canadian Cancer Society, "Prevention Initiative Research Scientist Award"

Research interests

Dr. Fong is the Founder and Chief Principal Investigator of the International Tobacco Control Policy Evaluation Project (the ITC Project), which is the first-ever international cohort study of tobacco use. The ITC Project's main objective is to evaluate the psychosocial and behavioural population-level impact of key national level policies of the WHO Framework Convention on Tobacco Control (FCTC), the world's first health treaty. The ITC Project is a collaborative effort with international health organizations and policymakers in 28 countries so far, inhabited by more than 50% of the world's population, 60% of the world's smokers, and 70% of the world's tobacco users across every continent in the world, except for Antarctica

In the past decade, the ITC Project has published over 400 journal articles and has presented findings in over 900 posters and presentations at scientific meetings. The project has connections with health organizations and institutes (e.g., World Health Organization, Canadian Cancer Society, World Heart Federation, Cancer Research UK, US National Cancer Institute and national cancer institutes in Brazil, France, and South Korea) and governments with whom they disseminate ITC findings to promote stronger evidence-based action to reduce tobacco use. The project is engaged in a global effort to find out what works and what doesn't work (so well) in population-level efforts to address the number one preventable cause of death and disease, with a particular emphasis on low- and middle-income countries.

Selected publications

Levy, D., Cummings, K.M., Villanti, A.C., Niaura, R., Abrams, D.B., **Fong, G.T.**, & Borland, R. (2017). A framework for evaluating the public health impact of e-cigarettes and other vaporized nicotine products. *Addiction*, *112*(1), 8-17.

Kaai, S.C., Chung-Hall, J., Sun, M.C., Burhoo, P., Moussa, L., Yan, M., Ramasawmy, D., Quah, A.C.K., & **Fong, G.T.** (2016). Predictors of quit intentions among adult smokers in Mauritius: Findings from the ITC Mauritius Survey. *Tobacco Prevention & Cessation*, *2*(October), 69-77.

Karen Grépin (Associate Professor, Health Sciences, Wilfrid Laurier University)

Education

PhD Health Economics (Harvard University)
SM Health Policy and Management (Harvard School of Public Health)

Research areas:

- Health systems and policy research
- Global health policy
- Health economics
- Evaluation of health programs
- Development assistance for health
- Maternal and child health programs

Karen A. Grépin is an Associate Professor in the Department of Health Sciences and the School of International Policy and Governance at Wilfrid Laurier University. She is also the Canada Research Chair in Global Health Policy and Evaluation. Dr. Grépin's research focuses on priority setting in health systems, institutional factors affecting the demand and supply of health services, and the politics and effectiveness of development assistance for health. Prior to joining Laurier, she was an Assistant Professor at the Robert F. Wagner Graduate School of Public Service at New York University. She is a visiting fellow at the Center for Global Development in Washington, DC.

Grépin, KA. (2016) "Private Sector An Important But Not Dominant Provider of Key Health Services in Low and Middle Income Countries." *Health Affairs*, 35 (7): 1214-1221.

Greeson, D, Austin-Evelyn, K, Macwan'gi, M, Masvawure,T, Kruk, ME Grépin, KA. (2016) "Local adaptations to global health initiatives: prevalence and perception of fines imposed by traditional leaders for home births in Zambia." *Health Policy & Planning*, in press.

Morse, BS, Grépin, KA, Blair, R, and Tsai, L. (2016) "Patterns of demand for non-Ebola health services during and after the Ebola outbreak: panel survey evidence from Monrovia, Liberia." *BMJ: Global Health*, 1(1).

Kruk, ME, Vail, D, Austin-Evelyn, K, Atuyambe, Ly, Greeson, D, Grépin, KA, Kibira, S, Macwan'gi, M, Masvawure, M, Moonga, M, Neema, S, Rabkin, M, Sacks, M Simbaya, J, Zulu, R, and Galea, S. (2016) "Evaluation Of A Maternal Health Program In Uganda And Zambia Finds Mixed Results On Quality Of Care And Satisfaction." *Health Affairs*, 35:510-519.

Austin-Evelyn, K, Sacks, E, Greeson, D, Vail, D, and Atuyambe, L., Kruk, ME, Grépin, KA. (2016) "The promise of Mama Kits: perceptions of in-kind goods as incentives for facility deliveries in Uganda." *Global Public Health*, in press.

Grépin, KA, Bharadwaj, P. (2015) "Maternal Education and Child Mortality in Zimbabwe." *Journal of Health Economics*, 44: 97-117.

Dave Hammond (Professor, CIHR-PHAC Chair in Applied Public Health, SPHHS)

Contact information
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Education
BA Psychology (1996, University of British Columbia)
MSc Health Studies (2002, University of Waterloo)
PhD Psychology (2005, University of Waterloo

Research interests
Dr. Hammond's research focuses on chronic disease prevention and global health in the areas of tobacco control policy, health diets and obesity prevention, as well as harm reduction and drug policy. He works closely with governments around the world and has served as an Advisor for the World Health Organization. He also serves as an Expert Witness in court cases, primarily on behalf of governments defending health regulations from legal challenges by the food and tobacco industries. His research has been recognized by awards from the Canadian Institutes of Health Research (CIHR), the Canadian Cancer Society, the Canadian Medical Association, the Royal Statistical Society of Canada, and the World Health Organization

Selected publications

Roberto C, Wong D, Musicus A, Hammond D. The influence of sugar-sweetened beverage health warning labels on parents' choices. *Pediatrics* 2016; 137(2):1-10.

Reid JR, Rynard V, Czoli CD, Hammond D. Who is using e-cigarettes in Canada? Nationally representative data on the prevalence of e-cigarette use among Canadians. *Preventive* Medicine 2015; 81:180-3.

Leos-Toro C, Hammond D. Medicinal substance abuse among Canadian youth: Findings from the 2012/2013 Youth Smoking Survey. *Canadian Medical Association Journal – Open* 2015; 2015;3: E387–94.

Hammond D, Goodman S, Hanning R, Daniel S. A randomized trial of calorie labelling on menus. *Preventive Medicine* 2013; 57(6):860-6.

Hammond D, Collishaw N, Callard C. Tobacco industry research on smoking behaviour and product design. *The Lancet 2006;* 367: 781–87.

Rhona Hanning (Professor, SPHHS)

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Research interests
Dr. Hanning's research program emphasizes healthy eating and youth. She has developed and evaluated electronic approaches to dietary assessment and applied them in school-based surveillance and as part of mixed methods evaluations of public/ community health program and policy interventions. For example, in collaboration with communities serving First Nations and Métis students and multi-disciplinary research and NGO partners, she is evaluating an initiative to enhance local healthy foods for schools. Other research explores Canadian recreation centre food environments and community-level determinants of maternal child health and nutrition in Africa.

Education
BASc (1978, University of Guelph, Division of Applied Human Nutrition)
PhD Nutritional Sciences (1986, University of Toronto)
PDF (1988, McMaster University, Department of Pediatrics)

Selected Publications

Skinner K, RM Hanning, LJS Tsuji. Barriers and supports for healthy eating and physical activity for First Nation youths in northern Canada. *International Journal of Circumpolar Health* 65 (2), 2006.

Hanning RM, R Sandhu, A MacMillan, L Moss, LJS Tsuji, E Nieboer. Impact on blood Pb levels of maternal and early infant feeding practices of First Nation Cree in the Mushkegowuk Territory of northern Ontario, Canada. *Journal of Environmental Monitoring* 5 (2), 241-245, 2003.

Skinner K, RM Hanning, E Desjardins, LJS Tsuji. Giving voice to food insecurity in a remote indigenous community in subarctic Ontario, Canada: traditional ways, ways to cope, ways forward. *BMC Public Health* 13 (1), 1, 2013.

Gates A, RM Hanning, M Gates, A Isogai, J Metatawabin, LJS Tsuji. A school nutrition program improves vegetable and fruit knowledge, preferences, and exposure in First Nation youth. *Open Nutr. J* 5, 1-6, 2011.

Vance V, M Mourtzakis, L McCargar, R Hanning Weight gain in breast cancer survivors: prevalence, pattern and health consequences. *Obesity reviews* 12 (4), 282-294, 2011.

John Hirdes (Professor, SPHHS)

Research Interests

John Hirdes' primary areas of interest include geriatric assessment, mental health, health care and service delivery, case mix systems, quality measurement, health information management, and quantitative research methods. Working as the senior Canadian Fellow and as a Board Member of interRAI, an international consortium of researchers from over 35 countries, he also chairs interRAI's International Network of Excellence in Mental Health and the interRAI Network of Canada.

Education

BSc Health Studies (University of Waterloo, 1983)
MA Sociology (University of Waterloo, 1985)
Diploma Gerontology (University of Waterloo, 1985)
PhD Sociology (University of Waterloo, 1989)
PDF Research (Freeport Hospital 1990

Selected Publications

Mitchell, L.A., Hirdes, J., Poss, J.W., Slegers-Boyd, C., Caldarelli, H., Martin, L. Informal caregivers of clients with neurological conditions: profiles, patterns and risk factors for distress from a home care prevalence study. BMC Health Services Research, 2015 Aug; 15(1): 350.

Tempier, R., Bouattane el M., Hirdes, J.P. Access to psychiatrists by French-speaking patients in Ontario hospitals: 2005 to 2013. Healthcare Management Forum, 2015 Jul; 28(4):167-171.

*Salam-White, L., Hirdes, J.P., Poss, J.W., Blums, J. Predictors of emergency room visits or acute hospital admissions prior to death among hospice palliative care clients in Ontario: a retrospective cohort study. BMC Palliative Care, 2014 Jul 11; 13: 35.

Hirdes, J.P., Poss, J.W., Mitchell, L., Korngut, L., Heckman, G. Use of the interRAI CHESS scale to predict mortality among persons with neurological conditions in three care settings. PloS One, 2014 Jun; 9(6): e99066

*Danila,O., Hirdes, J.P., Maxwell, C.J., Marrie, R.A., Patten, S., Pringsheim, T, Jetté, N. Prevalence of neurological conditions across the continuum of care based on interRAI assessments. BMC Health Services Research, 2014 Jan 22; 14: 29

*Danila,O., Hirdes, J.P., Maxwell, C.J., Marrie, R.A., Patten, S., Pringsheim, T, Jetté, N. Prevalence of neurological conditions across the continuum of care based on interRAI assessments. BMC Health Services Research, 2014 Jan 22; 14: 29

Susan Horton (Professor, SPHHS)

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Education
BA Economics (Cambridge)
AM Economics (Harvard)
PhD Economics (Harvard)

Research interests
Dr. Horton's current research focuses on economic aspects of health and nutrition internationally. This includes cost-effectiveness, cost, and prioritization of interventions of many kinds. She has particular expertise in micronutrients, undernutrition, and the double-burden of malnutrition. She also researches the economics of non-communicable diseases, particularly cancer, and the economics of diagnostics, in low- and middle-income countries.

Selected Publications

Fuentes-Alabi S, Bhakta N, Frnklin Vasquez R, Gupta S, Horton S. Cost and Cost-Effectiveness of Childhood Cancer treatment in El Salvador, Central America. Forthcoming, *Cancer*.

Horton, S., Gelband, H., Jamison, D.T., Levin, C., Nugent, R., Watkins, D. Ranking 93 Health Interventions for Low- and Middle-Income Countries by Cost-Effectiveness. *PLoS ONE*, 2017 https://doi.org/10.1371/journal.pone.0182951

Victora, C.G., R. Bahl, A.J.D. Barros, G.V.A. França, S. Horton, J. Krasevec S. Murch, M.J. Sankar, N. Walker, N. Rollins. Breastfeeding in the 21st century: epidemiology, mechanisms and lifelong impact. Breastfeeding Series Paper 1. *The Lancet* 387: 475-490, 2016.

Rollins, N., Bhandari N, Hajeebhoy N, Horton S, Lutter C, Martines JM, Piwoz E, Richter L, Victora C. Breastfeeding in the 21st century: Why invest, and what it will take to improve breastfeeding practices in less than a generation. Breastfeeding Series Paper 2. *The Lancet* 387: 491-504, 2016.

Bhutta, Z. A., J. K. Das, A. Rizvi, M. F. Gaffey, N. Walker, S. Horton, P. Webb, A. Lartey, R. E. Black for Lancet Maternal and Child Nutrition & Interventions Review Groups Evidence based interventions for improving maternal and child nutrition: what can be done and at what cost? *The Lancet* 382 (9890): 452-477, 2013

Popkin, B., S. Horton, S. Kim, A. Mahal, S. Jin. Diet-related noncommunicable diseases in China and India: the economic costs of the nutrition transition. *Nutrition Reviews*, 59: 379-390, 2001 (Lead Review article)

Craig Janes (Professor, SPHHS)

Contact information
Office: LHN 2717
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Research interests

Dr. Janes is a medical anthropologist interested in and committed to social science approaches to public health and global health policy. Janes has research strengths in human-environment interactions, social inequities and health, global health governance, and maternal and child health.

From 2005-2008 he examined the impact of recent climate disasters on herding households in rural Mongolia. His research with rural herders brought Janes in direct contact with the rapid scale-up of mining activities in Mongolia – many funded by Canadian investment – and the impact that these are having on rural communities.

Since 2009 he has focused increasingly on assessing the public health impact of global resource extraction, in Mongolia and beyond. He now works mainly at the policy level, specifically on issues related to public health governance of the resource sector. His current projects in this area have focused on bringing health impact assessment concepts and methods into the extractive sector. In recognition of his many years of work in Mongolia, in 2011 he was awarded the "National Medal of Honour" by the Government of Mongolia for his contributions to developing the health sector, the highest award given to a non-national.

In addition to his work on mining and health, Janes has a broad theoretical interest in the association of global social and environmental changes with the emergence and outbreak of infectious zoonotic diseases

Selected publications

Janes C, Chuluundorj O*, *Making Disasters: Climate Change, Neoliberal Governance, and Livelihood Insecurity on the Mongolian Steppe,* School for Advanced Research Press, Santa Fe, New Mexico. In Press.

Janes C, Bymabaa T*, Lkhagvasuren O*, Pfeiffer M, Sodnompil T, Davison C, Wagler M*, "Health impact assessment and sustainable development in the resource sector: managing the public health impacts of resource extraction in the

"Asian Eldorado," IN Woodman, S. (ed.) *Public Health Policy in Asia: Boundaries of Risk and Redistribution*. Routledge.

Allen RW , Gombojav E , Barkhasragchaa B , Byambaa T *, Lkhasuren O , Amram O , Takaro TK , Janes CR, "An assessment of air pollution and its attributable mortality in Ulaanbaatar, Mongolia," *Air Quality, Atmosphere, & Health*, 6(1), 137-150.

Brian Laird (Assistant Professor, SPHHS)

Contact information
Office: LHN 1727
Phone: 519-888-4567, ext. 32720
Fax: 519-746–6776
Email: brian.laird@uwaterloo.ca

Research interests

The underlying objective of Dr. Laird's research is to improve the characterization of human exposures and risks from environmental contamination. He is particularly interested in the development of tools and approaches that: (i) quantify the health risks from dietary contaminants, (ii) develop optimal intervention strategies where necessary, and (iii) explore the extent to which nutrients offset contaminant risks. To these ends, he has undertaken a two-pronged research program that: a) examines population level contaminant exposure through biomonitoring; and b) investigates the ways and means by which selenium and omega-3 fatty acids counter the health risks posed by methylmercury. He works in Canada including the far North, and has also worked in selected low- and middle-income countries.

Selected publications

Curren MS, Wania F, **Laird BD**, Lemire M. (2017). Exposure to contaminants in northern Canada. Chapter from Canadian Arctic Contaminants Assessment Report IV. Indigenous and Northern Affairs Canada. In Press.

Hu XF, **Laird BD**, Chan HM. (2016) Mercury diminishes the cardiovascular protective effect of omega-3 polyunsaturated fatty acids in the modern diet of Inuit in Canada. *Environ Res* 152, 470-477.

Reyes S, Aristizabal Henao J, Kornobis K, Hanning R, Majowicz S, Liber K, Stark K, Low G, Swanson H, **Laird BD**. (2017) Associations Between Omega-3 fatty Acids, Selenium Content, and Mercury Levels in Wild-harvested Fish from the Dehcho Region, Northwest Territories, Canada. *J Toxicol Environ Health, A* 80(1): 18-31.

Laird BD, Goncharov AB, Egeland GM, Chan HM. (2015) Relationship Between the Esterase Paraoxonase-1 (PON1) and Metal Concentration in the Whole Blood of Inuit in Canada. *Chemosphere* 120: 479-485

Laird BD, Goncharov AB, Egeland GM, Chan HM. (2013) Body Burden of Metals and Persistent Organic Pollutants among Inuit in the Canadian Arctic. *Environ Int* 59: 33-40.

Laird BD, Goncharov AB, Egeland GM, Chan HM. (2013) Dietary advice on Inuit traditional food use needs to balance benefits and risks of Hg, Se, and n3 fatty acids. *J Nutr* 143: 923-930.

Jennifer Liu (Associate Professor, Anthropology)

Contact information

Office**:** PAS 2009

Phone**:** 519-888-4567 x33044

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Background

Jennifer Liu received her PhD from the University of California, Berkeley and San Francisco in 2008. She is a cultural and medical anthropologist whose work intersects with science and technology studies (STS) and global health, and addresses emerging biomedical technologies, science and health governance and ethics, and transnational knowledge production. She has worked in the San Francisco Bay Area, Taiwan and most recently, Zambia. She teaches courses on sociocultural anthropology, theory, medical anthropology, STS, and China among others.

Selected Publications

2016 - "Emerging Science, Emerging Democracy: Stem Cell Research and Policy in Taiwan." Special issue, "Science, Policy, and Values," *Perspectives on Science* 24(5), ed. Heather Douglas.

2015 - "Synthetic Biology in Global Health: Lessons from History and Anthropology." *Journal of Responsible Innovation* 2(1):96-99..

2012 - Aboriginal Fractions: enumerating identity in Taiwan. Theme issue, "Enumeration, Identity and Health," *Medical Anthropology* 31(4):329-346.

2012 - Asian Regeneration? Technohybridity in Taiwan's biotech. Theme issue, "Science and Nationalism in East Asia", *EASTS* (East Asian Science, Tech. and Society) 6(3): 401-14.

2012 - (with D. Gardner) Global Bioethics: Hopes, fears, and new voices. *Issues in Science and Technology*, Fall: 77-87.

2012 - Book Review of European Kinship in the Age of Biotechnology, Jeanette Edwards and Carles Salazar, eds., Oxford and New York: Berghahn Books, 2009. *Feminist Theory* 13(2).

2011 - Biological scarcity: looking beyond regulatory exteriors in Taiwan. Theme Issue, "Stem Cell Research in Asia: Looking Beyond Regulatory Exteriors (Part 2). *New Genetics and Society* 30(3):253-265.

Ellen MacEachen (Associate Professor and Associate Director, Graduate Research Programs, School of Public Health and Health Systems)

Contact Information:

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Phone: 519-888-4567, ext. 37248

Email: ellenmaceachen@uwaterloo.ca

Research Interests

Ellen MacEachen's research examines the design and performance of work and health systems to identify how they can be improved and adapted to fast changing economic, social and technological environments of our global economy.

She is particularly interested in international work disability policy and the health risks and opportunities of new forms of work (such as "sharing economy" gigs). She specializes in qualitative and evaluation research methods and her research is informed by a sociological lens, which means that her studies are sensitive to complex interrelationships between individuals and broader contexts. She co-directs the Centre for Research on Work Disability Policy, where she works closely with community stakeholders**.**

Selected Publications

MacEachen, E., Ekberg K. A time for reflection: international work disability policy challenges and directions. Occup Environ Med 75 (Suppl 2), A543-A544

MacEachen, E., Kosny, A., Stahl, C., O'Hagan, F., Redgrift, L., Sanford, S., Carrasco, C., Tompa, E., Mahood, Q. Systematic review of qualitative literature on occupational health and safety legislation and regulatory enforcement planning and implementation. Scandinavian Journal of Work, Environment and Health, 2016, 42 (1), 3-16.

MacEachen, E., Lippel, K., Saunders, R., Kosny, A., Mansfield, L., Carrasco, C., Pugliese, D. Workers' compensation experience rating rules and the danger to worker safety in the temporary work agency sector. Policy and Practice in Health and Safety, 2012, 10(1), 77-95.

MacEachen, E., Kosny, A., Ferrier, S., Chambers, L. The 'toxic dose' of system problems: why some injured workers don't return to work as expected, Journal of Occupational Rehabilitation, 2010, 20(3), 349-366

Shannon Majowicz (Assistant Professor, SPHHS)

Email: smajowicz@uwaterloo.ca

Research interests

Shannon Majowicz' research aims to prevent foodborne and related diseases in Canadian and international contexts, and to enhance public health practice both broadly and within environmental health.

To this end, she investigates the burden and risks for these illnesses, and identify and evaluate interventions (including those currently in use, like food handler training). Her research applies a systems lens to food-related health outcomes: food and its consumption is a confluence of risks and benefits which impact infectious diseases, chronic conditions, and nutrition, and explores food safety strategies that account for the multiple health outcomes associated with the production and consumption of food.

Dr. Majowicz' research involves tools that improve the use of evidence in public health decision making, particularly those that allow multiple or competing perspectives. Before joining SPHHS, she spent a decade as an epidemiologist with the Government of Canada. There, her work involved extensive knowledge translation, bringing research into Canadian and international public health practice, and creating a wide network of knowledge users, practitioners, and researchers with whom she still collaborates. Her international work includes work with WHO/FAO on food safety, and supervising a thesis on food safety in Ethiopia.

Education

PhD (Epidemiology), University of Guelph, 2004
MSc (Epidemiology), University of Guelph, 1999
BSc (Bio-medical Science), University of Guelph, 1998

Selected publications

Majowicz, S.E., Diplock, K.J., Leatherdale, S.T., et al. **"**Food safety knowledge, attitudes and self-reported practices among Ontario high school students", Canadian Journal of Public Health (2015).

Majowicz, S.E., Scallan, E., Jones-Bitton, A., et al. "The global incidence of human Shiga toxin-producing *Escherichia coli* infections and deaths: a systematic review and knowledge synthesis", Foodborne Pathogens and Disease (2014).

Parmley, E.J., Pintar, K., Majowicz, S., et al. "A Canadian application of One Health: integration of salmonella data from various Canadian surveillance programs (2005-2010)", Foodborne Pathogens and Disease (2013).

Majowicz, S.E., Musto, J.A., Scallan, E., et al. "The global burden of non-typhoidal salmonellosis", Clinical Infectious Diseases (invited article; 2010).

Plinio Morita (Assistant Professor: J.W. Graham Information Technology Emerging Leader Chair in Applied Health Informatics)

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Website: Ubiquitous Health Technology Lab (UbiLab)

Research interests
As the Director of the Ubiquitous Health Technology Lab (UbiLab), Dr. Morita has focused his research on remote patient monitoring (RPM) technologies to be used to prevent unnecessary visits to hospitals and drive our healthcare system towards community care and telehealth. The current state of the technology limits how clinicians can use data collected from RPM tools, as the quality, frequency, and reliability of the data is normally lower than clinical standards.

The UbiLab will expand the area of remote patient monitoring, developing wearables and sensor technology that not only can satisfy clinical requirements, but also provide meaningful use for the large amount of data usually collected through RPM technology. The lab's work focuses on identifying how IoT sensory data can be integrated and presented to clinicians through meaningful scores and visualizations.

Dr Morita's research interests are in the area of mHealth and wearable technology design, ubiquitous sensors for smart homes, usage data and health data analytics, and technology for aging - all technologies that will help us live longer independent lives. He has worked in Brazil and Mongolia, as well as high income countries.

Selected publications

Morita, P.P., and Cafazzo, J.A. (2016). Challenges and Paradoxes of Human Factors in Health Technology Design. *JMIR Journal of Human Factors*, 3(1), e11.

Weinstein, P., Kurahashi, A., Jamieson, T., Stinson, Cafazzo, J.A., Lokuge, B., Morita, P.P., Coehn, E., Goldman, R., Bezjak, A., and Hussain, A. (2016). In the Loop: The Organization of Team-Based Communication in a Patient-Centered Clinical Collaboration System. *JMIR Journal of Human Factor*s, 3(1), e12.

Goyal, S., Morita, P.P., Picton, P., Zbib, A., Seto, E., and Cafazzo, J.A. (2016). Uptake of a Consumer-Focused mHealth Application for the Assessment and Prevention of Heart Disease. *JMIR mHealth uHealth*, 4(1), e32.

Herlihey, T.A., Gelmi, S., Flewwelling, C.J., Hall, T.N.T., Bañez, C., Morita, P.P., Beverley, P., Cafazzo, J.A., and Hota, S. (2016). On Selecting Personal Protective Equipment for Ebola Infectious Disease Preparedness: A Human Factors Evaluation. *Infection Control & Hospital Epidemiology.*

Kelly Skinner (Assistant Professor, SPHHS)

Research Interests

Kelly Skinner's main research focuses on community-based health and social projects related to food, nutrition, food security, and the broader context of food systems and environments. This research has primarily been with people living in northern locations in Canada and more recently with Indigenous organizations located in urban settings. This work has involved dietary assessment with youth, program evaluation, and community development and has, in the past several years, begun to move towards social justice and social policy for improving food security and advocacy for food sovereignty.

A second area of research interest is the development of tools to assess knowledge exchange between knowledge producers (e.g. researchers) and knowledge users (e.g. practitioners).

Education

BSc Health Studies (2002, University of Waterloo)
MSc Health Studies (2005, University of Waterloo)
MPH Health Promotion (2006, Karolinska Institute, Sweden)
PhD Health Studies (2013, University of Waterloo)
Postdoctoral Fellowship: Department of Indigenous Learning/Department of Psychology (2015, Lakehead University)

Selected publications

K Skinner, E Pratley, K Burnett. Eating in the City: a review of the literature on food insecurity and indigenous people living in urban spaces. *Societies* 6 (2), 7

Skinner K, Burnett K, Martin D, Patricia W, Stothart C, LeBlanc J. Challenges in assessing food environments in northern and remote communities in Canada. Canadian Journal of Public Health 107 (1), ES60-ES63

Alan Whiteside (CIGI Chair in Global Health Policy, Professor, SIPG, Wilfrid Laurier University, Professor Emeritus, University of KwaZulu-Natal)

Background

Dr. Whiteside holds a B.A. in development studies and an M.A. in development economics, both from the University of East Anglia and a D.Econ. from the University of Natal. He began his professional career as an Overseas Development Institute Fellow working as a planning officer (economist) in the Ministry of Finance and Development, Gaborone, Botswana from 1980 to 1983. In 1983 he was appointed as a Research Fellow in the Economic Research Unit of the University of Natal (now the University of KwaZulu-Natal). In 1998 he established the Health Economics and HIV/AIDS Research Division (HEARD) where he was the executive director. He is a Professor Emeritus at the University of KwaZulu-Natal.He joined the Balsillie School and Wilfrid Laurier University in 2012.

Dr. Whiteside has carried out training around the world and worked across of Africa, in Ukraine and parts of Asia. In 2003, he was appointed by then UN Secretary-General Kofi Annan to the Commission for HIV/AIDS and Governance in Africa. He was an elected member of the Governing Council of the International AIDS Society from 2000 to 2012. From 2009 to 2012 he was a Senior Research Fellow at the Department of International Development (fractional appointment). He is a member of the Governing Council of Waterford Kamhlaba United World College in Swaziland and a Board Member for AIDSpan, an NGO based in Nairobi. He is a member, Academy of Science of South Africa. In 2015 he was invested as an Officer of the Order of the British Empire

Selected Publications.

T Barnett, A **Whiteside** AIDS in the twenty-first century: Disease and globalization. Basingstoke and NewYork: Palgrave Macmillan, 2002

A **Whiteside.** HIV & AIDS: A Very Short Introduction. Oxford: Oxford University Press, 2016

A De Waal, A **Whiteside**. New variant famine: AIDS and food crisis in southern Africa. *The Lancet*, 362: 1234-1237, 2003.

Root R., A. van Wyngaard, and **A. Whiteside** (2016) “We Smoke the Same Pipe:” Religion and Community Home Based Care for PLWH in Rural Swaziland, Medical Anthropology, published on line at http://dx.doi.org/10.1080/01459740.2016.1256885.

Oberth, G. and **A. Whiteside** (2016) What does sustainability mean in the HIV and AIDS response? African Journal of AIDS Research, 15:1-9.

References

University of Waterloo. Undated. Creating solutions to address global challenges: strategic research plan. Available at https://uwaterloo.ca/research/sites/ca.research/files/uploads/files/strategic_research_plan_-_accessible_pdf.pdf (Accessed November 28, 2016).

University of Waterloo (2013). A distinguished past: a distinctive future. University of Waterloo Strategic Plan. Available at https://uwaterloo.ca/strategic-plan/ (Accessed November 28, 2016).

UNIVERSITY OF WATERLOO

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MEMORANDUM

TO: Dr Susan Horton

FROM: James W.E. Rush, Dean

DATE: May 7, 2018

SUBJECT: Global Health Policy Research Centre

I wish to commend you and your colleagues for taking the initiative, through your engagement, discussions and planning, to propose the Global Health Policy Research Centre at University of Waterloo.

I fully support this proposal as its mission and objectives are focused on providing impactful solutions to issues of local, national and global importance, and the proposal is based on a strong foundation of expertise, and a model which envisions openness to bringing in expertise from a variety of disciplines, and growing in scope and intensity as such partnerships continue to develop and thrive at UW and beyond. As the Centre is to be initially Faculty-based Centre (though encouraging and including cross-Faculty participation) I am pleased that this proposal enjoys the support of Faculty Council which endorsed this at its April 2018 meeting, and I am also pleased to provide some seed support.

As Dean of the Faculty of Applied Health Sciences, I commit seed support of $ 10,000/year for each of the first five years of the Centre's activity, with the intention that this will aid the Centre in raising profile and collaboration during this initial phase, and will facilitate applications for external funding, and the growth in scope and intensity of the Centre.

With confidence in the success in the Centre, and excitement to follow its achievements,

James W.E. Rush, PhD
Dean, Faculty of Applied Health Sciences

200 UNIVERSITY AVENUE WEST, WATERLOO, ON, CANADA N2L 3G1

UNIVERSITY OF WATERLOO

To:	Senate Graduate & Research Council
From:	Charmaine B. Dean, Vice-President, University Research
Date:	May 31, 2018
Subject:	Extension of Terms of Six Centres/Institutes

Please find attached a memo regarding the extension of terms for six centres/institutes.

Item for Information to SGRC

UNIVERSITY OF WATERLOO

VICE-PRESIDENT, UNIVERSITY RESEARCH
519-888-4889
uwaterloo.ca/research

MEMORANDUM

To: Senate Graduate and Research Council

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

Date: May 31, 2018

Re: For Information - Centre/Institute Extensions

It has come to my attention that due to administrative error, four centres/institutes were not issued notifications of review with the result that their terms will expire in May 2018 without appropriate review leading to renewal. I have extended their terms to May 2019.

- Centre for Applied Cryptographic Research (CACR)
- Centre for Advancement of Trenchless Technologies at Waterloo (CATT)
- Waterloo Institute for Nanotechnology (WIN)
- Waterloo Institute for Sustainable Energy (WISE)

The Centre for Theoretical Neuroscience (CTN), while being notified of review, did not submit a review prior to November 2016 and administrative follow-up was not initiated to determine whether an extension would be requested. I have extended the CTN term to December 2018.

In addition, PROPEL is due for review in 2018 and they have requested a deferral to January 2020 in order give them sufficient time to transition to a new model, and therefore having a meaningful review. I have approved this deferral.

These six centres/institutes will begin the review process immediately.

200 UNIVERSITY AVENUE WEST, WATERLOO, ON, CANADA N2L 3G1

MEMORANDUM

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

FROM: Tracy Taves, Faculty Graduate Administrator, Applied Health Sciences

cc: Rhona Hanning, Associate Dean, Graduate Studies

DATE: May 29, 2018

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

The attached report was approved by the Applied Health Sciences Faculty Council via evote 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 Admin Council (May 9, 2018)

To Faculty Council (distributed electronically to conduct an e-vote on May 22, 2018)
Approved by Faculty Council on May 28, 2018

Graduate calendar changes for Applied Health Sciences

1. **COURSE INACTIVATIONS**
1.1 **Applied Health Sciences***

1.1.1 **Motion:** To inactivate –

- AHS 600, Foundations of Qualitative Research Methodologies, (0.50)

Rationale: In order to make AHS 600 more visible to SPHHS students, the course is being inactivated and replaced with HLTH 625. Approval has been obtained from the other Departments in AHS.

1.2 **Kinesiology***

1.2.1 **Motion:** To inactivate the following courses:

- KIN 631C (0.25) Correlation and Regression
- KIN 631D (0.25) Logistic Regression and Its Application
- KIN 631E (0.25) Analysis of Variance I
- KIN 631F (0.25) Analysis of Variance II

Description: Courses were offered by Statistics and Actuarial Science department but will be/have been inactivated.

Rationale: New department-offered course (KIN 630) created and focuses on the core principles of research design (populations, sampling, experimental designs) and statistical applications (descriptive and inferential) specific to Kinesiology.

1.2.2 **Motion:** To inactivate –

- KIN 751 Seminar (0.00) Aging, Health and Well-being Research Seminar

Description: This seminar is a forum for student presentations about results of, or proposals for research. Invited speakers will also present results of research from time to time. Attendance at the seminar is required for two terms (i.e., during the candidates' first two years in the program). The range of topics that will be addressed in the seminar crosses all areas of investigation in the collaborative program. Grading will be on a credit/no credit basis. Must be registered in the PhD program in Aging, Health and Well-being.

Rationale: This seminar is currently offered as a course with a 0.00 credit weight. This is confusing to students and has been suggest by the GSPA to be converted to a milestone. Thus, KIN 751 will be replaced by the *PhD Collaborative Research Seminar in Aging*

1.3 **Recreation and Leisure Studies***

1.3.1 **Motion:** To inactivate –

- REC 751 Seminar (0.00) Aging, Health and Well-being Research Seminar

Description: This seminar is a forum for student presentations about results of, or proposals for research. Invited speakers will also present results of research from time to time. Attendance at the seminar is required for two terms (i.e., during the candidates' first two years in the program). The range of topics that will be addressed in the seminar crosses all areas of investigation in the collaborative program. Grading will be on a credit/no credit basis. Must be registered in the PhD program in Aging, Health and Well-being.

Rationale: This seminar is currently offered as a course with a 0.00 credit weight. This is confusing to students and has been suggest by the GSPA to be converted to a milestone. Thus, REC 751 will be replaced by the *PhD Collaborative Research Seminar in Aging*

1.4 **School of Public Health and Health Systems***

1.4.1 **Motion:** To inactivate –

- HLTH 751 Seminar (0.00) Aging, Health and Well-being Research Seminar

Description: This seminar is a forum for student presentations about results of, or proposals for research. Invited speakers will also present results of research from time to time. Attendance at the seminar is required for two terms (i.e., during the candidates' first two years in the program). The range of topics that will be addressed in the seminar crosses all areas of investigation in the collaborative program. Grading will be on a credit/no credit basis. Must be registered in the PhD program in Aging, Health and Well-being.

Rationale: This seminar is currently offered as a course with a 0.00 credit weight. This is confusing to students and has been suggest by the GSPA to be converted to a milestone. Thus, HLTH 751 will be replaced by the *PhD Collaborative Research Seminar in Aging*

1.4.2 **Motion:** To inactivate –

- HLTH 605D, Analysis of Variance I (0.25)
- HLTH 605E, Analysis of Variance II (0.25)

Rationale: HLTH 605D and 605E are no longer being offered by the School.

2. **NEW MILESTONES**
2.1 **Kinesiology***

2.1.1 **Motion:** To add the following milestones:

- *PhD Collaborative Research Seminar in Aging* to the KIN PhD in Aging, Health and Well-Being Program (replaces KIN 751)

Rationale: Milestone to replace KIN/HLTH/REC 751 non-credit weight courses (seminar). It is important that "Aging" be identified in the title of the milestone so that it reflects the aging content in the Seminar on student transcripts.

2.2 **Recreation and Leisure Studies***

2.2.1 **Motion:** To add the following milestones:

- *PhD Collaborative Research Seminar in Aging* to the RLS PhD in Aging, Health and Well-Being Program (replaces REC 751)

Rationale: Milestone to replace KIN/HLTH/REC 751 non-credit weight courses (seminar). It is important that "Aging" be identified in the title of the milestone so that it reflects the aging content in the Seminar on student transcripts.

2.3 **School of Public Health and Health Systems***

2.3.1 **Motion:** To add the following milestones:

- *PhD Collaborative Research Seminar in Aging* to the HLTH PhD in Aging, Health and Well-Being Program (replaces HLTH 751)

Rationale: Milestone to replace KIN/HLTH/REC 751 non-credit weight courses (seminar). It is important that "Aging" be identified in the title of the milestone so that it reflects the aging content in the Seminar on student transcripts.

3. **ACADEMIC PLAN CHANGES**
3.1 **School of Public Health and Health Systems ***

3.1.1 **Motion:** Accelerated Masters verbiage to correlate with the undergrad calendar changes. **Add a reference that this program is available to Health Studies students** (already references Public Health students) as indicated in attached form.

Rationale: The Accelerated Master's program is available to SPHHS students only. To eliminate any confusion among students in a Bachelor of Science (BSc) degree, we are clarifying this in the calendar.

3.1.2 **Motion: MHE** Grad calendar revisions as a result of prefix and course numbering changes. Changing PHS subject codes to HLTH subject codes. Removing an inactivated HSG course from the elective course list.

3.1.3 **Motion: MHI** Grad calendar revisions as a result of prefix and course numbering changes. Changing PHS subject codes to HLTH subject codes.

3.1.4 **Motion: MPH** Grad calendar revisions as a result of prefix and course numbering changes. Changing PHS subject codes to HLTH subject codes.

Rationale for 3.1.2 – 3.1.4: To change all PHS prefixes to align with all other departmental courses with the prefix HLTH.

4. **REGULATION AND PROCEDURAL CHANGES**
4.1 **School of Public Health and Health Systems ***

4.1.1 **Motion:** To update the admission requirements for the SPHHS MSc and PhD programs.

Rationale: With these changes, the PhD and MSc admission requirements will provide information about our fast-track and our direct-to-PhD options. In addition, the PhD admission requirements will provide a broader statement about evidence of prior research achievements than existed previously (where a MSC thesis was needed).

This was discussed and approved at the SPHHS Research Graduate program committee on March 21, 2018 and the SPHHS School Council on March 28, 2018.

5. **COURSE CHANGES**
5.1 **School of Public Health and Health Systems ***

5.1.1 **Motion**: To change the course title and description of HLTH 601, Lifespan Approaches to Disease Prevention and Health Promotion

to

Lifespan Determinants of Health and Disease

"This course examines issues in health and disability from a multidisciplinary lifespan perspective. An integrated approach is taken that considers biological, behavioral, and social factors relevant to health and disability at different ages, and locates issues of prevention, treatment, management, and policy within a broadly-based public health orientation."

to

"This course will examine the determinants of health and disease from a multi-disciplinary lifespan perspective. An integrated approach will be taken to consider biological, behavioral, and social factors relevant to health and disease at different ages and to discuss issues of prevention within a broadly-based public health orientation."

Rationale: In 2015, the course changed from being co-taught by instructors from both applied and basic research backgrounds to being taught by a single instructor, and the updated title and description will ensure that these items accurately reflect its current content.

5.1.2 **Motion**: HLTH 604 to HLTH 664
5.1.3 **Motion**: HLTH 607 to HLTH 665

Rationale: PHS courses are being changed to HLTH. To keep all MPH courses in consecutive order, HLTH 604 and 607 needed to change to a different course number.

5.1.4 **Motion**: HLTH 605 to HLTH 605A (add antireq of HLTH 605B)
5.1.5 **Motion**: PHS 605 to HLTH 605B (add antireq of HLTH 605A)

Rationale: SPHHS students can complete only one HLTH 605 course. HLTH 605A is on campus and HLTH 605B is online.

5.1.6 **Motion**: HLTH 606 to HLTH 606A (add antireq of HLTH 606B)
5.1.7 **Motion**: PHS 606 to HLTH 606B (add antireq of HLTH 606A)

Rationale: SPHHS students can complete only one HLTH 606 course. HLTH 606A is on campus and HLTH 606B is online.

5.1.8 **Motion**: PHS 601 to HLTH 602A

Rationale: To change all courses with the prefix PHS to the prefix HLTH.

5.1.9 **Motion**: PHS to HLTH courses (prefix change) – All other courses that are simply changing from PHS to HLTH and using same number.

Rationale: To create consistency across the department in course subject codes. Allows students greater visibility to courses offered within the department.

6. **NEW COURSES**
6.1 **School of Public Health and Health Systems ***

6.1.1 **Motion:** To add HLTH 625 'Foundations of Qualitative Research Methodologies' (SEM), effective September 2018. (Short title 'Qualitative Methodologies')

Rationale: In order to make AHS 600 more visible to SPHHS students, HLTH 625 is being introduced to replace AHS 600. Approval has been obtained from the other Departments in AHS/

***attachment**

UNIVERSITY OF WATERLOO

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Fax 519-746-3051

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

Faculty: Applied Health Science
Effective term: Term/Year Fall 2018

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: AHS Course number: 600
Course Title (max. 100 characters incl. spaces): Foundations of Qualitative Research Methodologies
Course Short Title (max. 30 characters incl. spaces):

Grading Basis: NUMERICAL

Course Credit Weight: 0.50

Course Consent Required: ☒

Course Description: This workshop oriented course provides a foundational overview of various qualitative research processes beginning with philosophical underpinnings, and continuing through theoretical perspectives, methodologies, methods, analysis, and write-up. Specifically, ontological and epistemological approaches of prediction, understanding, emancipation, and deconstruction will be introduced and discussed as students immerse themselves in rigorous fieldwork in relation to current qualitative trends in health and well-being.

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 order to make AHS 600 more visible to SPHHS students, the course is being inactivated and replaced with HLTH 625. Approval has been obtained from the other Departments in AHS.

Prepared by: Tracy Taves Date: 18-Apr-18

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

Faculty: Applied Health Science
Effective term: Term/Year Fall 2018

Course ☒ New ☐ Revision ☐ Inactivation ☒

Milestone ☐ New ☐ Revision ☐ Inactivation ☐

New milestone title: Choose an item.

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

Course Subject code: KIN Course number: 631C
Course Title (max. 100 characters incl. spaces): Correlation and Regression
Course Short Title (max. 30 characters incl. spaces):

Grading Basis: NUMERICAL

Course Credit Weight: 0.25

Course Consent Required: ☐ Choose an item.

Course Description: The use of multiple regression models in the analysis of multi-variable data sets. Strategies for model building, fitting of models, assessing model assumptions and testing hypotheses. Application of these models to problems in the health sciences.

New course description (for revision only):

Meet Type(s): Choose an item. Choose an item. Choose an item. Choose an item.
Primary Meet Type: Choose an item.
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: New department-offered course (KIN 630) created and focuses on the core principles of research design (populations, sampling, experimental designs) and statistical applications (descriptive and inferential) specific to Kinesiology.

Prepared by: Denise Hay Date: 26-Mar-18

UNIVERSITY OF WATERLOO

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

Faculty: Applied Health Science
Effective term: Term/Year Fall 2018

Course ☒ New ☐ Revision ☐ Inactivation ☒

Milestone ☐ New ☐ Revision ☐ Inactivation ☐

New milestone title: Choose an item.

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

Course Subject code: KIN Course number: 631D
Course Title (max. 100 characters incl. spaces): Logistic Regression and Its Application
Course Short Title (max. 30 characters incl. spaces):

Grading Basis: NUMERICAL

Course Credit Weight: 0.25

Course Consent Required: ☐ Choose an item.

Course Description: The use of logistic regression for the analysis of multi-variable data sets with binary response. Strategies for model building, fitting of models, assessing model assumptions and testing hypotheses. Use of these models to analyze prospective studies, case-control studies and cross-sectional studies.

New course description (for revision only):

Meet Type(s): Choose an item. Choose an item. Choose an item. Choose an item.

Primary Meet Type: Choose an item.

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: New department-offered course (KIN 630) was created focuses on the core principles of research design (populations, sampling, experimental designs) and statistical applications (descriptive and inferential) specific to Kinesiology.

Prepared by: Denise Hay Date: 26-Mar-18

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

Faculty: Applied Health Science

Effective term: Term/Year Fall 2018

Course ☒ New ☐ Revision ☐ Inactivation ☒

Milestone ☐ New ☐ Revision ☐ Inactivation ☐

New milestone title: Choose an item.

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

Course Subject code: KIN Course number: 631E

Course Title (max. 100 characters incl. spaces): Analysis of Variance I

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

Grading Basis: NUMERICAL

Course Credit Weight: 0.25

Course Consent Required: ☐ Choose an item.

Course Description: Review of Hypothesis tests and Confidence intervals for paired and unpaired observations. The concept of a designed experiment and its associated model. Analysis of variance for one and two factor experiments including interaction. Contrasts for comparing various treatment means. Use of Residual analysis to check the statistical assumptions of a design. SAS may be used to obtain listings used in the analysis.

New course description (for revision only):

Meet Type(s): Choose an item. Choose an item. Choose an item. Choose an item.

Primary Meet Type: Choose an item.

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: New department-offered course (KIN 630) was created focuses on the core principles of research design (populations, sampling, experimental designs) and statistical applications (descriptive and inferential) specific to Kinesiology.

Prepared by: Denise Hay Date: 26-Mar-18

UNIVERSITY OF WATERLOO

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

Faculty: Applied Health Science

Effective term: Term/Year Fall 2018

Course ☒ New ☐ Revision ☐ Inactivation ☒

Milestone ☐ New ☐ Revision ☐ Inactivation ☐

New milestone title: Choose an item.

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

Course Subject code: KIN Course number: 631F

Course Title (max. 100 characters incl. spaces): Analysis of Variance II

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

Grading Basis: NUMERICAL

Course Credit Weight: 0.25

Course Consent Required: ☐ Choose an item.

Course Description: Methods for determining Expected Mean Squares. Design and Analysis of Factorial, Fractional Factorial and Repeated Measures Experiments. Design and Analysis and other designs as time permits. SAS may be used to obtain listings used in the analysis.

New course description (for revision only):

Meet Type(s): Choose an item. Choose an item. Choose an item. Choose an item.

Primary Meet Type: Choose an item.

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: New department-offered course (KIN 630) was created focuses on the core principles of research design (populations, sampling, experimental designs) and statistical applications (descriptive and inferential) specific to Kinesiology.

Prepared by: Denise Hay Date: 26-Mar-18

UNIVERSITY OF WATERLOO

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

Faculty: Applied Health Science

Effective term: Term/Year Fall 2018

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: KIN Course number: 751

Course Title (max. 100 characters incl. spaces): Aging, Health and Well-being Research Seminar

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

Grading Basis: CEDIT/NO CREDIT

Course Credit Weight: 0.00

Course Consent Required: ☐

Course Description: This seminar is a forum for student presentations about results of, or proposals for research. Invited speakers will also present results of research from time to time. Attendance at the seminar is required for two terms (i.e., during the candidates' first two years in the program). The range of topics that will be addressed in the seminar crosses all areas of investigation in the collaborative program. Grading will be on a credit/no credit basis. Must be registered in the PhD program in Aging, Health and Well-being.

New course description (for revision only):

Meet Type(s): Seminar

Primary Meet Type:

Requisites: Prereq: PhD programs in Aging, Health and Well-being only

Special topics course: Yes ☐ No ☐

Cross-listed: Yes ☒ No ☐

REC-751 and HLTH-751

Sections combined/heldwith:

Rationale for request:

KIN/HLTH/REC 751 is being converted into a milestone since it is a requirement for the degree of all students in the PhD in Aging, Health and Well-Being programs and has a grade basis of CR/NCR.

Prepared by: Dan Rodgers Date: 22-Mar-18

UNIVERSITY OF WATERLOO

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

Faculty: Applied Health Science

Effective term: Term/Year Fall 2018

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: **REC** Course number: **751**

Course Title (max. 100 characters incl. spaces): **Aging, Health and Well-being Research Seminar**

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: KIN 751 and HLTH 751 – the course inactivation has been approved by REC, KIN and SPHHS

Sections combined/heldwith:

Rationale for request:

KIN/HLTH/REC 751 is being converted into a milestone since it is a requirement for the degree of all students in the PhD in Aging, Health and Well-Being programs and has a grade basis of CR/NCR.

Prepared by: Date:

UNIVERSITY OF WATERLOO

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

Faculty: Applied Health Science
Effective term: Term/Year Fall 2018

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: **HLTH** Course number: **751**

Course Title (max. 100 characters incl. spaces): **Aging, Health and Well-being Research Seminar**

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: KIN 751 and REC 751 – the course inactivation has been approved by REC, KIN and SPHHS

Sections combined/heldwith:

Rationale for request:

KIN/HLTH/REC 751 is being converted into a milestone since it is a requirement for the degree of all students in the PhD in Aging, Health and Well-Being programs and has a grade basis of CR/NCR.

Prepared by: Date:

UNIVERSITY OF WATERLOO

GRADUATE STUDIES OFFICE
Waterloo, Ontario, Canada N2L 3G1
uwaterloo.ca/graduate-studies | gsoffice@uwaterloo.ca
Fax 519-746-3051

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

Faculty: Applied Health Science
Effective term: Term/Year Fall 2018

Course ☒ New ☐ Revision ☐ Inactivation ☒

Milestone ☐ New ☐ Revision ☐ Inactivation ☐

New milestone title:

For course revisions, indicate the type(s) of changes: Inactivate HLTH 605D

Course Subject code: Course number: HLTH 605D
Course Title (max. 100 characters incl. spaces): Analysis Variance I
Course Short Title (max. 30 characters incl. spaces):
Grading Basis: NUMERICAL
Course Credit Weight: 0.25
Course Consent Required: ☐
Course Description: Review of Hypothesis tests and Confidence intervals for paired and unpaired observations. The concept of a designed experiment and its associated model. Analysis of variance for one and two factor experiments including interaction. Contrasts for comparing various treatment means. Use of Residual analysis to check the statistical assumtpions of a design . SAS may be used to obtain listings used in the analysis.

Meet Type(s): Lecture
Primary Meet Type:
Requisites:

Special topics course: Yes ☐ No ☐
Cross-listed: KIN 631 E Yes ☒ No ☐
Course Subject(s) to be cross-listed with and approval status:
Sections combined/heldwith:

Rationale for request: HLTH 605D is no longer being offered by the School.

Prepared by: Date:

UNIVERSITY OF WATERLOO

GRADUATE STUDIES OFFICE
Waterloo, Ontario, Canada N2L 3G1
uwaterloo.ca/graduate-studies | gsoffice@uwaterloo.ca
Fax 519-746-3051

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

Faculty: Applied Health Science
Effective term: Term/Year Fall 2018

Course ☒ New ☐ Revision ☐ Inactivation ☒

Milestone ☐ New ☐ Revision ☐ Inactivation ☐

New milestone title:

For course revisions, indicate the type(s) of changes: Inactivate HLTH 605E

Course Subject code: Course number: HLTH 605E
Course Title (max. 100 characters incl. spaces): Analysis Variance I
Course Short Title (max. 30 characters incl. spaces):
Grading Basis: NUMERICAL
Course Credit Weight: 0.25
Course Consent Required: ☐
Course Description: Methods for determining Expected Mean Squares. Design and Analysis of Factorial, Fractional Factorial and Repeated Measures Experiments. Design and Anlysis and other designs as time permits. SAS may be used to obtain listings used in the anlysis .

Meet Type(s): Lecture Lecture
Primary Meet Type:
Requisites:

Special topics course: Yes ☐ No ☐
Cross-listed: KIN 631F Yes ☒ No ☐
Course Subject(s) to be cross-listed with and approval status:
Sections combined/heldwith:

Rationale for request: HLTH 605E is no longer being offered by the School.

Prepared by: Date:

UNIVERSITY OF WATERLOO

GRADUATE STUDIES OFFICE
Waterloo, Ontario, Canada N2L 3G1
uwaterloo.ca/graduate-studies | gsoffice@uwaterloo.ca
Fax 519-746-3051

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

Faculty: Applied Health Science
Effective term: Term/Year Fall 2018

Course ☐ New ☐ Revision ☐ Inactivation ☐

Milestone ☒ New ☒ Revision ☐ Inactivation ☐

New milestone title: **Collaborative Research Seminar in Aging**

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: KIN/HLTH/REC 751 is being converted into a milestone since it is a requirement for the degree of all students in the PhD in Aging, Health and Well-Being programs and has a grade basis of CR/NCR.

The milestone should be applied to the following programs:
Doctor of Philosophy (PhD) in Kinesiology - Aging, Health and Well-Being
Doctor of Philosophy (PhD) in Public Health and Health Systems - Aging, Health and Well-Being
Doctor of Philosophy (PhD) in Recreation and Leisure Studies - Aging, Health and Well-Being

Prepared by: Date:

Graduate Studies
Program Revision Template

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: Applied Health Science

Program: Accelerated Master's Program in Public Health and Health Systems

Program contact name(s): Michelle Fluit, Daniel Rodgers

Form completed by: Deanna Hope

Description of proposed changes:

Add a reference that this program is available to Health Studies students (already references Public Health students) as indicated below.

Is this a major modification to the program? No

Rationale for change(s):

The Accelerated Master's program is available to SPHHS students only. To eliminate any confusion among students in a Bachelor of Science (BSc) degree, we are clarifying this in the calendar.

Proposed effective date: Term: Fall Year: 2018

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/accelerated-masters-program-public-health-and-health-systems

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
General Principles of an Accelerated Master's Program The goal of Accelerated Master's Programs is to provide exceptional students a seamless transition into a Master's degree, with a potential to accelerate receipt of both the undergraduate and graduate degrees. An Accelerated Master's program is one in which it is deemed academically advantageous to treat the educational process leading through either the Bachelor of Science (BSc) or the Bachelor of Public Health (BPH) programs to scientific and practice-based Master's degrees (i.e., MSc (Master of	**General Principles of an Accelerated Master's Program** The goal of Accelerated Master's Programs is to provide exceptional School of Public Health and Health Systems (SPHHS) students a seamless transition into a Master's degree, with a potential to accelerate receipt of both the undergraduate and graduate degrees. An Accelerated Master's program is one in which it is deemed academically advantageous to treat the educational process leading through either the Bachelor of Science (BSc) Honours Health Studies or the Bachelor of Public Health (BPH) programs to

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
Science), MPH (Master of Public Health), MHI (Master of Health Informatics), or MHE (Master of Health Evaluation)) as a single continuous integrated whole, while at the same time satisfying the requirements for both degrees. This stands in contradistinction to treatment of the Bachelor's and Master's degree programs each as terminal activities. Accelerated programs, starting at the undergraduate level and terminating with a Master's Degree from the School of Public Health and Health Systems (SPHHS), provide an alternative means, complementary to the existing undergraduate and graduate programs, for the attainment of Master's degrees in SPHHS.	scientific and practice-based Master's degrees (i.e., MSc (Master of Science), MPH (Master of Public Health), MHI (Master of Health Informatics), or MHE (Master of Health Evaluation)) as a single continuous integrated whole, while at the same time satisfying the requirements for both degrees. This stands in contradistinction to treatment of the Bachelor's and Master's degree programs each as terminal activities. Accelerated programs, starting at the undergraduate level and terminating with a Master's Degree from the School of Public Health and Health Systems (SPHHS), provide an alternative means, complementary to the existing undergraduate and graduate programs, for the attainment of Master's degrees in SPHHS.

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

Students currently in the program will not be affected.

Departmental approval date (mm/dd/yy):
Reviewed by GSO (for GSO use only) ☒ date (mm/dd/yy): 04/04/2018
Faculty approval date (mm/dd/yy):
Senate Graduate & Research Council (SGRC) approval date (mm/dd/yy):
Senate approval date (mm/dd/yy) (if applicable):

Graduate Studies
Program Revision Template

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: Applied Health Science

Program: Master of Health Evaluation (MHE)

Program contact name(s): Michelle Fluit

Form completed by: Deanna Hope

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).

Changing PHS subject codes to HLTH subject codes. Removing an inactivated HSG course from the elective course list.

Is this a major modification to the program? No

Rationale for change(s):

To change all PHS prefixes to align with all other departmental courses with the prefix HLTH.

Proposed effective date: Term: Fall Year: 2018

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/master-health-evaluation-mhe

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
Degree requirements **Coursework option:** • **Graduate Academic Integrity Module (Graduate AIM)** • **Courses** o The MHE program includes the completion of 10 graduate-level courses. 8 (including the practicum course) of the 10 courses are required core courses plus 2 electives. o Required courses ▪ ~~PHS~~ 614 Foundations of Program Evaluation	**Degree requirements** **Coursework option:** • **Graduate Academic Integrity Module (Graduate AIM)** • **Courses** o The MHE program includes the completion of 10 graduate-level courses. 8 (including the practicum course) of the 10 courses are required core courses plus 2 electives. o Required courses ▪ HLTH 614 Foundations of Program Evaluation

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
▪ ~~PHS 605~~ Quantitative Methods & Analysis ▪ ~~PHS~~ 641 Professional Experience Practicum ▪ ~~PHS~~ 651 Theory & Applications in Program Evaluation ▪ ~~PHS~~ 652 Qualitative and Mixed Methods and Analysis ▪ ~~PHS~~ 653 Program Evaluation Practice & Management ▪ ~~PHS~~ 654 Systems Thinking and Analysis or ~~PHS~~ 611 The Health Care System ▪ ~~PHS~~ 655 Health Measurement & Survey Methods o Elective courses ▪ Students must also complete 2 elective courses. The following is a list of possible elective courses offered by the School of Public Health and Health Systems: ▪ ~~HSG 609 Population Intervention Research for Chronic Disease Prevention~~ ▪ ~~PHS~~ 611 Health Care System ▪ ~~PHS~~ 603 Health Policy in Public Health ▪ ~~PHS~~ 606 Principles of Epidemiology for Public Health ▪ ~~PHS~~ 608 Health and Risk Communication in Public Health ▪ ~~PHS~~ 609 Management and Administration of Public Health Services ▪ ~~PHS~~ 617 Population Intervention for Disease Prevention and Health Promotion ▪ ~~PHS~~ 632 Health Economics and Public Health ▪ ~~PHS~~ 638 Special Topics Course: Social Justice and Public Health ▪ ~~PHS~~ 656 Quantitative Methods and Analysis for Program Evaluation Practice o At a minimum, students must obtain an average of 75% or higher in aggregate on the courses presented in fulfilment of the degree requirements. Grades on	▪ HLTH 605B Quantitative Methods & Analysis ▪ HLTH 641 Professional Experience Practicum ▪ HLTH 651 Theory & Applications in Program Evaluation ▪ HLTH 652 Qualitative and Mixed Methods and Analysis ▪ HLTH 653 Program Evaluation Practice & Management ▪ HLTH 654 Systems Thinking and Analysis or HLTH 611 The Health Care System ▪ HLTH 655 Health Measurement & Survey Methods o Elective courses ▪ Students must also complete 2 elective courses. The following is a list of possible elective courses offered by the School of Public Health and Health Systems: ▪ HLTH 611 Health Care System ▪ HLTH 603 Health Policy in Public Health ▪ HLTH 606B Principles of Epidemiology for Public Health ▪ HLTH 608 Health and Risk Communication in Public Health ▪ HLTH 609 Management and Administration of Public Health Services ▪ HLTH 617 Population Intervention for Disease Prevention and Health Promotion ▪ HLTH 632 Health Economics and Public Health ▪ HLTH 638 Special Topics Course: Social Justice and Public Health ▪ HLTH 656 Quantitative Methods and Analysis for Program Evaluation Practice o At a minimum, students must obtain an average of 75% or higher in aggregate on the courses presented in fulfilment of the degree requirements. Grades on all courses presented to fulfill the degree requirements must be 70% or

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
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.	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** o ~~Public Health Sciences (PHS) c~~ourses o Graduate course search	• **Link(s) to courses** o Health Studies (HLTH) courses o Graduate course search

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

Going forward, current students will need to register in the HLTH courses.

Departmental approval date (mm/dd/yy):
Reviewed by GSO (for GSO use only) ☒ date (mm/dd/yy): 04/04/2018
Faculty approval date (mm/dd/yy):
Senate Graduate & Research Council (SGRC) approval date (mm/dd/yy):
Senate approval date (mm/dd/yy) (if applicable):

Graduate Studies
Program Revision Template

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: Applied Health Science

Program: Master of Health Informatics (MHI)

Program contact name(s): Michelle Fluit

Form completed by: Deanna Hope

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).

Changing PHS subject codes to HLTH subject codes.

Is this a major modification to the program? No

Rationale for change(s):

To change all PHS prefixes to align with all other departmental courses with the prefix HLTH.

Proposed effective date: Term: Fall Year: 2018

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/master-health-informatics-mhi

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
Degree requirements **Coursework option:** • **Graduate Academic Integrity Module (Graduate AIM)** • **Courses** o Required courses ▪ The MHI program requires the completion of 10 graduate-level courses. 8 (including the practicum course) of the 10 courses are required core courses. The remaining 2 courses are electives:	**Degree requirements** **Coursework option:** • **Graduate Academic Integrity Module (Graduate AIM)** • **Courses** o Required courses ▪ The MHI program requires the completion of 10 graduate-level courses. 8 (including the practicum course) of the 10 courses are required core courses. The remaining 2 courses are electives:

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
▪ CS 634 Security and Privacy in Health Systems ▪ CS 638 Principles of Data Management and Use ▪ ~~PHS~~ 611 The Health Care System ▪ ~~PHS~~ 612/CS 792 Data Structures and Standards in Health Informatics ▪ ~~PHS~~ 613 Information Technology for the Health Professional ▪ ~~PHS~~ 615 Requirements Specification and Analysis in Health Systems ▪ ~~PHS~~ 637 Public Health Informatics (offered online) ▪ ~~PHS~~ 641 Professional Experience Practicum ▪ In situations where a student has previously taken a course with learning objectives similar to that of a required MHI course, a higher level graduate course in the same domain area will be substituted. o Elective courses ▪ 2 of the required 10 courses are electives. The following online courses are currently offered and can be chosen as electives: ▪ ~~PHS~~ 603 Health Policy in Public Health ▪ ~~PHS~~ 608 Health and Risk Communication in Public Health ▪ ~~PHS~~ 609 Management and Administration of Public Health Services ▪ ~~PHS~~ 614 Evaluation of Public Health Programs ▪ ~~PHS~~ 616 Decision Making and Systems Thinking in Health Informatics ▪ ~~PHS~~ 631 Public Health Surveillance	▪ CS 634 Security and Privacy in Health Systems ▪ CS 638 Principles of Data Management and Use ▪ HLTH 611 The Health Care System ▪ HLTH 612/CS 792 Data Structures and Standards in Health Informatics ▪ HLTH 613 Information Technology for the Health Professional ▪ HLTH 615 Requirements Specification and Analysis in Health Systems ▪ HLTH 637 Public Health Informatics (offered online) ▪ HLTH 641 Professional Experience Practicum ▪ In situations where a student has previously taken a course with learning objectives similar to that of a required MHI course, a higher level graduate course in the same domain area will be substituted. o Elective courses ▪ 2 of the required 10 courses are electives. The following online courses are currently offered and can be chosen as electives: ▪ HLTH 603 Health Policy in Public Health ▪ HLTH 608 Health and Risk Communication in Public Health ▪ HLTH 609 Management and Administration of Public Health Services ▪ HLTH 614 Evaluation of Public Health Programs ▪ HLTH 616 Decision Making and Systems Thinking in Health Informatics ▪ HLTH 631 Public Health Surveillance

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
▪ ~~PHS~~ 632 Health Economics and Public Health ▪ ~~PHS~~ 654 Systems Thinking and Analysis ▪ ~~PHS~~ 661 Geographic Information Systems and Public Health ▪ ~~PHS~~ 662 Global Health ▪ CS 636 Introduction to Computer Networks and Distributed Computer Systems ▪ STAT 631 Introduction to Statistical Methods in Health Informatics ▪ Students can also choose from online and on-campus courses offered by both Computer Science and the School of Public Health and Health Systems with the permission of the program leader. o At a minimum, students must obtain an average of 75% or higher in aggregate on the courses presented in fulfilment 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** o ~~Public Health Sciences (PHS)~~ courses o Graduate course search	▪ HLTH 632 Health Economics and Public Health ▪ HLTH 654 Systems Thinking and Analysis ▪ HLTH 661 Geographic Information Systems and Public Health ▪ HLTH 662 Global Health ▪ CS 636 Introduction to Computer Networks and Distributed Computer Systems ▪ STAT 631 Introduction to Statistical Methods in Health Informatics ▪ Students can also choose from online and on-campus courses offered by both Computer Science and the School of Public Health and Health Systems with the permission of the program leader. o At a minimum, students must obtain an average of 75% or higher in aggregate on the courses presented in fulfilment 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** o Health Studies (HLTH) courses o Graduate course search

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

Going forward, current students will need to register in the HLTH courses.

Departmental approval date (mm/dd/yy):

Reviewed by GSO (for GSO use only) ☒ date (mm/dd/yy): 04/04/2018
Faculty approval date (mm/dd/yy):
Senate Graduate & Research Council (SGRC) approval date (mm/dd/yy):
Senate approval date (mm/dd/yy) (if applicable):

Graduate Studies
Program Revision Template

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: Applied Health Science

Program: Master of Public Health (MPH)

Program contact name(s): Michelle Fluit

Form completed by: Deanna Hope

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).

Changing PHS subject codes to HLTH subject codes.

Is this a major modification to the program? No

Rationale for change(s):

To change all PHS prefixes to align with all other departmental courses with the prefix HLTH.

Proposed effective date: Term: Fall Year: 2018

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/master-public-health-mph

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
Degree requirements **Coursework option:** • **Graduate Academic Integrity Module (Graduate AIM)** • **Courses** o The minimum course requirements are 10 one-term (0.50 unit weight) graduate courses, 2 two-week block courses (0.50 total weight) and a practicum (1.50 unit weight). o Students will attend on-campus on two occasions for 2-week block courses. The first, ~~PHS 601 Foundations of Public Health~~, will occur at the start of	**Degree requirements** **Coursework option:** • **Graduate Academic Integrity Module (Graduate AIM)** • **Courses** o The minimum course requirements are 10 one-term (0.50 unit weight) graduate courses, 2 two-week block courses (0.50 total weight) and a practicum (1.50 unit weight). o Students will attend on-campus on two occasions for 2-week block courses. The first, HLTH 602A Foundations of Public Health, will occur at the start of

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
the program and the second, ~~PHS 602~~ Capstone Integrative Seminar for Public Health, will bring students back together at the end of the program after completion of all coursework and the practicum: ▪ The objective of ~~PHS 601~~, the Foundations of Public Health course is both to orient the student to the philosophical and practical bases of public health, and to kindle the student's passion for public health as a career and as a societal activity. ▪ ~~PHS 602~~, the MPH capstone course, will provide an opportunity to apply public health tools, concepts and best practice to address current issues facing public health organizations and build relationships with front line public health practitioners. On campus preparation and completion of assignments during the spring term are also requirements for the completion of ~~PHS 602~~. o Additional required courses are as follows: ▪ ~~PHS~~ 603 Health Policy in Public Health ▪ ~~PHS~~ 604 Public Health and the Environment ▪ ~~PHS 605~~ Quantitative Methods and Analysis ▪ ~~PHS 606~~ Principles of Epidemiology for Public Health ▪ ~~PHS~~ 607 Social, Cultural and Behavioural Aspects of Public Health I ▪ ~~PHS~~ 608 Health and Risk Communication in Public Health ▪ ~~PHS~~ 609 Management and Administration of Public Health Services ▪ ~~PHS~~ 641 Professional Experience Practicum o At a minimum, students must obtain an average of 75% or higher in aggregate on the courses presented in fulfilment 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	the program and the second, HLTH 602B Capstone Integrative Seminar for Public Health, will bring students back together at the end of the program after completion of all coursework and the practicum: ▪ The objective of HLTH 602A, the Foundations of Public Health course is both to orient the student to the philosophical and practical bases of public health, and to kindle the student's passion for public health as a career and as a societal activity. ▪ HLTH 602B, the MPH capstone course, will provide an opportunity to apply public health tools, concepts and best practice to address current issues facing public health organizations and build relationships with front line public health practitioners. On campus preparation and completion of assignments during the spring term are also requirements for the completion of HLTH 602B. o Additional required courses are as follows: ▪ HLTH 603 Health Policy in Public Health ▪ HLTH 604 Public Health and the Environment ▪ HLTH 605B Quantitative Methods and Analysis ▪ HLTH 606B Principles of Epidemiology for Public Health ▪ HLTH 607 Social, Cultural and Behavioural Aspects of Public Health I ▪ HLTH 608 Health and Risk Communication in Public Health ▪ HLTH 609 Management and Administration of Public Health Services ▪ HLTH 641 Professional Experience Practicum o At a minimum, students must obtain an average of 75% or higher in aggregate on the courses presented in fulfilment of the degree requirements. Grades on all courses presented to fulfill the degree requirements must be 70% or

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
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. o To graduate from the environmental health sciences stream, a student is required to complete the required core courses plus 2 stream specific courses ~~PHS~~ 624 Environmental Toxicology in Public Health and ~~PHS~~ 634 Environmental Epidemiology for Public Health and at least 1 elective from the listed ~~PHS~~ or equivalent courses. o To graduate from the socio-behavioural sciences stream, a student is required to complete the required core courses plus 2 stream specific courses ~~PHS~~ 614 Foundations of Program Evaluation and ~~PHS~~ 617 Population Intervention for Disease Prevention and Health Promotion and at least 1 elective from the listed ~~PHS~~ or equivalent courses. o MPH general degree students will be required to complete the required core courses as well as 3 elective ~~PHS~~ courses. Graduate courses from other departments may be acceptable if approved by the MPH Program Committee. o Students admitted for a probationary year will be required to complete ~~PHS 605~~ Quantitative Methods and Analysis (fall term) and ~~PHS 606~~ Principles of Epidemiology for Public Health (winter term) with an average of at least 73%. If a student's average on these courses falls below 73% but not below 70%, their status will be reviewed by the Department Graduate Committee. Normally a student will not continue on probationary status for more than two terms. • **Link(s) to courses** o ~~Public Health Sciences (PHS)~~ courses o Graduate course search	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. o To graduate from the environmental health sciences stream, a student is required to complete the required core courses plus 2 stream specific courses HLTH 624 Environmental Toxicology in Public Health and HLTH 634 Environmental Epidemiology for Public Health and at least 1 elective from the listed HLTH or equivalent courses. o To graduate from the socio-behavioural sciences stream, a student is required to complete the required core courses plus 2 stream specific courses HLTH 614 Foundations of Program Evaluation and HLTH 617 Population Intervention for Disease Prevention and Health Promotion and at least 1 elective from the listed HLTH or equivalent courses. o MPH general degree students will be required to complete the required core courses as well as 3 elective HLTH courses. Graduate courses from other departments may be acceptable if approved by the MPH Program Committee. o Students admitted for a probationary year will be required to complete HLTH 605B Quantitative Methods and Analysis (fall term) and HLTH 606B Principles of Epidemiology for Public Health (winter term) with an average of at least 73%. If a student's average on these courses falls below 73% but not below 70%, their status will be reviewed by the Department Graduate Committee. Normally a student will not continue on probationary status for more than two terms. • **Link(s) to courses** o Health Studies (HLTH) courses o Graduate course search

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

Going forward, current students will need to register in the HLTH courses.

Departmental approval date (mm/dd/yy):
Reviewed by GSO (for GSO use only) ☒ date (mm/dd/yy): 04/04/2018
Faculty approval date (mm/dd/yy):
Senate Graduate & Research Council (SGRC) approval date (mm/dd/yy):
Senate approval date (mm/dd/yy) (if applicable):

Graduate Studies
Program Revision Template

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: Applied Health Science

Program: PHHSM

Program contact name(s): Daniel Rodgers, Ellen MacEachen

Form completed by: Daniel Rodgers

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).

Section will expand to accommodate content. Please include details here.

Is this a major modification to the program? No

Rationale for change(s): With these changes, the MSc admission requirements will provide information about our fast-track and our direct-to-PhD options.

Section will expand to accommodate content. Please include details here.

Proposed effective date: Term: Fall Year: 2018

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

Please include link here: 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**:
• **Minimum requirements** • **Successful completion of a four-year Honours Bachelor's degree (or equivalent) with a minimum 75% average. The Bachelor's degree will normally be in the biological sciences, behavioural health, health, public health, or social sciences.** • **A letter indicating reasons for pursuing graduate studies.** • **For students applying to the School of Public Health and Health Systems (SPHHS), the undergraduate experience including coursework in one or more of the behavioural, biological, developmental,**	Minimum requirements • Successful completion of an Honours Bachelor's degree with a minimum 75% average. The Bachelor's degree will normally be in the public health, health, biological, behavioural, or social sciences. • Undergraduate experience including coursework in one or more of the behavioural, biological, developmental, health, or social sciences is advantageous, given the multidisciplinary nature of the program. Students should also have a suitable background in research design and statistics to meet prerequisite standards for all graduate level courses.

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:

health, or social sciences is advantageous, given the multidisciplinary nature of the program. Students should also have a suitable background in research design and statistics to meet prerequisite standards for all graduate level courses.
 	
• **Application materials**
 	
  • **Résumé**
  • **Supplementary information form**
  • **Transcript(s)**
  • **Writing sample**
  o **Students must submit one copy of a term paper written during the last two years of their undergraduate education.**
	• Students may be allowed to transfer into the PhD program directly from the SPHHS Master's programs. Such students must have completed all coursework requirements, have demonstrated a superior academic record, and have evidence of prior research achievements (e.g. first author peer-reviewed publication, adjudicated research report).~~Exceptional students may be allowed to enter the PhD program directly from the SPHHS MSc program. Such students must have completed all MSc coursework requirements (except the thesis), have demonstrated a superior academic record, and have evidence of prior research achievements (e.g. first author peer-reviewed publications).~~
	
	Application materials
	
	• 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
	  o Students must submit a copy of previous academic work, such as a publication, term paper, or Honours thesis written during the last two years of their undergraduate education.

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

No impact on current students.

Departmental approval date (03/28/18):

Reviewed by GSO (for GSO use only) ☐ date (mm/dd/yy):

Faculty approval date (mm/dd/yy):

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

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

Graduate Studies
Program Revision Template

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: Applied Health Science

Program: PHHSD

Program contact name(s): Daniel Rodgers, Ellen MacEachen

Form completed by: Daniel Rodgers

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).

Section will expand to accommodate content. Please include details here.

Is this a major modification to the program? No

Rationale for change(s): With these changes, the PhD admission requirements will provide information about our fast-track and our direct-to-PhD options. In addition, the PhD admission requirements will provide a broader statement about evidence of prior research achievements than existed previously (where a MSC thesis was needed).

Section will expand to accommodate content. Please include details here.

Proposed effective date: Term: Fall Year: 2018

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

Please include link here: 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**:
Minimum requirements • **Students applying to the program are required to complete a Master of Science (MSc) degree (or its equivalent) with content related to health, public health, health systems, or gerontology with a minimum 75% average in master's level coursework.** • **Completion of a master's thesis.**	Minimum requirements • Students applying to the program should have completed Master's degree with content related to ongoing faculty research in areas such as health, public health and 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,

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
• **Submit a letter indicating reasons for pursuing graduate studies and a written statement outlining research interests.** • Application materials o **Curriculum vitae** o **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.** o **Transcript(s)** o **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.**	first author peer-reviewed publication, adjudicated research report). • Before applying to the program, students are *strongly advised* to establish contact with potential supervisors. • ~~Exceptional~~ ~~S~~students may be allowed to transfer into the PhD program directly from the SPHHS ~~MSc~~ Master's programs. Such students must have completed all ~~MSc~~ coursework requirements ~~(except the thesis)~~, have demonstrated a superior academic record, and have evidence of prior research achievements (e.g. first author peer-reviewed publication, adjudicated research report). • ~~Outstanding s~~Students are sometimes accepted for direct admission to the PhD in the SPHHS program if they have an ~~a first class Honours~~an Honours ~~Bachelor~~ baccalaureate of Science degree or the equivalent and have exceptional academic and research performance, including evidence of prior research achievements (e.g., first author peer-reviewed publication, adjudicated research report). Directly admitted students will be required to complete 9 (required and elective) graduate courses and a doctoral thesis. Application materials • Résumé/Curriculum vitae • Supplementary information form • Transcript(s) • Writing sample o 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.

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

No impact on current students.

Departmental approval date (03/28/18):

Reviewed by GSO (for GSO use only) ☐ date (mm/dd/yy):

Faculty approval date (mm/dd/yy):

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

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

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

Faculty: Applied Health Science
Effective term: Term/Year Fall 2018

Course ☒ New ☐ Revision ☒ Inactivation ☐

Milestone ☐ New ☐ Revision ☐ Inactivation ☐

New milestone title:

For course revisions, indicate the type(s) of changes:
Change title and course description of HLTH 601. Change from **'Lifespan Approaches to Disease Prevention and Health Promotion'** changing to **'Lifespan Determinants of Health and Disease'.** Minor changes in description

Course Subject code: HLTH Course number: 601
Course Title (max. 100 characters incl. spaces): **Lifespan Determinants of Health and Disease**
Course Short Title (max. 30 characters incl. spaces):
Grading Basis: NUMERICAL
Course Credit Weight: 0.50
Course Consent Required: ☒ Instructor
Course Description: The course will examine the determinants of health and disease from a multi-disciplinary lifespan perspective. An integrated approach will be taken to consider biological, behavioral, and social factors relevant to health and disease at different ages and to discuss issues of prevention within a broadly-based public health orientation

Meet Type(s): Seminar
Primary Meet Type: Seminar
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 2015, the course changed from being co-taught by instructors from both applied and basic research backgrounds to being taught by a single instructor, and the updated title and description will ensure that these items accurately reflect its current content.*

Approval obtained from other Departments in AHS.

Prepared by: Daniel Rodgers Date: 18-Apr-18

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

Faculty: Applied Health Science

Effective term: Term/Year Fall 2018

Course ☒ New ☐ Revision ☒ Inactivation ☐

Milestone ☐ New ☐ Revision ☐ Inactivation ☐

New milestone title:

For course revisions, indicate the type(s) of changes: Change course number of HLTH 604 to HLTH 664
(e.g. consent, description, title, requisites)

Course Subject code: Course number: HLTH 664

Course Title (max. 100 characters incl. spaces): Analysis and Management of Health Information for Aging Societies

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

Grading Basis: NUMERICAL

Course Credit Weight: 0.50

Course Consent Required: ☐

Course Description: The course focuses on how information from surveys and administrative or clinical databases can be used to support evidence-informed decision making in the context of population aging. The course will combine an overview of health policy issues and service delivery with methodological considerations in the analysis of health information from a variety of sources.

Meet Type(s): Lecture

Primary Meet Type: Lecture

Requisites: Prereq STAT 316 or HLTH 605

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: PHS courses are being changed to HLTH. To keep all MPH courses in consecutive order, HLTH 604 needed to change to a different course number.

Prepared by: Date:

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

Faculty: Applied Health Science

Effective term: Term/Year Fall 2018

Course ☒ New ☐ Revision ☒ Inactivation ☐

Milestone ☐ New ☐ Revision ☐ Inactivation ☐

New milestone title:

For course revisions, indicate the type(s) of changes: Change course number from HLTH 607 to HLTH 665
(e.g. consent, description, title, requisites)

Course Subject code: Course number: HLTH 665

Course Title (max. 100 characters incl. spaces): Mechanisms of Disease Processes

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

Grading Basis: NUMERICAL

Course Credit Weight: 0.50

Course Consent Required: ☐

Course Description: The focus of the course is on basic physiological and immunological mechanisms involved in major contemporary health problems, including those which are contributed to by behavioural factors.

New course description (for revision only):

Meet Type(s): Lecture

Primary Meet Type: Lecture

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: PHS courses are being changed to HLTH. To keep all MPH courses aligned consecutively, HLTH 604 needed to change to a different course number.

Prepared by: Date:

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

Faculty: Applied Health Science

Effective term: Term/Year Fall 2018

Course ☒ New ☐ Revision ☒ Inactivation ☐

Milestone ☐ New ☐ Revision ☐ Inactivation ☐

New milestone title:

For course revisions, indicate the type(s) of changes: Change HLTH 605 to HLTH 605A and add HLTH 605B as an antirequisite.

Course Subject code: Course number: HLTH 605A

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

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

Grading Basis: NUMERICAL

Course Credit Weight: 0.50

Course Consent Required: ☐

Course Description: The use of regression models (for continuous and categorical outcomes) for analysis of multi-variable data sets. Strategies for model building, fitting of models, assessing model assumptions and testing hypothesis. Application of these models to problems in the health sciences.

New course description (for revision only):

Meet Type(s): Lecture

Primary Meet Type: Lecture

Requisites: Antirequisite HLTH 605B

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: SPHHS students can complete only one HLTH 605 course. HLTH 605A is on campus and HLTH 605B is online.

Prepared by: Date:

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

Faculty: Applied Health Science

Effective term: Term/Year Fall 2018

Course ☒ New ☐ Revision ☒ Inactivation ☐

Milestone ☐ New ☐ Revision ☐ Inactivation ☐

New milestone title:

For course revisions, indicate the type(s) of changes: Change PHS 605 to HLTH 605B and add HLTH 605A as an antirequisite.

Course Subject code: Course number: HLTH 605B

Course Title (max. 100 characters incl. spaces): Quantitative Methods and Analysis

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

Grading Basis: NUMERICAL

Course Credit Weight: 0.50

Course Consent Required: ☐

Course Description: This course is an introduction to biostatistics for those planning a career in public health. Students will learn various biostatistical techniques, how to apply those techniques in the analysis of data from health studies, and how to interpret the results from those analyses. Topics include types of data, descriptive statistics, probability, distributions of data, exploratory data analysis, confidence intervals, hypothesis testing, regression analysis, analysis of variance, and brief exposure to categorical data analysis and survival analysis. Emphasis will be on conceptual understanding of topics as well as carrying out various data analysis applications.

New course description (for revision only):

Meet Type(s): Lecture

Primary Meet Type: Lecture

Requisites: Antirequisite HLTH 605A

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: SPHHS students can complete only one HLTH 605 course. HLTH 605A is on campus and HLTH 605B is online.

Prepared by: Date:

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

Faculty: Applied Health Science

Effective term: Term/Year Fall 2018

Course ☒ New ☐ Revision ☒ Inactivation ☐

Milestone ☐ New ☐ Revision ☐ Inactivation ☐

New milestone title:

For course revisions, indicate the type(s) of changes: Change HLTH 606 to HLTH 606A and add HLTH 606B as an antirequisite; and HLTH 605A or HLTH 605B as prerequisites

Course Subject code: Course number: HLTH 606A

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

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

Grading Basis: NUMERICAL

Course Credit Weight: 0.50

Course Consent Required: ☐

Course Description: An investigation of the epidemiology of selected non-infectious diseases with emphasis on the identification of risk factors and on the methodology of epidemiological investigations.

New course description (for revision only):

Meet Type(s): Lecture

Primary Meet Type: Lecture

Requisites: Prerequisite HLTH 605A or HLTH 605B; Antirequisite HLTH 606B

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: SPHHS students can complete only one HLTH 606 course. HLTH 606A is on campus and HLTH 606B is online.

Prepared by: Date:

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

Faculty: Applied Health Science

Effective term: Term/Year Fall 2018

Course ☒ New ☐ Revision ☒ Inactivation ☐

Milestone ☐ New ☐ Revision ☐ Inactivation ☐

New milestone title:

For course revisions, indicate the type(s) of changes: Change PHS 606 to HLTH 606B and add HLTH 606A as an antirequisite; and HLTH 605A or HLTH 605B as prerequisites

Course Subject code: Course number: HLTH 606B

Course Title (max. 100 characters incl. spaces): Principles of Epidemiology for Public Health

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

Grading Basis: NUMERICAL

Course Credit Weight: 0.50

Course Consent Required: ☐

Course Description: This course introduces the principles, methods, and uses of epidemiology in the practice of public health. After completion of this course, students will be able to critically read and interpret epidemiologic research and clearly communicate epidemiologic findings. They will be familiar with health status measurement, data sources, screening, sureveillance, outbreak investigation, and methods to support program planning and evaluation. Students will have a sound understanding of basic epidemiologic concepts, including prevalence, incidence, study designs, measures of association, bias, confounding and causal inference.

New course description (for revision only):

Meet Type(s): Lecture

Primary Meet Type: Lecture

Requisites: SPHHS students only; Prerequisite HLTH 605A or HLTH 605B; Antirequisite HLTH 606A

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: SPHHS students can complete only one HLTH 606 course. HLTH 606A is on campus and HLTH 606B is online.

Prepared by: Date:

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

Faculty: Applied Health Science

Effective term: Term/Year Fall 2018

Course ☒ New ☐ Revision ☒ Inactivation ☐

Milestone ☐ New ☐ Revision ☐ Inactivation ☐

New milestone title:

For course revisions, indicate the type(s) of changes:
Change PHS 601 to course code HLTH 602A

Course Subject code: Course numbr: HLTH 602A

Course Title (max. 100 characters incl. spaces): Foundations of Public Health

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

Grading Basis: CEDIT/NO CREDIT

Course Credit Weight: 0.50

Course Consent Required: ☐

Course Description:

Course Description: An introduction to the philosophical, historical, ecological, legislative, and ethical foundations for understanding the practice of public health in Canada. The course is delivered in a 2-week block at the beginning of the MPH program sequence on the UW main campus. For MPH student only. The course must be successfully completed by MPH students before proceeding to other courses in the MPH program sequence.

New course description (for revision only):

Meet Type(s): Lecture

Primary Meet Type:

Requisites: Master of Public Health students only.

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:

To change all courses with the prefix PHS to the prefix HLTH.

Prepared by: Deanna Hope Date:

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

Faculty: Applied Health Science
Effective term: Term/Year Fall 2018

Course ☒ New ☐ Revision ☒ Inactivation ☐

Milestone ☐ New ☐ Revision ☐ Inactivation ☐

New milestone title:

For course revisions, indicate the type(s) of changes: Changes in subject codes from PHS to HLTH.

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: To create consistency across the department in course subject codes. Allows students greater visibility to courses offered within the department.

Prepared by: Date:

CURRENT PHS COURSES TO BE INACTIVATED	TITLE	NEW HLTH COURSES TO REPLACE THE INACTIVATED PHS COURSES	CROSS-LISTED COURSES
PHS 602	Capstone Integrative Seminar for Public Health	HLTH 602B	
PHS 603	Health Policy in Public Health	HLTH 603	
PHS 604	Pub Health and the Environment	HLTH 604	
PHS 605	Quant Methods and Analysis	HLTH 605B	
PHS 606	Principles of Epidemiology for Public Health	HLTH 606B	
PHS 607	Social, Cultural and Behavioural Aspects of Public Health	HLTH 607	
PHS 608	Health and Risk Communication in Public Health	HLTH 608	
PHS 609	Management and Administration of Public Health Services	HLTH 609	
PHS 611	The Health Care System	HLTH 611	
PHS 612	Data Structures and Standards in Health Informatics	HLTH 612	CS 792
PHS 613	Information Technology for the Health Professional	HLTH 613	
PHS 614	Foundations of Program Evaluation	HLTH 614	
PHS 615	Requirements Specification and Analysis in Health Systems	HLTH 615	
PHS 616	Decision Making and Systems Thinking in Health Informatics	HLTH 616	
PHS 617	Population Intervention for Disease Prevention and Health Promotion	HLTH 617	
PHS 623	Risk and Exposure Assessment in Public Health	HLTH 623	
PHS 624	Environmental Toxicology in Public Health	HLTH 624	
PHS 631	Public Health Surveillance	HLTH 631	
PHS 632	Health Economics and Public Health	HLTH 632	
PHS 634	Environmental Epidemiology for Public Health	HLTH 634	
PHS 635	Public Health, Environment and Planning	HLTH 635	
PHS 636	Applied Epidemiology: Advanced Concepts and Applications for Public Health	HLTH 636	
PHS 637	Public Health Informatics	HLTH 637	
PHS 638	Selected topics in Public Health	HLTH 638	

PHS 641	Professional Experience Practicum	HLTH 641	
PHS 651	Theory and Applications in Program Evaluation	HLTH 651	
PHS 652	Qualitative Methods and Analysis	HLTH 652	
PHS 653	Evaluation Practice and Management	HLTH 653	
PHS 654	Systems Thinking and Analysis In Health Program Planning and Evaluation	HLTH 654	
PHS 655	Health Measurement and Survey Methods	HLTH 655	
PHS 656	Quant Methods and Analysis for Program	HLTH 656	
PHS 661	Geographic Information Systems and Public Health	HLTH 661	
PHS 662	Global Health	HLTH 662	
PHS 663	Human Development and Health	HLTH 663	

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

Faculty: Applied Health Science
Effective term: Term/Year Fall 2018

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 625
Course Title (max. 100 characters incl. spaces): Foundations of Qualitative Research Methodologies
Course Short Title (max. 30 characters incl. spaces): Qualitative Methodologies

Grading Basis: NUMERICAL

Course Credit Weight: 0.50

Course Consent Required: ☒ Instructor

Course Description: This workshop oriented course provides a foundational overview of various qualitative research processes beginning with philosophical underpinnings, and continuing through theoretical perspectives, methodologies, methods, analysis, and write-up. Specifically, ontological and epistemological approaches of prediction, understanding, emancipation, and deconstruction will be introduced and discussed as students immerse themselves in rigorous fieldwork in relation to current qualitative trends in health and well-being.

New course description (for revision only):

Meet Type(s): Seminar
Primary Meet Type: Seminar
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 order to make AHS 600 more visible to SPHHS students, HLTH 625 is being introduced to replace AHS 600. Approval has been obtained from the other Departments in AHS.

Prepared by: Tracy Taves Date: 18-Apr-18

ARTS GRADUATE STUDIES

May 7, 2018

TO: Members, Senate Graduate and Research Council

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

RE: Graduate Affairs Group Reports March 15th, 2018

The attached Arts Graduate Affairs Group reports were approved by the Arts Faculty Council meeting on May 7th, 2018 and are now being submitted for approval by the Senate Graduate and Research Council on June 11th, 2018.

Rita Cherkewski

Rita Cherkewski

Attach.

ARTS FACULTY COUNCIL REPORT TO
SENATE GRADUATE AND RESEARCH COUNCIL

CURRICULAR ITEMS for approval [bottom right pagination]

A) MPACS: Course inactivation – *PACS 631: Theories of Globalization* [1]

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

Faculty: Arts

Effective term: Term/Year Fall 2018

Course ☒ New ☐ Revision ☐ Inactivation ☒

Milestone ☐ New ☐ Revision ☐ Inactivation ☐

New milestone title: Choose an item.

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

Course Subject code: PACS Course number: 631

Course Title (max. 100 characters incl. spaces): Theories of Globalization

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

Grading Basis: Choose an item.

Course Credit Weight: Choose an item.

Course Consent Required: ☐ Choose an item.

Course Description:

New course description (for revision only):

Meet Type(s): Choose an item. Choose an item. Choose an item. Choose an item.

Primary Meet Type: Choose an item.

Requisites:

Special topics course: Yes ☐ No ☐

Cross-listed: Yes ☒ No ☐

Course Subject(s) to be cross-listed with and approval status: GGOV 612 & PSCI 612

Sections combined/heldwith:

Rationale for request:

This course has not been offered in the last 5 years, and is unlikely to be offered in the future. We have other courses available that meet any potential demand for this topic. Approval has been granted by the cross-listed departments.

Prepared by: Shelby Davies Date: 9-Feb-18

UNIVERSITY OF WATERLOO
FACULTY OF ENGINEERING

M E M O

TO: Alice Raynard

FROM: B. Hellinga, Associate Dean, Graduate Studies
Faculty of Engineering
RE: Engineering Faculty Council Agenda
DATE: May 16, 2018

Please place the following motions forward for approval at the next meeting of SGRC. These motions were approved by EFC on May 15, 2018.

1. The **Department of Electrical and Computer Engineering** would like to submit the following items for approval:

    a) Add a two ECE course minimum to the regular MASc and PhD degree course requirements

    Rationale for Changes
    Some research areas have now approved the inclusion of non-ECE courses in their list of core courses. With this, it is possible for an ECE graduate student to complete the program without taking a single ECE graduate course. It is pertinent that the student should have taken at least two ECE graduate courses during the study

2. The **Department of Chemistry** would like to add to the Nanotechnology Electives list, one Chemistry courses:

    a) CHEM 750 topic 27 – Selected Topics in Physical Chemistry: Nanotechniques

    Rationale for Changes

    These changes will ensure that the Nanotechnology Electives list accurately represents what courses are available to students and eligible to be counted towards a graduate degree with a Nanotechnology transcript notation.

Bruce Hellinga

BH: la

Graduate Studies
Program Revision Template

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: Engineering

Program: Master of Applied Science (MASc) in Electrical and Computer Engineering

Program contact name(s): Sarah Landy

Form completed by: Sarah Landy

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).

Add ECE course minimum to MASc course requirements.

Is this a major modification to the program? No

Rationale for change(s):

- *Some research areas have now approved the inclusion of non-ECE courses in their list of Core Courses. With this, it is possible for an ECE graduate student to complete the program without taking a single ECE graduate course.*
- *Since the graduate degree to be received by the student will be a MASc in Electrical and Computer Engineering, it is pertinent that the student should have taken at least two ECE graduate courses during the study.*

Proposed effective date: Term: Fall Year: 2018

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-applied-science-masc-electrical-and-computer-engineering

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:

Degree requirements
 	
• **Courses**
  o The requirements for the program consist of at least 5 courses (0.50 unit weight per course) of graduate credit. A minimum of 3 courses must be taken from within the Faculty of Engineering. A maximum of 2 courses may be taken from outside the Faculty but must be from the Faculties of Math and/or Science. At least 2 of the courses must
	Degree requirements
	
	• **Courses**
	  o The requirements for the program consist of at least 5 courses (0.50 unit weight per course) of graduate credit. A minimum of 3 courses must be taken from within the Faculty of Engineering. A maximum of 2 courses may be taken from outside the Faculty but must be from the Faculties of Math and/or Science. At least 2 of the courses must

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
be from the list of approved core courses (updated by the Department annually) in one of the approved areas of specialization as specified in the student's letter of admission. The choice of courses must meet with the approval of the supervisor.	be from the list of approved core courses (updated by the Department annually) in one of the approved areas of specialization as specified in the student's letter of admission. <u>All MASc students are required to take a minimum of 2 ECE courses toward their degree requirements. Core Courses may count towards this 2 course minimum.</u> The choice of courses must meet with the approval of the supervisor.

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

Registered students will not be impacted by these changes. These changes will only affect students starting a MASc or PhD program from the Fall 2018 forward.

Departmental approval date (02/23/18):
Reviewed by GSO (for GSO use only) ☒ date (mm/dd/yy): 03/06/2018
Faculty approval date (mm/dd/yy):
Senate Graduate & Research Council (SGRC) approval date (mm/dd/yy):
Senate approval date (mm/dd/yy) (if applicable):

Graduate Studies
Program Revision Template

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: Engineering

Program: Doctor of Philosophy (PhD) in Electrical and Computer Engineering

Program contact name(s): Sarah Landy

Form completed by: Sarah Landy

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).

Add ECE course minimum to PhD course requirements.

Is this a major modification to the program? No

Rationale for change(s):

- *Some research areas have now approved the inclusion of non-ECE courses in their list of Core Courses. With this, it is possible for an ECE graduate student to complete the program without taking a single ECE graduate course.*
- *Since the graduate degree to be received by the student will be a PhD in Electrical and Computer Engineering, it is pertinent that the student should have taken at least two ECE graduate courses during the study.*

Proposed effective date: Term: Fall Year: 2018

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/doctor-philosophy-phd-electrical-and-computer-engineering

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:

Degree requirements
 	
• **Courses**
  o The coursework associated with the program is intended to provide a foundation for advanced learning in the chosen field of research. A minimum of 4 courses (0.50 unit weight per course) is required for a PhD student holding a MASc degree or equivalent (7 0.50 unit weight courses from a Bachelor program). At least 2 of the courses
	Degree requirements
	
	• **Courses**
	  o The coursework associated with the program is intended to provide a foundation for advanced learning in the chosen field of research. A minimum of 4 courses (0.50 unit weight per course) is required for a PhD student holding a MASc degree or equivalent (7 0.50 unit weight courses from a Bachelor program). At least 2 of the courses

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
must be from the list of approved core courses (updated by the Department annually) in one of the approved areas of specialization as specified in the student's letter of admission, unless this course requirement has already been achieved during a University of Waterloo Electrical and Computer Engineering MASc program. The remaining 2 courses may be taken from outside of the Department but must be from the faculties of Engineering, Math, and/or Science (unless otherwise approved). The choice of courses must meet with the approval of the supervisor. The faculty supervisor will consider the level and adequacy of each student's preparation in drawing up the candidate's program. It is expected that candidates will maintain a 78% minimum cumulative average in their course work. To obtain credit, an individual course must be passed with at least 75%.	must be from the list of approved core courses (updated by the Department annually) in one of the approved areas of specialization as specified in the student's letter of admission, unless this course requirement has already been achieved during a University of Waterloo Electrical and Computer Engineering MASc program. The remaining 2 courses may be taken from outside of the Department but must be from the faculties of Engineering, Math, and/or Science (unless otherwise approved). <u>All PhD students are required to take a minimum of 2 ECE courses toward their degree requirements. Core Courses may count towards this 2 course minimum.</u> The choice of courses must meet with the approval of the supervisor. The faculty supervisor will consider the level and adequacy of each student's preparation in drawing up the candidate's program. It is expected that candidates will maintain a 78% minimum cumulative average in their course work. To obtain credit, an individual course must be passed with at least 75%.

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

Registered students will not be impacted by these changes. These changes will only affect students starting an MASc or PhD program from the Fall 2018 forward.

Departmental approval date (02/23/18):
Reviewed by GSO (for GSO use only) ☒ date (mm/dd/yy): 03/06/2018
Faculty approval date (mm/dd/yy):
Senate Graduate & Research Council (SGRC) approval date (mm/dd/yy):
Senate approval date (mm/dd/yy) (if applicable):

Graduate Studies
Program Revision Template

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: Science & Engineering

Program:

1) Doctor of Philosophy (PhD) in Chemistry – Nanotechnology
2) Master of Science (MSc) in Chemistry – Nanotechnology
3) Doctor of Philosophy (PhD) in Physics – Nanotechnology
4) Master of Science (MSc) in Physics – Nanotechnology
5) Doctor of Philosophy (PhD) in Chemical Engineering – Nanotechnology
6) Master of Applied Science (MASc) in Chemical Engineering – Nanotechnology
7) Doctor of Philosophy (PhD) in Electrical and Computer Engineering – Nanotechnology
8) Master of Applied Science (MASc) in Electrical and Computer Engineering – Nanotechnology
9) Doctor of Philosophy (PhD) in Mechanical and Mechatronics Engineering – Nanotechnology
10) Master of Applied Science (MASc) in Mechanical and Mechatronics Engineering – Nanotechnology
11) Doctor of Philosophy (PhD) in Systems Design Engineering – Nanotechnology
12) Master of Applied Science (MASc) in Systems Design Engineering – Nanotechnology

Program contact name(s): Ting Tsui, Linda Sherwood

Form completed by: Linda Sherwood

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).

- Add to the Nanotechnology Electives list one Chemistry course:
  CHEM 750 Topic 27 Selected Topics in Physical Chemistry: Nanotechniques

Is this a major modification to the program? No

Rationale for change(s):

These changes will ensure that the Nanotechnology Electives list accurately represents what courses are available to students and eligible to be counted towards a graduate degree with a Nanotechnology transcript notation.

Proposed effective date: Term: Spring Year: 2018

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

1. https://uwaterloo.ca/graduate-studies-academic-calendar/engineering/department-chemical-engineering/doctor-philosophy-phd-chemical-engineering-nanotechnology
2. https://uwaterloo.ca/graduate-studies-academic-calendar/engineering/department-chemical-engineering/master-applied-science-masc-chemical-engineering-nanotechnology
3. https://uwaterloo.ca/graduate-studies-academic-calendar/engineering/department-electrical-and-computer-engineering/doctor-philosophy-phd-electrical-and-computer-engineering-nanotechnology

4. https://uwaterloo.ca/graduate-studies-academic-calendar/engineering/department-electrical-and-computer-engineering/master-applied-science-masc-electrical-and-computer-engineering-nanotechnology
5. https://uwaterloo.ca/graduate-studies-academic-calendar/engineering/department-mechanical-and-mechatronics-engineering/doctor-philosophy-phd-mechanical-and-mechatronics-engineering-nanotechnology
6. https://uwaterloo.ca/graduate-studies-academic-calendar/engineering/department-mechanical-and-mechatronics-engineering/master-applied-science-masc-mechanical-and-mechatronics-engineering-nanotechnology
7. https://uwaterloo.ca/graduate-studies-academic-calendar/engineering/department-systems-design-engineering/doctor-philosophy-phd-systems-design-engineering-nanotechnology
8. https://uwaterloo.ca/graduate-studies-academic-calendar/engineering/department-systems-design-engineering/master-applied-science-masc-systems-design-engineering-nanotechnology
9. https://uwaterloo.ca/graduate-studies-academic-calendar/science/department-chemistry/doctor-philosophy-phd-chemistry-nanotechnology
10. https://uwaterloo.ca/graduate-studies-academic-calendar/science/department-chemistry/master-science-msc-chemistry-nanotechnology
11. https://uwaterloo.ca/graduate-studies-academic-calendar/science/department-physics-and-astronomy/doctor-philosophy-phd-physics-nanotechnology
12. https://uwaterloo.ca/graduate-studies-academic-calendar/science/department-physics-and-astronomy/master-science-msc-physics-nanotechnology

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
(a) Micro/nano Instruments and Devices • BIOL 642 Current topics in Biotechnology • CHEM 720 Topic 13 Selected Topics in Analytical Chemistry: Biosensors and Nanotechnology • CHEM 750 Topic 17 Selected Topics in Physical Chemistry: Surface Science and Nanotechnology • CHEM 750 Topic 23 Selected Topics in Physical Chemistry: Processes at Micro-Nano Scales • ME 738 Special Topics in Materials: Materials for NEMS and MEMS • ME 760 Special Topics in Thermal Engineering • ME 780 Special Topics in Mechatronics • SYDE 682 Advanced MicroElectroMechanical Systems: Principles, Design & Fabrication • SYDE 750 Topic 24 Topics in Systems Modelling: Modelling, Simulation and Design of MEMS	(a) Micro/nano Instruments and Devices • BIOL 642 Current topics in Biotechnology • CHEM 720 Topic 13 Selected Topics in Analytical Chemistry: Biosensors and Nanotechnology • CHEM 750 Topic 17 Selected Topics in Physical Chemistry: Surface Science and Nanotechnology • *CHEM 750 Topic 27 Selected Topics in Physical Chemistry: Nanotechniques* • CHEM 750 Topic 23 Selected Topics in Physical Chemistry: Processes at Micro-Nano Scales • ME 738 Special Topics in Materials: Materials for NEMS and MEMS • ME 760 Special Topics in Thermal Engineering • ME 780 Special Topics in Mechatronics • SYDE 682 Advanced MicroElectroMechanical Systems: Principles, Design & Fabrication • SYDE 750 Topic 24 Topics in Systems Modelling: Modelling, Simulation and Design of MEMS

How will students currently registered in the program be impacted by these changes?
Students currently registered in this program will not be affected by this change to the Nanotechnology Electives list. Current students will continue their program to completion using the degree requirements, including the Nanotechnology Electives list, that were in place when they were admitted into the program.

Departmental approval date (mm/dd/yy):
Reviewed by GSO (for GSO use only) ☐ date (mm/dd/yy):
Faculty approval date (mm/dd/yy):
Senate Graduate & Research Council (SGRC) approval date (mm/dd/yy):
Senate approval date (mm/dd/yy) (if applicable):

Memorandum

To: Bruce Hellinga, Associate Dean, Graduate Studies, Faculty of Engineering

CC: Kirsten Muller, Associate Dean of Graduate Studies, Faculty of Science

From: Holger Kleinke Program Director, Collaborative Graduate Nanotechnology Program

Date: April 15, 2018

RE: Addition of CHEM 750 Topic 27 to Nanotechnology Electives List

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The Collaborative Graduate Nanotechnology Program requests approval to add *CHEM 750 Topic 27 Selected Topics in Physical Chemistry: Nanotechniques* to the program's list of Nanotechnology Electives.

Because it is relevant to many graduate Nanotechnology students' studies, as demonstrated by their longtime high interest in this Chemistry course, the Department of Chemistry has requested that CHEM 750 Topic 27 be added to the Nanotechnology Electives list so that students who take it may get credit towards their degree requirements.

All six member departments of the Collaborative Graduate Nanotechnology Program have approved this addition, as described in memorandum NANO 10 (see attached NANO 10 – 2017 12 5 CHEM 750 Addition to NanoElective List revision.pdf) and described in the Graduate Studies Program Revision Template (see attached GSPR NANO 10 – CHEM 750 topic 27 - Nanotechniques.pdf). The course outline is attached (CHEM 750 topic 27 – Nanotechniques - course outline.pdf)

This motion is being resubmitted to the EGSC to include the course outline and revised supporting documents that clarify the course title.

Memorandum

To: Yuning Li, Associate Chair, Graduate Studies, Department of Chemical Engineering
Kankar Bhattacharya, Associate Chair for Graduate Studies, Department of Electrical and Computer Engineering
Hamid Jahedmotlagh, Associate Chair, Graduate Studies, Department of Mechanical and Mechatronics Engineering
Russell Thompson, Associate Professor, Department of Physics and Astronomy
John Zelek, Associate Chair, Graduate Studies, Department of Systems Design and Engineering

CC: Bruce Hellinga, Associate Dean, Graduate Studies, Faculty of Engineering
Jennifer Collins, Manager, Graduate Studies, Faculty of Engineering
Kirsten Müller, Associate Dean, Graduate Studies, Faculty of Science
Agnes Kolic, Administrative Assistant - Graduate & Research, Faculty of Science
Thorsten Deickmann, Associate Chair, Graduate and Research Programs, Department of Chemistry

From: Ting Tsui, Program Director, Collaborative Graduate Nanotechnology Program

Date: ~~December 5, 2017~~ April 15, 2018 (revision to correct the course title)

RE: Addition of CHEM 750 Topic 27 to the Nanotechnology Electives List

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On behalf of the Department of Chemistry, the Collaborative Graduate Nanotechnology Program requests your department's approval to add *CHEM 750 Topic 27 Selected Topics in Physical Chemistry: Nanotechniques* ~~and Nanotools~~ to the Nanotechnology Electives list. The course outline is attached: CHEM 750 topic 27 – nanotechniques~~ and nanotools~~.pdf.

As per the Collaborative Graduate Nanotechnology Program's guidelines, the addition of this course to the Nanotechnology Electives list must be approved by all six member departments: Chemistry, Physics and Astronomy, Chemical Engineering, Electrical and Computer Engineering, Mechanical and Mechatronics Engineering, and Systems Design Engineering.

Please also approve the related changes on the attached Graduate Studies Program Revision Template form, GSPR NANO 10 CHEM 750 topic 27 - Nanotechniques.pdf~~docx~~, which will be submitted together with this memo to the Science and Engineering Faculty Councils.

CHEM 750 Selected Topics in Physical Chemistry
Topic 27: Nanotechniques

On-line Reference

- EAG Laboratories
- Surface Science Western
- Materials Characterization Introduction to Microscopic and Spectorscopic Methods - Yang Leng Wiley 2008
- Encyclopedia of Materials Characterization - Evans, Brundle, Wilson 1992

Materials

We focus on the following five experimental modules:

- Light microscopy and scanning electron microscopy and related techniques;
- X-ray diffraction;
- Optical spectroscopy, including UV/Vis, PL, Raman, FTIR with ATR;
- Electron spectroscopy;
- Atomic force microscopy.

All modules will include the following: topic 1 to 8 covered in lectures plus topic 9 in lab-based experiments.

1. Background and history
2. Basic principle of the technique (and any sister techniques) and basic equations
3. Key information provided by the technique
4. Special features of the technique, including the concepts of surface sensitivity, probe volume, energy resolution, spatial resolution, depth resolution, depth of focus, chemical content and composition, and other.
5. Description of basic instrumentation
   The basic procedure to acquire data, checklists for machine startup and shutdown, and what not to do with the machine.
6. Interpretation of the collected data (spectra and/or images), and what do fundamental information that they carry.
7. Data artifacts and other things to watch
8. Data analysis
9. Experiments – Hands-on training will be provided by appropriate experts or TAs (pending availability) with advanced level of knowledge about the techniques and tools:
   - Module A - Microscopy
   - Module B - X-ray Diffraction
   - Module C - Optical Spectroscopy
   - Module D - Electron Spectroscopy
   - Module E - Atomic Force Microscopy

All the training lectures (in pdf format) are available at LEARN and/or by email.

Course Outline

Week	Topics
1	Brief introduction to the different modules and scope of the course
2	Module A-E: Each module will include a brief introduction to the basic principle behind the technique, standard operating procedure of the tool on hand, and individual experimentation.
3	Experiment - Module A: Light microscopy and scanning electron microscopy and related techniques
4	Experiment - Module B: X-ray diffraction
5	Experiment - Module C: Optical spectroscopy, including UV/Vis, PL, Raman, FTIR with ATR
6	Experiment - Module D: Electron spectroscopy
7	Experiment - Module E: Atomic force microscopy
8	Wrap-up

The maximum class size is 10-12 students, due to limited numbers of the advanced instruments and to the available operators with advanced knowledge to lead the hands-on training.

The students will be evaluated based on five formal lab reports and a final exam.

GRADUATE STUDIES COMMITTEE REPORT

FACULTY OF ENVIRONMENT

REPORT TO SENATE GRADUATE AND RESEARCH COUNCIL

June 11, 2018

Table of Contents

UNIVERSITY OF WATERLOO

GRADUATE STUDIES OFFICE
Waterloo, Ontario, Canada N2L 3G1
uwaterloo.ca/graduate-studies | gsoffice@uwaterloo.ca
Fax 519-746-3051

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

Faculty: Environment

Effective term: Term/Year Fall 2018

Course ☒ New ☒ Revision ☐ Inactivation ☐

Milestone ☐ New ☐ Revision ☐ Inactivation ☐

New milestone title: Choose an item.

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

Course Subject code: GEMCC Course number: 644

Course Title (max. 100 characters incl. spaces): Climate Change and the Health of Canadians

Course Short Title (max. 30 characters incl. spaces): Climate Change Health of Cdns

Grading Basis: NUMERICAL

Course Credit Weight: 0.50

Course Consent Required: ☐ Choose an item.

Course Description:
This course examines climate-change related health risks to Canadians, including to populations of highest concern - seniors, young children, people with chronic illnesses, the socially and economically disadvantaged, and Indigenous Populations - and the potential for impacts on communities. New tools such as climate change and health vulnerability and adaptation assessments are discussed along with their uses in policy and program development by Canadian and international partners. Guest lectures, case studies and a field trip to meet with climate change decision makers in Ottawa are used to illustrate innovative health adaptation measures and multidisciplinary partnerships being undertaken to build climate resilient health systems.
Note: This course involves a combination of lecture, class discussion and activities, student presentations and a multi-day field trip to Ottawa; field trip fee normally $300+HST; will not exceed $600+HST. For students unable to attend the field component, an alternative assessment component will be arranged.

New course description (for revision only):

Meet Type(s): Lecture Choose an item. Choose an item. Choose an item.

Primary Meet Type: Lecture

Requisites: Add the following anti-requisites: GEOG 675 Selected Topics in Geography, topic number 223 Health & Climate Change and GEOG 694 Environmental Management Special Topics Course, topic number 2 Health & Climate Change.

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:

This course has been offered twice as a special topics course (GEOG 675 and GEOG 694) and has received very positive feedback from MCC students.

Prepared by: Teresa Wilson Date: 12-Feb-18

Graduate Studies
Program Revision Template

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: Environment

Program: Master of Climate Change (MCC)

Program contact name(s): Daniel Scott, Program Director

Form completed by: Teresa Wilson, Graduate Program Administrator

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).

Add GEMCC 644 Climate Change and the Health of Canadians to the climate change elective section of the calendar.

Is this a major modification to the program? No

Rationale for change(s):

GEMCC 644 Climate Change and the Health of Canadians is being added as a new course and needs to be included in the climate change elective section of the calendar.
GEMCC 644 has been offered twice as a Special Topics course and has been well received by students.

Proposed effective date: Term: Fall Year: 2018

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/environment/department-geography-and-environmental-management/master-climate-change-mcc

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
Degree requirements **Master's Research Paper option:** • **Courses** o 3 required courses (1.5 units): ▪ GEMCC 601 Climate Change: Physical Science Basis ▪ GEMCC 602 Climate Change Vulnerability and Adaptation	**Degree requirements** **Master's Research Paper option:** • **Courses** o 3 required courses (1.5 units): ▪ GEMCC 601 Climate Change: Physical Science Basis ▪ GEMCC 602 Climate Change Vulnerability and Adaptation

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
▪ GEMCC 603 Climate Change Mitigation o 3 climate change electives (1.5 units): ▪ Students are able to tailor their program of study based on their individual interests by completing 3 elective courses from the following list of designated climate/climate change focused electives. The availability of MCC designated electives varies year-to-year, including newly approved courses. ▪ ENBUS 621 Enterprise Carbon Management (online delivery) ▪ GEMCC 610 Climate Prediction, Modeling and Scenarios ▪ GEMCC 620 Climate Analytics ▪ GEMCC 622 Climate Change, Natural Hazards and Disaster Risk Reduction ▪ GEMCC 630 Land Use and the Carbon Cycle ▪ GEMCC 640 Climate Policy, Law and Institutions ▪ GEOG 601 Environmental Change and Remote Sensing ▪ GEOG 603 Remote Sensing and Earth System Science ▪ GEOG 642 Micrometeorology	▪ GEMCC 603 Climate Change Mitigation o 3 climate change electives (1.5 units): ▪ Students are able to tailor their program of study based on their individual interests by completing 3 elective courses from the following list of designated climate/climate change focused electives. The availability of MCC designated electives varies year-to-year, including newly approved courses. ▪ ENBUS 621 Enterprise Carbon Management (online delivery) ▪ GEMCC 610 Climate Prediction, Modeling and Scenarios ▪ GEMCC 620 Climate Analytics ▪ GEMCC 622 Climate Change, Natural Hazards and Disaster Risk Reduction ▪ GEMCC 630 Land Use and the Carbon Cycle ▪ GEMCC 640 Climate Policy, Law and Institutions ▪ <u>GEMCC 644 Climate Change and the Health of Canadians</u> ▪ GEOG 601 Environmental Change and Remote Sensing ▪ GEOG 603 Remote Sensing

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
▪ GEOG 648/EARTH 646/BIOL 646 Paleolimnology ▪ GEOG 669/INDEV606 Energy and Sustainability ▪ INDEV 603 Global Health (online delivery) ▪ PLAN 674 Site Planning and Design Studio ▪ SUSM 650 Environmental Finance o 2 open electives (1.0 units) selected in consultation with academic advisor from other areas of specialization within the program or from partnering programs (suitable courses can be drawn from any other academic program that is willing to allow the student to enroll in a course). o Failure to maintain a course average of 75% or better results in an automatic review of the student's status in the program. The review committee will consist of the Program Director and the Graduate Officer. The review committee may require that the student withdraw from the program. **Coursework option:** • **Courses** o 3 required courses (1.5 units): ▪ GEMCC 601 Climate Change: Physical Science Basis ▪ GEMCC 602 Climate Change Vulnerability and Adaptation ▪ GEMCC 603 Climate Change Mitigation o 3 climate change electives (1.5 units):	and Earth System Science ▪ GEOG 642 Micrometeorology ▪ GEOG 648/EARTH 646/BIOL 646 Paleolimnology ▪ GEOG 669/INDEV606 Energy and Sustainability ▪ INDEV 603 Global Health (online delivery) ▪ PLAN 674 Site Planning and Design Studio ▪ SUSM 650 Environmental Finance o 2 open electives (1.0 units) selected in consultation with academic advisor from other areas of specialization within the program or from partnering programs (suitable courses can be drawn from any other academic program that is willing to allow the student to enroll in a course). o Failure to maintain a course average of 75% or better results in an automatic review of the student's status in the program. The review committee will consist of the Program Director and the Graduate Officer. The review committee may require that the student withdraw from the program. **Coursework option:** • **Courses** o 3 required courses (1.5 units): ▪ GEMCC 601 Climate Change: Physical Science Basis ▪ GEMCC 602 Climate Change Vulnerability and Adaptation

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
▪ Students are able to tailor their program of study based on their individual interests by completing 3 elective courses from the following list of designated climate/climate change focused electives. The availability of MCC designated electives varies year-to-year, including newly approved courses. ▪ ENBUS 621 Enterprise Carbon Management (online delivery) ▪ GEMCC 610 Climate Prediction, Modeling and Scenarios ▪ GEMCC 620 Climate and Society ▪ GEMCC 622 Climate Change, Natural Hazards and Disaster Risk Reduction ▪ GEMCC 630 Land Use and the Carbon Cycle ▪ GEMCC 640 Climate Policy, Law and Institutions ▪ GEOG 601 Environmental Change and Remote Sensing ▪ GEOG 603 Remote Sensing and Earth System Science ▪ GEOG 648/EARTH 646/BIOL 646 Paleolimnology	▪ GEMCC 603 Climate Change Mitigation o 3 climate change electives (1.5 units): ▪ Students are able to tailor their program of study based on their individual interests by completing 3 elective courses from the following list of designated climate/climate change focused electives. The availability of MCC designated electives varies year-to-year, including newly approved courses. ▪ ENBUS 621 Enterprise Carbon Management (online delivery) ▪ GEMCC 610 Climate Prediction, Modeling and Scenarios ▪ GEMCC 620 Climate and Society ▪ GEMCC 622 Climate Change, Natural Hazards and Disaster Risk Reduction ▪ GEMCC 630 Land Use and the Carbon Cycle ▪ GEMCC 640 Climate Policy, Law and Institutions ▪ <u>GEMCC 644 Climate Change and the Health of Canadians</u> ▪ GEOG 601 Environmental Change and Remote Sensing GEOG 603

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
▪ GEOG 669/INDEV606 Energy and Sustainability ▪ INDEV 603 Global Health (online delivery) ▪ PLAN 674 Site Planning and Design Studio ▪ SUSM 650 Environmental Finance o 2 open electives (1.0 units) selected in consultation with academic advisor from other areas of specialization within the program or from partnering programs (suitable courses can be drawn from any other academic program that is willing to allow the student to enroll in a course). o Failure to maintain a course average of 75% or better results in an automatic review of the student's status in the program. The review committee will consist of the Program Director and the Graduate Officer. The review committee may require that the student	Remote Sensing and Earth System Science ▪ GEOG 648/EARTH 646/BIOL 646 Paleolimnology ▪ GEOG 669/INDEV606 Energy and Sustainability ▪ INDEV 603 Global Health (online delivery) ▪ PLAN 674 Site Planning and Design Studio ▪ SUSM 650 Environmental Finance o 2 open electives (1.0 units) selected in consultation with academic advisor from other areas of specialization within the program or from partnering programs (suitable courses can be drawn from any other academic program that is willing to allow the student to enroll in a course). o Failure to maintain a course average of 75% or better results in an automatic review of the student's status in the program. The review committee will consist of the Program Director and the Graduate Officer. The review committee may require that the student

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

Current students will have the option of applying the Special Topics course toward the required 3 climate change elective courses. Students admitted to the program in Fall 2018, or thereafter, will have the option to apply GEMCC 644 toward the required 3 climate change elective courses.

Departmental approval date (mm/dd/yy): 03/02/18
Reviewed by GSO (for GSO use only) ☒ date (mm/dd/yy): 04/12/2018
Faculty approval date (mm/dd/yy): 05/17/18
Senate Graduate & Research Council (SGRC) approval date (mm/dd/yy):
Senate approval date (mm/dd/yy) (if applicable):

UNIVERSITY OF WATERLOO

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

Faculty: Environment

Effective term: Term/Year Winter 2018

Course ☒ New ☐ Revision ☒ Inactivation ☐

Milestone ☐ New ☐ Revision ☐ Inactivation ☐

New milestone title: Choose an item.

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

Course Subject code: GEOG Course number: 618

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

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

Grading Basis: NUMERICAL

Course Credit Weight: 0.50

Course Consent Required: ☐ Choose an item.

Course Description:

Presentation of analytical and simulation models useful in analyzing geographic phenomena such as spatial interaction, spatial dependence, spatial equilibrium and locational optimization; consideration is given to both theoretical and empirical components.

*eligible for MES

New course description (for revision only):
Presentation of analytical and simulation models useful in analyzing geographic phenomena such as spatial interaction, spatial dependence, spatial equilibria and locational optimization; consideration is given to both theoretical and empirical components.

*eligible for MES

Meet Type(s): Seminar Choose an item. Choose an item. Choose an item.

Primary Meet Type: Seminar

Requisites:

Special topics course: Yes ☐ No ☒

Cross-listed: Yes ☒ No ☐

Course Subject(s) to be cross-listed with and approval status: PLAN 618

Sections combined/heldwith:

Rationale for request:
Previously de-activated course being offered through Joint Program with WLU.

Prepared by: Alan Anthony Date: 16-Nov-17

To:	Senate Graduate & Research Council
From:	Bruce Muirhead, Associate Vice-President, External Research
Date:	May 4, 2018
Subject:	**Agenda Item for SGRC May 14**

Please accept the following for consideration at the next Senate Graduate and Research Council meeting.

Item for Consideration
KUALI – new online application system for ethics

Heather Root and Joanna Eidse, Ethics, Office of Research will attend to speak to this item. They need about 5 minutes to provide the update.

Memorandum

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

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

Date: **May 29, 2018**

Subject: **New and Continuing Membership to Research Ethics Committees**

Human Research Ethics Committee (HREC)

The following is information for consideration by the Senate Graduate and Research Council on individuals seeking appointment and re-appointment to the Human Research Ethics Committee for approval at the June 11, 2018 meeting.

New member:

Ramona Bobocel, PhD, Professor, Department of Psychology will begin a three-year term as an alternate member from September 1, 2018 to August 31, 2021. Ramona will serve as the Chair of the Delegated Ethics Review Committee (DERC) in the Department of Psychology during this term. Please refer to the attached letter of interest and CV.

Renewing members:

Joel Dubin, PhD, Associate Professor, Department of Statistics and Actuarial Science, will renew his term for three years providing statistical expertise to the Committee. Joel's third term on the Committee will begin September 1, 2018 through to August 31, 2021.

James Beck, PhD, Associate Professor, Department of Psychology will renew his term for three years as an alternate member providing expertise in industrial organizational psychology. James will continue as a member of the Delegated Ethics Review Committee (DERC) in the Department of Psychology. James' second term will begin September 1, 2018 through to August 31, 2021.

Luna Khirfan, PhD, Associate Professor, School of Planning, will renew her term for three years providing expertise in environmental research. Luna's second term will begin October 1, 2018 through to September 30, 2021.

Clinical Research Ethics Committee (CREC)

The following is information for consideration by the Senate Graduate and Research Council on individuals seeking re-appointment to the Clinical Research Ethics Committee for approval at the June 11, 2018 meeting.

Renewing members:

Mathieu Doucet, PhD, Associate Professor/Associate Chair Undergraduate Studies, Department of Philosophy, will renew his term for three years providing expertise in bioethics. Mathieu's second term will begin September 1, 2018 through to August 31, 2021.

Joe Kim, MD, will renew his term for three years providing medical expertise. Joe's term fourth term will begin October 1, 2018 to September 30, 2021.

Joan Moller will renew her term for two years an alternate community member. Joan's second two year-term will begin October 1, 2018 through to September 30, 2020.

UNIVERSITY OF WATERLOO

To:	Senate Graduate & Research Council
From:	Charmaine B. Dean, Vice-President, University Research
Date:	April 23, 2018
Subject:	Item for May 14 agenda

Please accept the following for consideration at the next Senate Graduate and Research Council meeting. Specifically, please find attached an article on predatory journals; the intention is that leaders at SGRC alert Faculty, especially New Investigators (Appendix A).

Item for Consideration
Include as information to SGRC.

Yours sincerely,

Research integrity corner: Special issue on predatory journals

Review

Identifying predatory or pseudo-journals

Christine Laine[1], Margaret A. Winker*[2]

[1]Vice President, World Association of Medical Editors (WAME)
[2] Secretary, World Association of Medical Editors (WAME)

*Corresponding author: margaret.winker@wame.org.

Republished from: Laine C, Winker MA. Identifying predatory or pseudo-journals. World Association of Medical Editors. February 15th 2017. http://www.wame.org

This World Association of Medical Editors (WAME) document aims to provide guidance to help editors, researchers, funders, academic institutions and other stakeholders distinguish predatory journals from legitimate journals.

Over the past decade a group of scholarly journals have proliferated that have become known as "predatory journals" produced by "predatory publishers." "Predatory" refers to the fact that these entities prey on academicians for financial profit via article processing charges for open access articles, without meeting scholarly publishing standards (1). Although predatory journals may claim to conduct peer review and mimic the structure of legitimate journals, they publish all or most submitted material without external peer review and do not follow standard policies advocated by organizations such as the WAME, the Committee on Publication Ethics (COPE), the International Committee of Medical Journal Editors (ICMJE), and the Council of Science Editors (CSE) regarding issues such as archiving of journal content, management of potential conflicts of interest, handling of errata, and transparency of journal processes and policies including fees. A common practice among predatory publishers is sending frequent e-mails to large numbers of individuals soliciting manuscript submission and promising rapid publication for author fees that may be lower than those of legitimate author-pays journals. In the most egregious cases, they collect publication fees but the promised published articles never appear on the journal website. In some cases, authors publishing in such journals are aware that the journals do not adhere to accepted standards but choose to publish in them anyway, hence they are not "prey" (2,3). Therefore, "pseudo-journals" may be a more accurate name.

Regardless of the name applied to them, such journals do not provide the peer review that is the hallmark of traditional scholarly publishing. As such, they fall short of being the type of publication that serves as evidence of academic performance that is necessary to gain future research funding and academic advancement. Identifying such journals is important for authors, researchers, peer reviewers, and editors, because scientific work that is not properly vetted should not contribute to the scientific record. "Pseudo-journals" include journals that despite being published by legitimate publishers exist solely for marketing purposes (4); do not provide peer review sufficient to identify "fake" papers (5,6); and other questionable practices (7). Predatory journals are the most prevalent type of pseudo-journals and have increased quickly. A longitudinal study of article volumes and publishing market characteristics estimated 8000 active predatory journals, with total articles increasing from 53,000 in 2010 to 420,000 in 2014 (an estimated three-quarters of authors

were from Asia and Africa) (8). Therefore, this statement focuses on predatory journals.

Most academicians (and their affiliated institutions and the entities that fund their work) want their work to be published in legitimate journals. Unfortunately, the tremendous proliferation of journals –both legitimate and predatory – makes it increasingly difficult to identify predatory journals. A journal that an author has never heard of might be a legitimate new journal, a legitimate journal that is well established but is read and cited far less frequently than other journals in the discipline, a journal from a part of the world that the author is unfamiliar with, or a "predatory" journal. Two substantial efforts to assist stakeholders in distinguishing predatory from legitimate journals include the now defunct Beall's List and the Directory of Open Access Journals (DOAJ).

From 2011 to January 2017, Jeffrey Beall, a librarian at Auraria Library and associate professor at the University of Colorado Denver, compiled annual lists of potential, possible, or probably predatory scholarly open access journals (9). In 2015, he added two additional lists – misleading metrics and hijacked journals. The misleading metrics list included companies that produce counterfeit impact factors or similar journal measures that predatory publishers use to deceive scholars into thinking that the journals are legitimate. "Hijacked journals" refer to the creation of a counterfeit website that mimics the website of a legitimate journal for the purpose of soliciting submissions and collecting author fees from authors who believe they are sending their work to the legitimate journal. However, on January 17, 2017 Beall's website was dismantled for unclear reasons (10). Beall's lists were alarmingly lengthy, with 1155 predatory publishers and 1294 predatory journals being listed as of January 3, 2017. In compiling his list, Beall used criteria (Table 1) that he based in part on two policy statements – the COPE Code of Conduct for Journal

Table 1. Beall's criteria for identification of predatory journals and publishers*

Editor and Staff	• The publisher's owner is identified as the editor of each and every journal published by the organization. • No single individual is identified as any specific journal's editor. • The journal does not identify a formal editorial / review board. • No academic information is provided regarding the editor, editorial staff, and/or review board members. • Evidence exists showing that the editor and/or review board members do not possess academic expertise to reasonably qualify them to be publication gatekeepers in the journal's field. • Two or more journals have duplicate editorial boards (*i.e.*, same editorial board for more than one journal). • The journals have an insufficient number of board members (*e.g.*, 2 or 3 members), have concocted editorial boards (made up names), name scholars on their editorial board without their knowledge or permission or have board members who are prominent researchers but exempt them from any contributions to the journal except the use of their names and/or photographs. • There is little or no geographical diversity among the editorial board members, especially for journals that claim to be international in scope or coverage. • The editorial board engages in gender bias (*i.e.*, exclusion of any female members).
Business management, the publisher	• Demonstrates a lack of transparency in publishing operations. • Has no policies or practices for digital preservation. • Begins operations with a large fleet of journals, often using a common template to quickly create each journal's home page. • Provides insufficient information or hides information about author fees, offering to publish an author's paper and later sending an unanticipated "surprise" invoice. • Does not allow search engines to crawl the published content, preventing the content from being indexed in academic indexes. • Copy-proofs (locks) their PDFs, thus making it harder to check for plagiarism.

Integrity	• The name of a journal is incongruent with the journal's mission. • The name of a journal does not adequately reflect its origin (*e.g.*, a journal with the word "Canadian" or "Swiss" in its name when neither the publisher, editor, nor any purported institutional affiliate relates whatsoever to Canada or Switzerland). • In its spam email or on its website, the publisher falsely claims one or more of its journals have actual (Thomson-Reuters) impact factors, or advertises impact factors assigned by fake "impact factor" services, or it uses some made up measure (*e.g.*, view factor), feigning/claiming an exaggerated international standing. • The publisher sends spam requests for peer reviews to scholars unqualified to review submitted manuscripts, in the sense that the specialties of the invited reviewers do not match the papers sent to them. • The publisher falsely claims to have its content indexed in legitimate abstracting and indexing services or claims that its content is indexed in resources that are not abstracting and indexing services. • The publisher dedicates insufficient resources to preventing and eliminating author misconduct, to the extent that the journal or journals suffer from repeated cases of plagiarism, self-plagiarism, image manipulation, and the like. • The publisher asks the corresponding author for suggested reviewers and the publisher subsequently uses the suggested reviewers without sufficiently vetting their qualifications or authenticity.
Other	• Re-publish papers already published in other venues/outlets without providing appropriate credits. • Use boastful language claiming to be a "leading publisher" even though the publisher may only be a startup or a novice organization. • Operate in a Western country chiefly for the purpose of functioning as a vanity press for scholars in a developing country (*e.g.*, utilizing a mail drop address or PO box address in the United States, while actually operating from a developing country). • Provide minimal or no copyediting or proofreading of submissions. • Publish papers that are not academic at all, *e.g.* essays by lay people, polemical editorials, or obvious pseudo-science. • Have a "contact us" page that only includes a web form or an email address, and the publisher hides or does not reveal its location.
Poor journal standards/ practice (do not equal predatory criteria, but authors should consider these items prior to manuscript submissions)	• The publisher copies "authors guidelines" verbatim (or with minor editing) from other publishers. • The publisher lists insufficient contact information, including contact information that does not clearly state the headquarters location or misrepresents the headquarters location (*e.g.*, through the use of addresses that are actually mail drops). • The publisher publishes journals that are excessively broad (*e.g.*, Journal of Education) in order to attract more articles and gain more revenue from author fees. • The publisher publishes journals that combine two or more fields not normally treated together (*e.g.*, International Journal of Business, Humanities and Technology). • The publisher charges authors for publishing but requires transfer of copyright and retains copyright on journal content. Or the publisher requires the copyright transfer upon submission of manuscript. • The publisher has poorly maintained websites, including dead links, prominent misspellings and grammatical errors on the website. • The publisher makes unauthorized use of licensed images on their website, taken from the open web, without permission or licensing from the copyright owners.

*Formerly available at https://scholarlyoa.files.wordpress.com/2015/01/criteria-2015.pdf; no longer accessible.

Publishers and the Principles of Transparency and Best Practice in Scholarly Publishing from WAME, COPE, DOAJ, and Open Access Scholarly Publishers Association (OASPA) (11,12). The effort involved in developing Beall's list was impressive and it was a reasonable starting point for someone who wanted to investigate a journal's or publisher's authenticity. However, Beall did not list the specific criteria he used to categorize a given journal as predatory and he mistakenly black-listed some le-

gitimate journals and publishers, particularly those from low and middle income countries (LMICs) (13,14). He used criteria like "journals having little or no geographic diversity on their editorial boards" and "not being listed in standard periodical directories or library databases", problems common for journals in LMICs (9,15,16). In addition, some criticized Beall for being biased against open access publishing models, and for conflating access rules with business models (17). Other Beall criteria, while identifying potentially undesirable journal features, are not reliable indicators of predatory publication practices (*e.g.,* exclusion of female members on the editorial board). Thus, WAME cautions against the use of prior appearance on Beall's list as the solitary method for determining whether a journal is predatory or legitimate.

While the purpose of Beall's list was to identify "predatory" journals, the DOAJ has the converse purpose of identifying legitimate open access journals (18). According to its website, "The [DOAJ] is a service that indexes high quality, peer reviewed Open Access research journals, periodicals and their articles' metadata. The Directory aims to be comprehensive and cover all open access academic journals that use an appropriate quality control system and is not limited to particular languages or subject areas." As of January 5, 2017, DOAJ included 9456 journals from 128 countries. The DOAJ grants some journals the DOAJ seal, a mark of certification for open access journals for achievement of a high level of openness, adhering to best practices, and having high publishing standards (Table 2). However, the DOAJ is not a comprehensive list of all legitimate open access journals and a journal that is not listed should not be assumed to be illegitimate or predatory. It may be a journal that has not sought inclusion on the DOAJ or has insufficient funding to meet some of DOAJ's requirements. Conversely, listing on the DOAJ does not guarantee high quality – the DOAJ has a routine mechanism for users of the DOAJ to notify DOAJ if they find a journal with questionable practices on the DOAJ list.

A third approach is the "Think. Check. Submit." checklist developed by a coalition of scholarly publishing organizations (19). These criteria (Table 3) are

Table 2. Criteria for Receipt of the DOAJ Seal*

To receive the DOAJ Seal, journals must meet all of the following criteria:
• provide permanent identifiers (*e.g.*, DOIs) in the papers published;
• provide DOAJ with article metadata;
• deposit content with a long term digital preservation or archiving program;
• embed machine-readable CC licensing information in articles;
• allow generous reuse and mixing of content, in accordance with a CC BY, CC BY-SA or CC BY-NC license;
• have a deposit policy registered with a deposit policy registry;
• allow the author to hold the copyright without restrictions.

* Available at: https://doaj.org/publishers#seal.

Table 3. Checklist from "Think. Check. Submit." Initiative*

Do you or your colleagues know the journal?
• Have you read any articles in the journal before?
• Is it easy to discover the latest papers in the journal?
Can you easily identify and contact the publisher?
• Is the publisher name clearly displayed on the journal website?
• Can you contact the publisher by telephone, email, and post?
Is the journal clear about the type of peer review it uses?
Are articles indexed in services that you use?
Is it clear what fees will be charged?
• Does the journal site explain what these fees are for and when they will be charged?
Do you recognize the editorial board?
• Have you heard of the editorial board members?
• Do the editorial board members mention the journal on their own websites?
Is the publisher a member of a recognized industry initiative?
• Do they belong to the Committee on Publication Ethics (COPE)?
• If the journal is open access, is it listed in the Directory of Open Access Journals (DOAJ)?
• If the journal is open access, does the publisher belong to the Open Access Scholarly Publishers Association (OASPA)?
• Is the publisher a member of another trade association?

*Available at: http://thinkchecksubmit.org/check/.

useful for authors considering where to submit their work, but as with the other initiatives are not a failsafe to identify all legitimate scholarly journals. The criterion of knowledge of individuals involved in the journal make this approach less useful for those who are evaluating journals from a different part of the world.

Because existing initiatives do not provide error-proof methods for determining the status of a particular journal, individuals who aim to gain a high level of assurance about a journal's status need to investigate further. WAME developed the framework illustrated in Figure 1 for such investigation. This framework begins with assessing whether the journal has any of the characteristics Beall viewed as potentially problematic (Table 1), its presence in the DOAJ, and presence of "Think. Check. Submit." features (Table 3), with further investigation guided by these initial indicators. Assessment remains subjective, but reviewing the journals' website and practices/policies for evidence of the "warning sign" features (Table 4) will help inform this judgment. The more "red flags" that are present, the more hesitant one should be to consider the journal a desirable publication venue.

Why have predatory journals become a significant problem? Digital publication brought many benefits, including lowered journal overhead relative to printing and postage, and "author pays" models enabled immediate open access. Nevertheless, scholarly journals pay substantial costs for editor and staff time for manuscript evaluation, peer review, editing, and quality assurance. Predatory journals reduce or eliminate these services, skimming the author fees as profit.

Why have predatory journals thrived? Their promise of quick publication is attractive to academics. Predatory journals provide young researchers who may not know better and academicians in search of quick publication with a low barrier to publication. In too many settings, promotions committees and other such bodies focus on the number of publications rather than the quality of those publications and the venues in which they appear. Thus, predatory journals are likely to continue to prosper unless such bodies and funders begin to routinely scrutinize the quality as well as the quantity of their faculty's publications, not by excluding all online journals from consideration, but by identifying acceptable journals according to quality criteria (20). Ideally, academic institutions should also identify academics who are listed as editors or Editorial Board members for journals established as predatory, and require that their affiliation with the institution is removed. Those mentoring junior researchers must recognize that predatory jour-

Table 4. "Warning Sign" features that should increase suspicion that a journal is predatory (although features may be absent even in a predatory journal)

- No information as to whether there are author fees in the Instructions for Authors.
- Peer review is not mentioned in the Instructions for Authors.
- Little or no information is provided regarding the editor or editorial board.
- No location is listed for the journal offices, or location is very different than the location of the editors and editorial board.
- The journal website is not easily accessible in an internet search (could be a problem in a legitimate journal in a low or middle income locale).
- The journal publishes either an unusually small, unusually large, or markedly variable numbers of articles each year.
- You or your colleagues have received formulaic e-mail solicitations for submissions that do not specify an interest in particular projects or areas that you are working on.
- Promised routine turnaround times for review and publication are so rapid that they seem "too good to be true" and would be unlikely to encompass the time necessary for true peer review.
- You do not receive a response to e-mail or telephone messages sent to the editor or journal office within a few days.
- The name of the journal is very similar to the name of a well-known, established journal with a good reputation.
- The publication fees are atypical for the scholarly publishing industry (much higher or much lower fees can both signal problems [with recognition that journals in low or middle income countries may have legitimately low fees]).
- It is difficult to identify articles published in the journal when searching Google Scholar or other databases (with recognition that new journals or those in low or middle income countries may face lags in indexing).
- Information about author affiliations and/or contact information is not present in published articles.
- Someone you know listed on the editorial board or journal staff, when you query them about the journal, is unaware of their supposed affiliation with the journal.

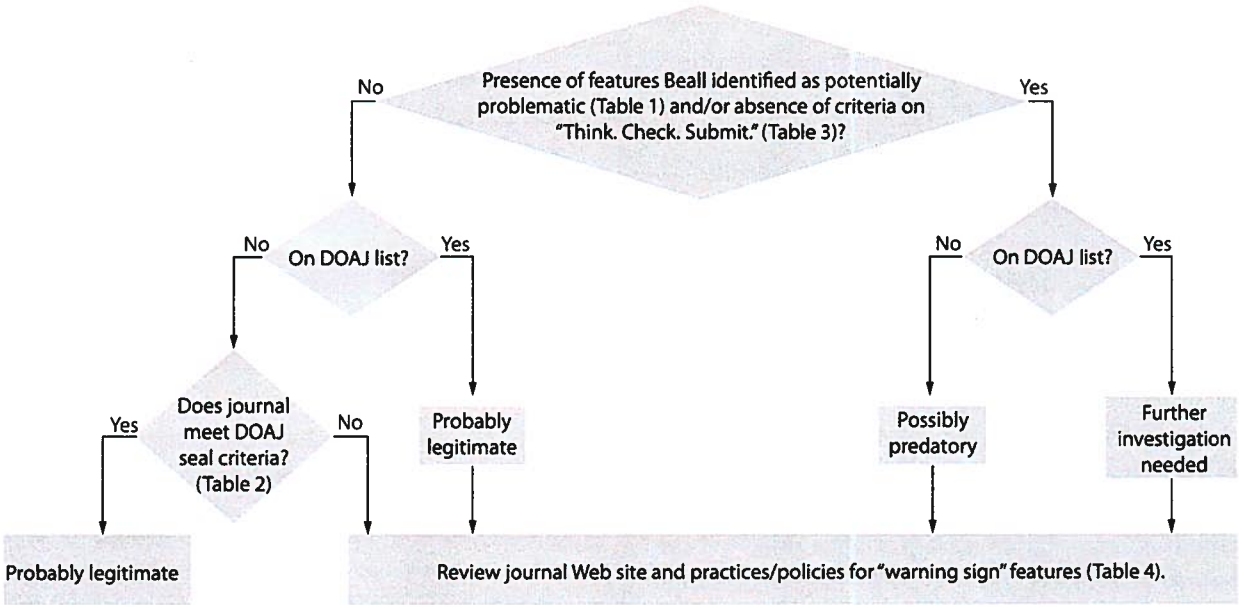

Figure 1. Predatory journals algorithm

nals exist and help those they mentor identify high quality publication venues. Websites developed to help researchers must be responsible about the journals their resources help promote (21). Addressing the scourge of predatory journals will require efforts at every level of the research process.

Future initiatives to identify predatory journals should be as transparent and objective as possible, with mechanisms for journals incorrectly identified as predatory to correct the record and for predatory journals to become legitimate by improving their practices. Authors who have submitted their work to predatory journals should share their experiences to "out" poor journal practices. Authors whose legitimate research was published in predatory journals should have a mechanism for submitting their research to a legitimate peer reviewed journal, preferably after retraction of the "predatory" publication—although, unfortunately, most predatory journals do not publish corrections or retractions. Such initiatives would hasten the demise or conversion of predatory journals.

Acknowledgments

We thank the WAME Board (Rod Rohrich, Lorraine Ferris, Tom Lang, Phaedra Cress, Fatema Jawad, Rajeev Kumar, José Lapeña, Chris Zielinski) and Peush Sahni for their critical review and approval.

Potential conflict of interest

None declared.

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To:	Senate Graduate & Research Council
From:	Jackie Stapleton
Date:	31 May 2018
Subject:	Support for determining credibility of journals

Due to the vast proliferation of online publishers (journals, books, theses, conferences), it is increasingly important for authors to be aware of predatory behaviour to ensure that their research is published in high quality, high impact journals. Librarians have been, and continue to assist faculty members, researchers and graduate students in determining the credibility of journals. Your Subject Librarian can:

- Answer questions and provide personal consultations for individual researchers and graduate students
- Speak with members of a research team or lab about predatory publishing and other relevant topics (i.e. meeting Tri Agency Open Access requirements)
- Present at department meetings, graduate student orientations and/or graduate seminars

In addition, two workshops that are regularly offered through the Library include:

Predatory Publishing: How do you choose a quality journal? What are predatory journals? How do I avoid publishing in a predatory journal? If you are curious about answers to these questions, this workshop is for you. By the end of this workshop, you will:

- Understand what makes a journal predatory
- Have tips and tricks to use to identify quality and predatory journals
- Know who to reach out to for help

The Tri-agency Open Access policy – from author's rights to depositing in UWSpace: The session will:

- outline the policy and its requirements
- present an introduction to author's rights and responsibilities
- demonstrate how to use UWSpace and its copyright review and deposit service to easily comply with the policy

Waterloo researchers who have received grant funding or have an interest in making their research Open Access are encouraged to attend.

If you have any questions, you can contact me directly, (Jackie Stapleton, Liaison Librarian, SGRC Library representative) or your department's Subject Librarian

Jackie Stapleton, BSc, MLS
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Handling of Final Assessment Reports related to academic program reviews and follow-up Two-Year Progress Reports.

Introduction

Waterloo's Senate Undergraduate Council (SUC) and Senate Graduate and Research Council (SGRC) have, among other responsibilities, a fiduciary duty to consider all aspects relating to the academic quality of undergraduate studies and graduate studies within the university. As described in Waterloo's Institutional Quality Assurance Process, documentation emerging from the cyclical program review process includes: (1) a Final Assessment Report, which summarizes the self-study, external reviewers' report, program response, and implementation plan, and (2) a Two-Year Progress Report, which reports on progress related to the implementation plan. This document outlines a process for vetting these reports through SUC and SGRC.

Process

All undergraduate program reports are handled by SUC. Likewise, all graduate program reports are handled by SGRC. For augmented reports (combined undergraduate and graduate), in any given year, half will go through SUC and the other half through SGRC to share the workload.

For Final Assessment Reports (FARs), **two** SUC or SGRC members will be asked to review the report. For Two-Year Progress Reports, one SUC or SGRC member will be asked to review the report, although at the SUC/SGRC Chair's discretion, a second reviewer may be sought.

Reviewers of FAR and Two-year Progress Reports will consider a series of **guiding questions** (see below) in coming to their recommendation to SUC or SGRC. Furthermore, before reporting to SUC or SGRC, reviewers are encouraged to ask questions and share both their observations and any concerns with the program under review (usually through the chair of the program). Any revisions should be completed by the chair of the program prior to bringing the report for approval at a SUC or SGRC meeting.

Guiding questions for Final Assessment Reports

Does the Final Assessment Report:

1) Identify the significant strengths and weaknesses of the program as described by either the program and/or the visiting team?

2) Include a credible implementation plan that not only addresses the substantive issues identified from the program review process but also identifies clearly:

   - What actions will follow from specific recommendations
   - Who will be responsible for acting on those recommendations
   - Who will be responsible for providing resources
   - What are the priorities for implementation and realistic timelines for initiating and monitoring actions

Guiding questions for Two-Year Progress Reports
Does the Two-Year Progress Report:

1) Clearly describe progress achieved on the various action items in the implementation plan?

2) Explain convincingly any circumstances that would have altered the original implementation plan?

3) For items that are behind schedule, propose an amended implementation schedule that is reasonable and credible?

4) Address significant developments or initiatives that have arisen since the program review process, or that were not contemplated by the program review process?

Reviewers, should they request it, will be provided access to the confidential documents informing the reports (e.g. self-study, reviewers' report, program response), but consulting these documents is not expected unless there is a need to clarify some aspect of a Final Assessment Report or Two-Year Progress Report. All members of SUC and SGRC will have the opportunity to review the Final Assessment Report or Two-Year Progress Report ahead of the meeting in which the report will be considered and so will have the necessary information to engage in discussion.

To promote transparency and foster integrity in the review process, reviewers whenever possible should not be members of the Faculty or Affiliated and Federated Institutions of Waterloo (AFIW) from which the reports originate.

Normally, the associate dean (undergraduate studies or graduate studies) in the Faculty where the program resides (or equivalent in an AFIW institution) would be asked questions during an SUC or SGRC meeting when the report is being discussed. However, responses from any member of SUC or SGRC who can offer insight are welcome. The department chair or school director (or chosen delegate) of the program being considered could be invited by the associate dean to attend the SUC or SGRC meeting as a resource person.

SUC's and SGRC's responsibility will be to focus on the overall credibility and feasibility of the report and the proposed plan of action – seeking to uncover, for example, unexplained disjunctions between the reviewers' recommendations and the department's response – as opposed to the minutiae of course content and curriculum structure.

Meaning of Approval at SUC or SGRC

For both Final Assessment Reports and Two-Year Progress Reports, SUC or SGRC should ultimately be able to assess whether the report is (a) satisfactory, (b) satisfactory but with **minor** concerns, or (c) unsatisfactory due to **major** concerns.

In considering whether to approve a Final Assessment Report, SUC or SGRC will focus on the above guiding questions for FARs or Two-Year Progress Reports.

For a Two-Year Progress Report, endorsement of the report by SUC or SGRC indicates that SUC/SGRC is satisfied with the progress to date on the implementation plan based on the answers to the guiding questions and that SUC or SGRC has confidence that remaining action items will be appropriately addressed on the established timelines.

A Final Assessment Report or Two-Year Progress Report that is deemed "satisfactory" by a majority vote of SUC/SGRC will be submitted to Senate for information, normally without additional comment. Should the discussion at SUC or SGRC reveal issues of minor or major concern (as indicated by vote), SUC/SGRC shall forward the pertinent minutes of the meeting to the head of the program in question (and their resource person if one acted as their delegate) to advise of the concerns identified at SUC or SGRC and to invite a response, which may include amendments to the original report, along with the appropriate endorsement by the Faculty dean or AFIW head. The report then comes back to SUC or SGRC for reconsideration and a final vote. A report considered unsatisfactory is not forwarded to Senate but instead shall be returned to the head of the program with a request for further work. A program chair at this stage may request an unsatisfactory report be provided to Senate, in which case Senate shall be provided the report with a description of the areas of concern identified.

UNIVERSITY of GUELPH

OFFICE of THE PROVOST AND VICE-PRESIDENT (ACADEMIC)

OFFICE OF THE ASSOCIATE VICE-PRESIDENT (ACADEMIC)

Cyclical Program Review
Final Assessment Report and Implementation Plan
Guelph-Waterloo Centre for
Graduate Work in Chemistry and Biochemistry (GWC)[2]

Summary of the Cyclical Program Review of the Joint Graduate Programs in Chemistry and Biochemistry (Joint: Guelph-Waterloo)

1. The Program's Self-Study was received by the Office of Quality Assurance on January 16, 2017
2. The Review Committee consisted of two external reviewers: Andrew Bennet (Simon Fraser University) and Yining Huang (Western University). The internal facilitator was David Wolyn, Department of Plant Agriculture, Ontario Agricultural College.
3. The site visit occurred February 16-17, 2017 (see itinerary attached)
4. The Reviewers' Report was received on March 9, 2017.
5. The Director's response, from Dr. France-Isabelle Auzanneau, in consultation with the faculty and Chairs from U of G and U Waterloo, was provided on May 10, 2017
6. The Dean's response, from Interim Dean Richard Zytner, University of Guelph, was received June 23, 2017
7. The Dean's response, from Dean Lemieux, University of Waterloo, was received on June 14, 2017

The academic programs in the centre and examined as part of the cyclical program review include:
MSc and PhD, Chemistry, with various fields

The Departments also contributes to the following collaborative programs which undergo review separately and while may be referenced from time to time in the self-study, these are not under direct purview of this review:
Nanotechnology (University of Waterloo)
Quantum Information (University of Waterloo)
Toxicology (University of Guelph)

Strengths and weaknesses of the programs, as identified in the external reviewers' assessment report:

The reviewers stated:

Program Strengths. The external review team noted that the degree programs at both institutions are well respected and produce strong graduates.

In both National and International contexts, the excellent faculty are the strength of the graduate programs in Chemistry at the Centre on both campuses. The quality of research emanating from the Centre's members is evident from the number of research awards received by the faculty at both national and international levels; the number of research chairs, including Canada Research Chair (8), Canada Excellence Research Chair (1), NSERC industrial chairs (2); and university supported chairs (1); the research funding (over $100 M for the current evaluation period) from a diverse range of funding sources; the number of high quality publications and patents; the research leadership demonstrated by the faculty on national and international stages (*e.g.* serving on prestigious academic/government/industry advisory boards and editorial boards of high impact journals, organizing conferences and workshops); the number of invited/plenary/keynote lectures; and the large number of high quality graduate students they supervised. The Centre's faculty also provide multi-disciplinary research environments such as the Institute of Polymer Research (Waterloo), Waterloo Institute for Nanotechnology, The Institute for Quantum Computing (Waterloo) and The Electrochemistry Technology Centre (Guelph).

During our meeting with students on both campuses, we specifically asked about the quality and availability of graduate supervision. The students at the meetings unanimously expressed their satisfaction and we have no concern in this regard.

Program Weaknesses

As mentioned earlier, while the current faculty complement at Waterloo is healthy, the current number of faculty is dangerously low at Guelph. The distribution of full time research active, tenured and tenure-track faculty members is 39 at Waterloo and 15 at Guelph. As stated in the Self Study, that no faculty hiring has occurred, in the Department of Chemistry at University of Guelph campus, during a 10-year period clearly has had detrimental effect on the graduate program at Guelph. A gradual reduction of faculty members at Guelph significantly limits the ability of graduate course offering (especially in the areas of biological chemistry, polymer and theory) and prevents the growth of graduate enrolment. It also markedly affects the overall research profile of the Department.

Research Strength and Activity. During the external review team's discussions with the Centre's director, it became clear that one of the major challenges faced is rejuvenation of the Centre given that the two Universities have, over the last 10 years, had very different outcomes with regard to faculty renewal. This discrepancy has resulted in the Chemistry graduate programs at Guelph undergoing a decrease in the number of graduate students enrolled. In contrast, at Waterloo there have been a significant number of new faculty hires, which has resulted in an

active and vigorous research environment. The Dean assured the review team that Guelph's Chemistry Department has the go ahead for faculty renewal with several replacement positions. Indeed, the process had started with the successful recruitment of a Tier 1 Canada Research Chair in Electrochemistry. The reviewers also note the importance for newly hired faculty to be given sufficient start-up funds, which could include access to CFI grants. Thus, we recommend that Guelph University develops a sound financial plans to fund starting faculty adequately so that they can initiate their research program in a timely manner.

Internationalism. A significant difference between the two universities, which became apparent early on in the review process, is the different level of support for international graduate students at the two Universities. Specifically, very few international students are enrolled at Guelph, a problem that is widely acknowledged, and this results in a decreased diversity in the graduate student population. On the other hand, at Waterloo, about 35% of the graduate students are international, however, many faculty expressed concerns about the move to a new budget model and the potential implications for reduced access to support for international graduate students.

The overall recommendation of the external reviewers:

The Graduate programs offered **Meet all Expectations**

The joint Guelph-Waterloo Graduate Programs in Chemistry and Biochemistry $(GWC)^2B$ are among the largest and strongest chemistry programs in Canada. Overall, the reviewers were impressed with the high standard and quality of the programs. The facilities for graduate research and training are excellent. The quality of both faculty and graduate students is very high.

Despite some changes that are needed for improvement as outlined above, especially recommendation number 1, the reviewers feel that the graduate programs offered by $(GWC)^2B$ **meet all expectations.**

Summary of Recommendations of the External Reviewers and the Department's and Dean's Responses

*NB: The following are the reviews' recommendations, noted in bold and Chair/Director/Department responses, noted in italics. Dean's endorsement or additional comment is included.

Reviewer's Recommendations for immediate improvement:

1. **It is critical that the University of Guelph's administration follows through on the promise of faculty renewal in the Department of Chemistry, and that starting faculty are given competitive start ups so that they can readily initiate their research programs.**

The Director stated agreement from the Department of Chemistry at Guelph:

Three positions are currently at various stages of recruitment: a Tier 1 Chair replacement, the position made possible by Peter Tremaine's IRC, and a position in Biological Chemistry for which funding has been received from the Provost Office. In addition to these three positions and as described in the Self Study, the Chair of the Department of Chemistry and the Director of (GWC)2 had received indication in January 2017 from the Interim Dean of CPES (Prof. R. Zytner) that the three positions left vacant by recent retirements in 2012, 2015 and 2016 would be made available for recruitment. However, at the present time, discussions are ongoing between the Chair of Chemistry and the Dean to explore the possibility of hiring Faculty in these positions based on the needs of the Department and finances.

NB: The remainder of the Director's response to this recommendation can be found in her accompanying memo.

In his response, the ***Interim Dean, U of G,*** *confirmed:*

the GWC2 program is important to the College of Engineering and Physical Sciences (CEPS), and has the full support of the Dean's Office. Accordingly I have discussed the requested faculty positions outlined in Recommendation I with the Provost. These discussions are ongoing as part of the overall faculty complement needed in CEPS.

The ***Dean, Waterloo****, did not comment as it is out of his jurisdiction.*

2. **The persistent technical problems in link-rooms on both campuses must be fixed as soon as possible. Fully functioning link rooms are essential to the programs as they are used for graduate teaching, thesis defense, and committee meeting.**

The Director noted:

A task force (members from Chemistry and Physics at U of G and U Waterloo; teaching support services) was struck in February 2017 to discuss upgrades to the link rooms at Guelph and Waterloo.
At Guelph: Phase 1 of the renovations took place in Summer 2017: Upgrading of the CODECs in both room and replacing the camera in the mainlink. Phase 2 is scheduled for summer 2018 to complete replacing cameras, screen, sound systems, teaching stations etc. We are currently waiting for an update from OpenEd on the schedule for phase 2.
At Waterloo: The oldest CODEC in the mainlink was replaced with that removed from the minilink at Guelph. Quality has already improved greatly.

The ***Interim Dean, U of G****, confirmed "support is being provided to upgrade the link rooms between both institutions*

3. **It is recommended that the number of international graduate students at Guelph be increased significantly. While the current enrolment of international students is adequate at Waterloo, the possible change in funding policy we learned may reduce the intake of international graduate students in the coming years. We urge the University administration to continue to support international students at its current funding level as a significant reduction of international student complement would have detrimental impact on the graduate program.**

In response, the Director commented on issues related to international graduate targets at both Waterloo and U of G:

- *Clarification on the planned changes at Waterloo has been requested. No formal announcement has yet been made so it is unclear what the plan is.*
- *The Department of Chemistry at Guelph and the Director of (GWC)[2] agree very strongly with this recommendation. The Interim Dean of the College knows that increased access to international students will advance the academic and research interests of the Department, College, and University. This is a University-level decision, and the implementation of a sustainable internationalization plan is the responsibility of the Provost's office.*

*The **Dean, Waterloo**, notes:*

"Currently, funding is offered by Graduate Studies and Postdoctoral Affairs to every international student applying to GWC2 to offset the international tuition differential. My understanding is that this funding is currently being reviewed, which may impose limitations on our ability to recruit and support international students. Furthermore, notwithstanding the recognized benefits that international graduate students bring to the GWC2 programs, the fiscal realities of the provincial funding formula dictate that we become more aggressive in targeting domestic graduate students."

*The **Interim Dean, U of G**, further states the expectation that there will be an opportunity to increase "the number of international graduate students through a centrally funded internationalization initiative which will start September 2017."*

4. **Given the unique teaching situation involving two campuses, we recommend that the Centre take the lead and work with the departments to develop new graduate course delivery modes in form of e-learning. The Universities should provide adequate resources to support teaching innovation.**

The Director agreed and advised that:

"An "E learning (GWC)2 Committee" will be established in the Fall 2017 to discuss the scope of online courses and answer the following three questions:

1. *Should e-learning courses be developed with key courses first, then rolled out to all courses or should they be limited to select courses such as, but not limited to, those mentioned in recommendation 5?*
2. *How many online courses should graduate students be allowed to take to complete their degree requirements?*
3. *What credit value should these courses have?*

Key faculty and courses will then be identified and appropriate support given to bring those courses to fruition.

**Update November 2017: Work is underway at Waterloo (undergraduate) and the Director will meet with both Chairs in 2018 to identify faculty members for a focus group.*

While the ***Interim Dean, U of G, and the Dean, Waterloo****, did not specifically address this recommendation, both endorsed the Director's responses overall and indicate strong support for the recommendations and their implementation.*

5. **It is recommended that the Centre develop and offer graduate courses that provide training on professionalism, communication and teaching skills, scientific writing, entrepreneurship, knowledge of patent application, and other soft skills. Such expertise is critical for successful degree progression and then beyond the time at the Centre, especially in the work force.**

The Director acknowledged the value of such courses and indicates such courses already exist at both Waterloo and U of G:

"An inventory of those existing or similar courses will be established in the Fall 2017 and kept up to date by the Graduate Secretary at Guelph and the Graduate Administrative Coordinator at Waterloo. We will attempt to adapt these courses to the needs of graduate chemistry students. We will investigate how to expand the content of existing seminar and project based courses at the undergraduate and graduate student levels to develop 'soft skills' rather than developing new credit courses."

In addition to encouraging faculty to formalize such teaching objectives, the Director indicates the program will "explore expanding the graduate seminar courses to include professional development aspects."

Update November 2017: The Director has asked the Graduate Coordinator/Secretary on both campuses to provide an inventory of such courses offered at both universities (to be completed in 2018). Some members of the committee already have graduate students writing NSERC grant proposals as part of their course requirement; we are encouraging this with as many courses as possible.

*As above, no specific response from the **Deans** on this recommendation.*

6. **The Centre should raise its profile and brand awareness by enhancing its website and using social medium (such as Facebook and Twitter).**

The Director responded:

In 2016/2017 funds ($10K) were reserved for the development of the (GWC)2 web portal by professional, external web designers. Due to the workload implied by the IQAP review, these funds have not yet been used. In the Spring-Fall 2017, the Director will approach professional web designers to design a new (GWC)2 web site that will include social media threads. We will also create a Facebook page and invite all (GWC)2 members, particularly students, to join and contribute. Ultimately the Director will encourage the (GWC)2 Graduate Student Club (see below) to take control of the Facebook page. Additional branding efforts have also been carried out in the Winter 2017 with the design and printing of "(GWC)2" business cards and swag to promote the two Departments and the Graduate school during recruiting events.

Update, November 2017: the GWC Facebook page has been launched, and the GWC Twitter account set up. An external company has been hired to develop the new GWC webpage that is to be launched by 2018. The Director also presented the new GWC flyer that will be mailed out in 2018 to grad clubs and Chemistry departments in Ontario and beyond

*As above, no specific response from the **Deans** on this recommendation.*

7. **It is recommended that the Centre increase the effort in facilitating the social and academic integration of the students from both campuses. The interactions between faculty remembers from Guelph and Waterloo should also be encouraged. The Centre and the Departments should foster and facilitate co-supervision of grad students, co-application of research grants and collaboration in research.**

The Director advised this is an on-going preoccupation for her:

"During the Annual General Meeting 2017 (April 28), we have created the (GWC)2 Graduate Student Club which is to be run collectively by students from both campuses. Two students (one for each campus) have enthusiastically agreed to establish the Club and bring students together during various social and academic initiatives. Meeting of a steering committee will be called during the Spring 2017 semester to discuss activities and budget. Social interactions between faculty will continue to be encouraged through and during the recruiting socials and the Fall and Winter (GWC)2 Seminar series. We hope that such interactions between faculty members will lead to research collaborations in the future."

*While there is no specific response from the **Deans** on this recommendation, both maintain a commitment to the joint program and the **Dean, Waterloo**, further states:*

"The report provides useful recommendations for the Centre to further improve its delivery of graduate programs in Chemistry and Biochemistry, and improve coordination between the two departments over the next seven years."

8. **It is recommended that both departments develop and implement a plan for an effective staffing transition to accompany staff retirement so that key knowledge is transferred to staff, ensuring that training of graduate students and research are not affected. We view this as imperative.**

The Director responded by advising the following:

- *The Department of Waterloo shares the concern expressed by the reviewers. There is indeed a lot of both ongoing and upcoming turnover at Waterloo and identifying replacements with the appropriate expertise will be a key challenge.*
- *The Department of Chemistry at Guelph also agrees with this concern. Two staff retirements are scheduled for the upcoming few months (Karen Ferraro -Graduate Secretary, and Uwe Oehler-Software Management). We are attempting to provide 1-2 months of overlapping employment for both replacement hirings. The anticipated retirements of our stockroom manager and financial clerk will be treated similarly. Technical services will require a greater degree of overlap; this will be important for our anticipated hirings of electronic technologists. Two part-time 'soft money' positions (glass-blower, machinist) are posing additional problems, which are very concerning to the Chemistry Faculty and are yet to be resolved.*

*The **Deans** did not specifically comment on this recommendation.*

9. **All graduate student offices should be separated from the labs where the experiments are performed. This is an occupational safety and health issue. The University should provide space and resources for implementation.**

The Director affirmed the commitment of both Waterloo and U of G to ensure separated office space for graduate students. At Waterloo, this is a medium-term commitment (two years, plus), while at U of G, the renovation of MacNaughton-West has afforded new communal offices for laboratory staff and graduate and undergraduate students will be provided space outside of the experimental/laboratory spaces.

*The **Interim Dean, U of G,** referred to the renovation in his response and the **Dean, Waterloo,** did not specifically comment on this recommendation.*

10. **We recommend that the Centre implement policies to reduce the average completion time for a M.Sc. degree to 2.0 years.**

The Director commented and agreed with the importance of this recommendation and further stated:

the (GWC)2 Coordinating Committee will further review the suggestion to reduce the number of graduate courses required to graduate, during its Fall 2017 meeting.

Update November 2017: U Waterloo advised that the course requirement is already at the minimum for Waterloo.

No further action on reducing course credits.

11. **Given the critical role of recruiting, we recommend that the Centre better coordinates its efforts to attract top quality Canadian graduate students in the Southern Ontario region and try some new recruiting initiatives (see also recommendation 12).**

The Director described the priority at both institutions and:

"additional funds were also agreed upon by both Chairs of the departments in 2016 to support new recruiting initiatives at the (GWC)2 level. We propose to identify key faculty members from both campuses to participate in a "Recruiting Task Force" whose mandate will be to design and implement such initiatives."

12. **The workload currently shouldered by the Administrative Assistant (Kim Rawson) will increase following implementation of our recommendations. As a result, we recommend that more resources are provided to make the Centre more effective in communicating to potential graduate students and between current students and faculty on both campuses. We understand, based on discussions during the wrap-up meeting, that at Waterloo the Faculty of Science is hiring a graduate recruitment staff member to assist all Departments in Science (Chemistry and GWC2B have access to this person), while at Guelph, 30% of a new Chemistry staff hire's responsibilities will be graduate support (to be filled summer 2017). The external reviewers note that if these two positions are filled then the Centre will have successfully implemented recommendation 12.**

<u>Clarification:</u> The new Guelph hire is, like the new hire at Waterloo, a resource shared among the Departments of the College. The 30% allocation is the fraction of this person's time that will be made available to assist in Graduate Student Recruitment.

The Director elaborated on workload and hiring constraints at both institutions. She further discussed implementation of process improvements and streamlining to assist decreasing the workload for support staff.

She further stated:

"The department is also exploring ways to streamline the Graduate Secretary's workflow through increased on-line reporting, bookings, and document generation; the University's OGPS is also moving in this direction. The Director is committed to bring the new Graduate Secretary at Guelph, the Administrative Coordinator (Graduate) at Waterloo and the (GWC)2 Administrative Assistant to the Director to work together as a team to streamline processes and facilitate recruiting." The full response can be found in the Director's Response.

Update November 2017: New graduate secretary (U of G) hired and all three staff met in Waterloo and now work in close collaboration and progress made on streamlining paperwork.

Implementation Plan – Recommendations selected for implementation

Recommendation	**Proposed Follow-up**	**Responsibility for Leading Follow-up***	**Timeline**
2. The persistent technical problems in link-rooms on both campuses must be fixed as soon as possible.	Task force struck and work underway at U of G and Waterloo	Department Chairs	Phase 1 (U of G) completed Summer 2017 Phase 2 (U of G) – Winter 2018 Updates ongoing at Waterloo Report on progress in one-year follow-up report
3. That the number of international graduate students at Guelph be increased significantly. While the current enrolment of international students is adequate at Waterloo, the possible change in funding policy we learned may reduce the intake of international graduate students in the coming years.	U of G is currently drafting an international plan, with the goal to increase international student numbers Waterloo's budget model is changing and while the intention is to retain international graduate students, there may be changes in the future. Both are dependent on MAESD policies related to international student enrolment and funding.	AVP(GS) Chairs, Director, Deans	Report to SCQA on progress of U of G international plan in Winter 2018. Report on progress in one-year follow-up report

4. That the Centre take the lead and work with the departments to develop new graduate course delivery modes in form of e-learning. The Universities should provide adequate resources to support teaching innovation.	Director to meet with Department Chairs in Winter 2018 to constitute faculty focus group. If recommendation moves forward, subsequent submission to governance committees in next curriculum change cycle (likely 2018-2019)	Director	Report on progress in one-year follow-up report Additional reporting and submission to governance dependent on course conversion
5. That the Centre develop and offer graduate courses that provide training on professionalism, communication and teaching skills, scientific writing, entrepreneurship, knowledge of patent application, and other soft skills.	Many of these exist currently. Create inventory of courses from both departments Expand opportunities within existing seminar and project courses	Director	Spring 2018
6. The Centre should raise its profile and brand awareness by enhancing its website and using social medium (such as Facebook and Twitter).	Plans for development of GWC2 webportal, facebook and other social media November 2017 update: Facebook and Twitter launched; website in Winter 2018; recruitment flyers produced for distribution in Ontario and beyond.	Director	Implemented (Facebook, Twitter) Work on website Fall 2017 and Winter 2018 2018.
7. Increase the effort in facilitating the social and academic integration of the students and faculty from both campuses and foster and facilitate co-supervision of grad students, co-application of research grants and collaboration in research	Established GWC2 student club to facilitate; Director and Chairs host Annual General Meeting each April	Director, Chairs	Report on progress in one-year follow-up report
9. All graduate student offices should be separated from the labs where the experiments are performed.	Waterloo continues to work toward this goal U of G – priority during the renovation of MacNaughton-West in Summer 2017/Fall 2018	Chairs, Deans	Report on progress in one-year follow-up report
10. That the Centre implement policies to reduce the average completion time for a M.Sc. degree to 2.0 years.	Adequate times to completion policies already exist. Reducing MSc average from 2.5 yrs is a priority for both campuses, though through central incentives rather than the creation of additional specific policy changes	Director, Chairs	Report on progress in one-year follow-up report

	Waterloo not able to reduce required credits, however times-to-completion should be reviewed where specific student concerns arise		
11. Given the critical role of recruiting, we recommend that the Centre better coordinates its efforts to attract top quality Canadian graduate students in the Southern Ontario region and try some new recruiting initiatives	Specific staffing positions committed by both Waterloo and U of G. Exploring possibility of task force with GWC2 faculty and students	Director, Chairs	Report on progress in one-year follow-up report
12. That more resources are provided to make the Centre more effective in communicating to potential graduate students and between current students and faculty on both campuses.	New hires to be shared with other departments in both Faculty of Science at Waterloo and CEPS at U of G. Director to facilitate interactions between three staff across Waterloo and U of G to streamline processes and facilitate recruiting	Chairs, Deans Director	Completed Fall 2017 Completed Fall 2017

*Chairs/Directors along with Deans are responsible for monitoring Implementation Plans. Responsibility for one-year follow up reports rest with Chairs/Directors, in consultation with the Dean and respective Associate Deans (Academic and/or Research and Graduate Studies). In some cases, there may be additional timelines and reporting to BUGS or BGS may also be required.

The following two recommendations (# 1 and #8) were not selected for implementation under the auspices of the Cyclical Program Review and the specific budgetary and hiring decisions have been referred back to the Departments and the Faculty of Science at Waterloo and the College of Engineering and Physical Sciences at U of G.

1. That the University of Guelph's administration follows through on the promise of faculty renewal in the Department of Chemistry, and that starting faculty are given competitive start ups so that they can readily initiate their research programs.	Specific faculty hiring is outside of the purview of the cyclical program review and thus this recommendation was referred to the Interim Dean and the Provost as part of the College's and the University's budgeting process.		N/A

8. That the departments develop and implement a plan for an effective staffing transition to accompany staff retirement so that key knowledge is transferred to staff, ensuring that training of graduate students and research are not affected.	Specific staff hiring is outside of the purview of the cyclical program review and thus this recommendation was referred to the Interim Dean and the Chairs as part of the College's budgeting process.		N/A

$(GWC)^2$ JOINT GRADUATE PROGRAM IN CHEMISTRY

University of Guelph / University of Waterloo

Academic Program Review Site Visit

Thursday, February 16th and Friday February 17th, 2017

Site Visit Team
Professor Andrew Bennet, Simon Fraser University Professor Yining Huang, University of Western Ontario Professor David Wolyn, Internal Review

Wednesday, February 15, 2017

Time	Details	Location
2:25 pm	Pick up A. Bennett at airport, F-I Auzanneau	
3-6 pm	Hotel Check in: Delta Hotel in Guelph, 50 Stone Rd W.	
6:50 pm	Meet in the Delta Hotel lobby.	
7:00 pm	Dinner with France-Isabelle Auzanneau, Liz Meiering, Paul Rowntree, Marcel Schlaf	

Thursday, February 16, 2017 – University of Guelph

Time	Details	Location
7:30 – 8:45 am	Breakfast, Patricia Tersigni, Director, Academic Programs and Policy; David Wolyn, Internal Facilitator	Hotel Restaurant
9:00 – 9:30 am	Dr. Sofie Lachapelle, Acting Associate VP Academic & Ben Bradshaw, Assistant Vice-President, Graduate Studies	UC 4th floor, Exec Suite
9:30 – 10:00 am	Dr. France-Isabelle Auzanneau, $(GWC)^2$ Director	SSC 1511
10:00 – 10:15 am	Break	
10:15 – 10:45 am	Dr. Paul Rowntree, Chair, Department of Chemistry	SSC 1511
10:45 – 11:15 am	Tour of MacNaughton Labs, Paul Rowntree	
11:15 – 12:00 pm	Pam Jacobs, Interim Head of Collections and Content & Paul St-Pierre, Collection and Content, Library	LIB 359
12:00 – 1:30 pm	Lunch meeting with students	SSC 1511
1:30 – 2:00 pm	Dr. Richard Zytner, Interim Dean of CPES; Dr. Leonid Brown, Associate Dean of Research and Graduate Studies	SSC 1511
2:00 – 2:30 pm	Meeting with Faculty – Organic, Biological, Theoretical	SSC 1511
2:30 – 3:00 pm	Meeting with Staff	SSC 1511
3:00 – 3:15 pm	Break	
3:15 – 4:00 pm	Meeting with Faculty – Inorganic, Physical, Analytical, Nanoscience	SSC 1511
4:00 – 5:00 pm	Dr. Marcel Schlaf, Graduate Coordinator & Tour, Summerlee Science Complex Labs	SSC 1511
5:00 pm	Dinner with Adrian Schwan, Peter Tremaine, Scott Hopkins; transportation to Delta Hotel in Guelph	

Friday, February 17, 2017 – University of Guelph

Time	Details	Location
8:00 am	Transportation to Waterloo	
9:00 – 10:00 am	Dr. Bill Power, Chair, Department of Chemistry; Tour of Chemistry Labs	C2-361
10:00 – 10:30 am	Meeting with Faculty – Physical, Nano, Polymer	C2-361
10:30 – 10:45 am	Break	
10:45 – 11:15 pm	Meeting with Faculty – Organic, Biochemistry, Theoretical	C2-361
11:15 – 12:30 pm	Lunch meeting with students	C2-361
12:30 – 1:00 pm	Dr. Bob Lemieux, Dean of Science	C2-361
1:00 – 1:30 pm	Dr. Rob Hill, Associate Dean, Graduate Studies	C2-361
1:30 – 2:00 pm	Meeting with Staff	C2-361
2:00 – 2:30 pm	Guy Guillemette, Former Graduate Coordinator & Former GWC Director	
2:30 – 2:45 pm	Break	C2-361
3:00 – 3:30 pm	Meeting with Faculty – Inorganic, Analytical	C2-361
3:30 – 4:00 pm	Meeting with $(GWC)^2$ Administration, Kim Rawson	C2-361
4:00 – 4:30 pm	Recap – David Wolyn, F-I. Auzanneau, Bill Power, Paul Rowntree, (Patricia Tersigni) via conference call	C2-278B
4:30 – 6:00 pm	Discussion of Report	C2-278B
	Check in Delta hotel in Waterloo, 110 Erb St W, evening to the reviewers' convenience.	

Saturday, February 18, 2017

Time	Details	Location
TBD	Airport shuttle pick up at Delta hotel in Waterloo for A. Bennett	

A Task Force on Graduate Student Supervision

Background

The University of Waterloo strives to create an environment in which graduate students are empowered and supported to achieve academic, professional and personal successes. The relationship that is perhaps the most important to realizing this objective is that between graduate students and their supervisors who play critical roles as mentors and advisors.

At the University of Waterloo's Senate meeting of 15 June, 2015, a proposal was brought forth to introduce University regulations on Approved Doctoral Dissertation Supervisor (ADDS) status. These regulations were ultimately approved and have been in place. After the approval of the ADDS regulation, the following motion was approved by Senate:

> *"That Senate recommend to the Provost that a task force be established to investigate the mechanisms by which the quality of graduate supervisions at both the masters and doctoral levels are assessed at the university."*

To our knowledge, no such task force was created. The meeting minutes reflect that significant discussion occurred with regard to the breadth of the mandate of this task force. To provide clarity on the scope of the task force's work, the following section establishes the questions to be addressed.

Purpose

Following the mandate from Senate, GSPA in partnership with the Associate Deans Graduate, propose the formation of a task force related to graduate student supervision. More specifically, the task force shall investigate the following questions:

1. What are the supervisory practices among the many faculty colleagues who are or have been recognized at Waterloo for excellence in graduate student supervision?
2. What data exist that provide evidence of the quality of graduate student supervision at the University of Waterloo? How are these data gathered? How are the results disseminated? Are there formal processes by which actions are taken in response to these data?
3. What are the best practices in terms of establishing, evaluating, and updating common expectations between supervisors and students? Is there evidence that those best practices are taking place at Waterloo?
4. What are the best practices in terms of receiving feedback from students on the performance and competencies of their graduate student supervisor(s)?
5. What are the best practices in terms of evaluating graduate student supervision? Is there evidence that these practices are taking place at Waterloo?
6. What are the best practices in terms of training for graduate student supervisors? What have been identified as contemporary challenges in graduate student supervision (e.g. mental health, accessibility, intellectual property, professional outcomes, etc.)? Do the University of Waterloo policies and procedures match these best practices?
7. Are there acknowledged indicators that have been used to identify supervisors whose competencies and performances warrant attention? Do sufficient policies and or practices exist to manage these situations at Waterloo?
8. What are the resources available to students, supervisors and administrators when conflicts arise? Are these resources sufficient?

Membership
Relevant stakeholders to this conversation include GSPA, Associate Deans Graduate, faculty members, and graduate students. To ensure adequate representation, the following membership is proposed:

1. Associate Vice President, Graduate Studies and Postdoctoral Affairs (Chair);
2. One Associate Dean, Graduate, representing a range of supervisory philosophies and approaches from across campus;
3. One Ph.D. candidate;
4. One Master's student;
5. One faculty member at large representing a Faculty other than the one represented by the Associate Dean;
6. One representative from the University's Office of Research as appointed by the Vice President, University Research;
7. One representative from the Centre for Teaching Excellence (CTE) as appointed by the Director;
8. One representative from Campus Wellness.

Resources to the committee should include Institutional Analysis and Planning (IAP) for data as well as various staff in GSPA. The expectation is also that the review of best practices will involve peer and aspirational peer universities.

Timelines and Consultation Schedules
The task force on graduate student supervision shall have its terms reviewed and approved by Senate Graduate and Research Council (SGRC) on behalf of Senate. Work shall begin immediately after approval.

The task force shall engage the following university stakeholders:

1. Faculty members who are recognized for excellence in graduate student supervision;
2. The Faculty Deans;
3. The Graduate Student Association;
4. Faculty Associate Deans Graduate;
5. Faculty Associate Deans Research;
6. The Faculty Association.

The task force shall complete its work not later than one year from its start date.

Deliverables
The results of the task force's work shall be a written report, endorsed by its membership, to be presented to the Vice President, Academic and Provost. The report shall generally address the eight themes of questions above, with specific recommendations to ensure continuing high-quality graduate supervision and mentorship and opportunities for supervisory development at Waterloo.

Needles Hall, 2022
Telephone: (519)888-4567, x 42263
Fax: (519) 746-2882
Email: cnkelly@uwaterloo.ca

Office of the Registrar

Memo

To:	Karen Jack, University Secretary
From:	Catherine Newell Kelly, University Registrar
cc:	Emily Schroeder, Assistant University Secretary, Administration
Date:	May 16, 2018
Re:	Revised fall convocation dates for Senate approval

FOR APPROVAL

CALENDAR DATES

Office of the Registrar

1. **Motion:** To approve the *revised* 2018-19 calendar dates as presented in Attachment #1.

   Rationale: Senate initially approved this set of 2018-19 calendar dates on January 15, 2018. Subsequently, the Registrar's Office has determined that an error was made in interpretation of Guideline #14 (p.3 of the attachment). Hence, the dates for Fall Convocation have been corrected to October 26, 27 (F,S) from the previous October 19, 20 (F, S).

THIS MOTION WAS APPROVED, AS PRESENTED, AT 22 MAY 2018 SENATE

University of Waterloo
SENATE GRADUATE & RESEARCH COUNCIL
and
SENATE UNDERGRADUATE COUNCIL
Report to Senate
15 January 2018

Senate Graduate & Research Council met on 11 December 2017 and Senate Undergraduate Council met on 19 December 2017 and both councils considered a proposal for the academic calendar dates for 2018-19. Both councils agreed to forward the following item to Senate for approval as part of the regular agenda.

Further details are available at:
https://uwaterloo.ca/secretariat-general-counsel/committees-and-councils/senate-undergraduate-council
https://uwaterloo.ca/secretariat-general-counsel/committees-and-councils/senate-graduate-research-council

FOR APPROVAL

CALENDAR DATES

Office of the Registrar

1. **Motion:** To approve the 2018-19 calendar dates as presented in Attachment #1.

   Rationale: The dates lay out major academic milestones throughout the year and provide guidance to units throughout the campus community as they conduct academic planning within their respective areas.

/kw

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

Charmaine Dean
Vice President,
University Research

Mario Coniglio
Associate Vice-President,
Academic

Academic Calendar Dates, 2018-2019

The following symbols and abbreviations are used throughout this table:

- (M) Monday, (T) Tuesday, (W) Wednesday, (R) Thursday, (F) Friday, (S) Saturday, (U) Sunday
- N/A – Not Applicable

	Fall 2018	**Winter 2019**	**Spring 2019**
Co-operative Work Term Begins *	Sept. 4 (T)	Jan. 7 (M)	May 6 (M)
Classes Begin	Sept. 6 (R)	Jan. 7 (M)	May 6 (M)
Holidays	Oct. 8 (M)	Feb. 18 (M) Apr. 19 (F)	May 20 (M) July 1 (M) Aug. 5 (M)
Mid-Term Study Break	Oct. 9, 10 (T, W)	Feb. 19-22 (T-F)	N/A
Convocation	Oct. 26, 27 (F,S)	N/A	June 11-15 (T-S)
Classes End	Dec. 3 (M)	Apr. 5 (F)	July 30 (T)
Make-up Day(s) for in-term holidays and Mid-Term Study Break	Oct. 11 (R) **Note: Tuesday schedule used to balance days;** Oct. 12 (F) **Note: Wednesday schedule used to balance days;** Dec. 3 (M) for Thanksgiving	N/A	July 2 (T) **Note: Monday schedule used to balance days;** July 29 (M) for Victoria Day; July 30 (T) for July 2
Pre-Examination Study Days	Dec. 4, 5 (T,W)	Apr. 8-9 (M,T)	July 31-Aug. 1 (W,R)
On-Campus Examinations Begin	Dec. 6 (R)	Apr. 10 (W)	Aug. 2 (F)
Online Class Examination Days	Dec. 7, 8 (F,S)	Apr. 12, 13 (F,S)	Aug. 2 (F) Aug. 10 (S)
On-Campus Examinations End	Dec. 21 (F)	Apr. 27 (S)	Aug. 16 (F)
Co-operative Work Term Ends *	Dec. 21 (F)	Apr. 26 (F)	Aug. 23 (F)
Teaching days	60	60	60
Pre-examination study days	2	2	2
Examination days	13+snow day	13+snow day	11

Guidelines for Determining Academic Calendar of Dates

The following are principles and guidelines either formally agreed upon by Senate or adopted as common practice in determining the dates for the academic year. Changes are highlighted.

1. That the practice of setting dates for each academic year continues to be an annual exercise.

2. That there be no fewer than 13 examination days in the Fall and Winter Terms, and 11 examination days in the Spring Term.

3. That there be no fewer than two pre-examination study days (excluding Saturday, Sunday, and holidays) between the end of classes and the beginning of examinations and the University will attempt to schedule more study days when possible (including Saturday, Sunday, and holidays). A clear rationale for using Saturday, Sunday, and holidays as pre-examination study days must be communicated to Senate at the time calendar dates are approved.

4. That there be no fewer than 60 teaching days in a term. A clear rationale for fewer than 60 teaching days must be communicated to Senate at the time calendar dates are approved.

5. That attention be given to balancing the number of meets in courses. Where an imbalance may occur because of holidays or the Mid-Tem Study Break, courses may use the class schedule for a different day in order to balance the number of meets across all courses.

6. That Fall Term classes in September begin on the Thursday following the Labour Day holiday as per the requirements of the three-year Fall Break pilot starting in Fall 2016.

7. That in the Fall Term no examinations be scheduled beyond December 22.

8. That the start date for Winter Term be set as follows:
    - If January 1st is a Sunday, then start of classes is Wednesday, January 4th.
    - If January 1st is a Monday, then start of classes is Wednesday, January 3rd.
    - If January 1st is a Tuesday, then start of classes is Monday, January 7th.
    - If January 1st is a Wednesday, then start of classes is Monday, January 6th.
    - If January 1st is a Thursday, then start of classes is Monday, January 5th.
    - If January 1st is a Friday, then start of classes is Tuesday, January 5th.
    - If January 1st is a Saturday, then start of classes is Wednesday, January 5th.

9. That the 5-day Winter Reading Week occurs in all Faculties and must begin on the third Monday in February in keeping with an informal agreement with Wilfrid Laurier University and University of Guelph.

10. The start date for Spring Term is normally May 1, 2, or 3 when these dates fall on a Monday, Tuesday, or Wednesday. Otherwise the start date is the first Monday following May 3.

11. In calculating teaching days in a term, Saturdays, Sundays, and statutory or University holidays are excluded. An exception may be made to have a make-up class on Saturday in the Fall term when there is a late Labour Day.

12. In calculating examination days, Saturdays which fall within the period are included, whereas Sundays and statutory or University holidays are excluded. One exception to the above, approved by Undergraduate Operations Committee is that normally examinations will not be scheduled on the Saturday which follows Good Friday or the Saturday of the Civic Day weekend when that day falls within the examination schedule.

13. Grades due dates for on-campus courses are normally scheduled seven days from the date of the final examination. Grades for courses without a scheduled final examination are normally due 14 days after the start of examinations. Grades for Online (Centre for Extended Learning) courses are due on the last date of the grades submission period.

14. That Fall Convocation be the Friday and Saturday that fall in the third full week of October.

15. That Spring Convocation be the Tuesday to Saturday in the second full week in June.

16. That Online Class Examination Days in each term be the first Friday and Saturday after the exam period starts.

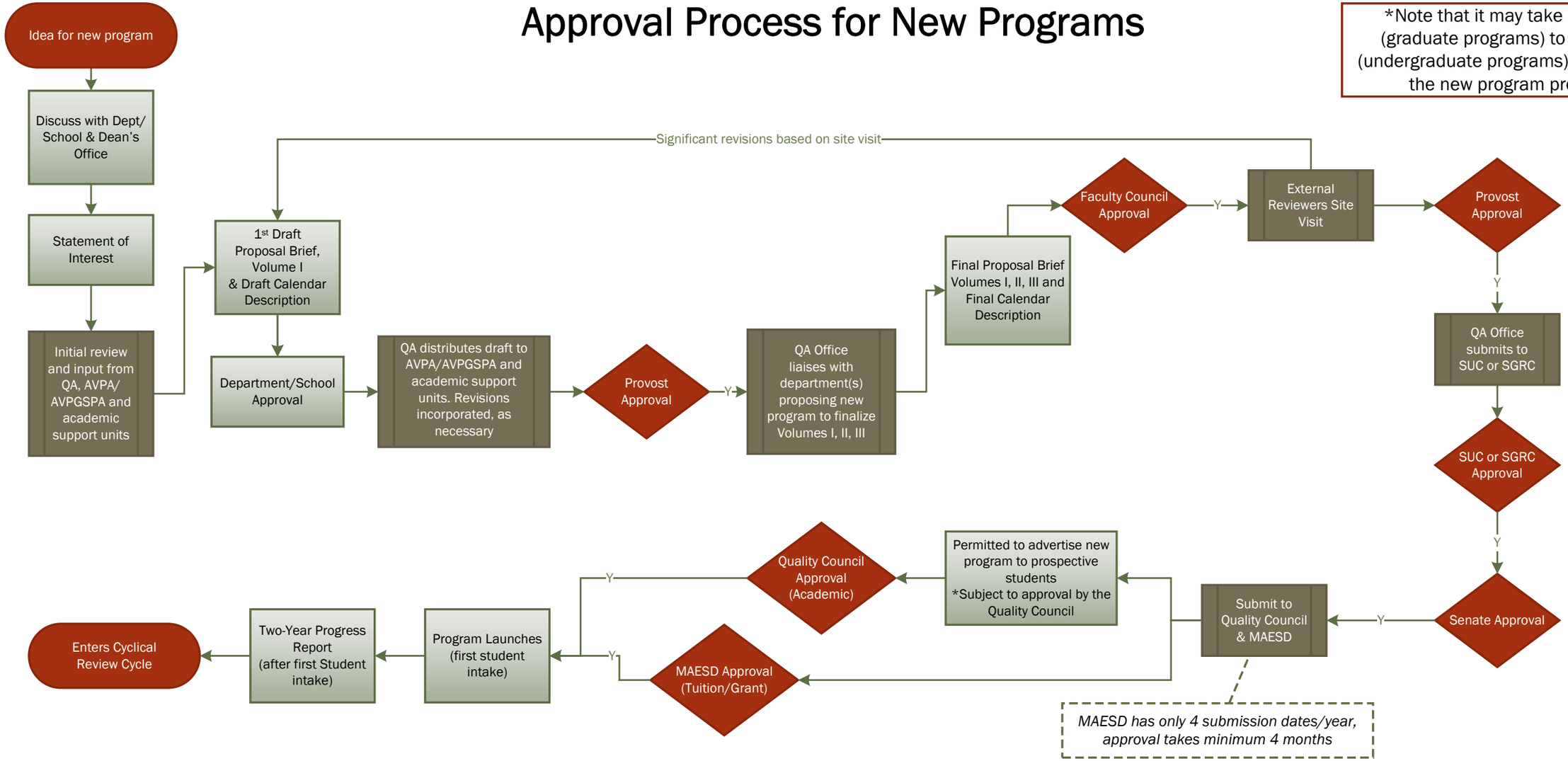
17. Co-op work terms are expected to be 16 week in duration. Actual start and end dates may vary depending on employer or student requirements in consultation with CECA.

18. That there be a two-day Fall Study Break following Thanksgiving Monday by starting classes on Thursday of Orientation week. This is a three-year pilot starting in Fall 2016.

Prepared by:
C. Newell Kelly, Registrar
December 11, 2017

Approval Process for New Programs

*Note that it may take 1.5 years (graduate programs) to 2.5 years (undergraduate programs) to complete the new program process.



Responsibility of new program proponents

Responsibility of QA Office or IAP

Key Decision Point

Y = Yes **NOTE: If a key decision point is not Yes, the program may be required to move back one or more steps until all issues are adequately addressed

Acronym Definitions:

AVPA = Associate Vice-President, Academic
AVPGSPA = Associate Vice-President, Graduate Studies and Postdoctoral Affairs
MAESD = Ministry of Advanced Education and Skills Development
QA = Quality Assurance Office
SGRC = Senate Graduate and Research Council
SUC = Senate Undergraduate Council

Academic support units, as required:

Centre for Extended Learning
Centre for Teaching Excellence
Co-operative Education
Graduate Studies and Postdoctoral Affairs
Institutional Analysis & Planning
Library
Registrar's Office
Space Planning
Waterloo Professional Development Program

WATERLOO
GRADUATE STUDIES

MEMORANDUM

May 31, 2018

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

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

RE: **Agenda items for Senate Graduate & Research Council – June 2018**

Items for Approval

a) Ginny Dybenko Experiential Learning Award – internal endowment fund

Awards of varying size are available to students registered in the Bachelor of Global Business and Digital Arts or Master of Digitial Experience Innovation program to assist with costs (not covered by the student's tuition fees) associated with extracurricular activity that will enhance the education in their program. Examples of acceptable extracurricular activities include a hackathon, design camp, a non-academic industry-led conference, or a field trip. Selection will be based on a written demonstration of how the activity will benefit the student's knowledge acquisition or professional development, or enrich their in-class learning. Interested students must apply by completing an application form and submit it to the Stratford School Academic Administrative Assistant. Applications will be accepted throughout the year. The value of each award will vary depending on the budget requirements for the experience and the availability of funds.

b) JD Leslie Graduate Award – endowment

An award of at least $1,000 will be awarded annually to a full-time or part-time graduate student who has completed their degree requirements from a fully online graduate degree program. Selection will be based on academic achievement (minimum 80% overall average) and demonstration of the benefits of lifelong learning. The Centre for Extended Learning (CEL) will identify candidates with the highest standing in each program and solicit input from graduate program coordinators and/or faculty members teaching in that program. Short-listed candidates will be invited to submit a short statement (250-300 words) describing how they have benefitted from their online program. CEL will make a final selection of recipient(s) each spring.

This award is made possible through a gift of $50,000 from Dr. Josephine Naidoo, widow and Dr. Christina Leslei, Dr. Ken Leslie, and Dr. Michele Leslie, children, in recognition of the contributions of their late husband and father James D. Leslie to the foundation of Waterloo's Distance Education program.

c) Engineering Excellence Master's and Doctoral Fellowships – operating

Description forthcoming

d) Faculty of Engineering Graduate Dean's Entrance Awards – operating

Description forthcoming

Items for Information

e) Renison Town and Gown Society Award – endowment account from Renison

Originally established in 2013 to offer two awards valued at $500 each to encourage students embarking upon their degrees in either Social Development Studies or the Bachelor or Master's of Social Work program. In order to be considered for the award, students needed to have been registered part-time. The award is being updated as follows:

- 3 awards of $1,000 each will be available to full-time students
- 2 awards of $500 each will be available to part-time students
- The number and value of awards may vary from year to year

f) Flora T.T. Ng and Garry L. Rempel Doctoral Scholarship in Sustainable Development – endowment

Previously approved at SG&RC in February 2015, the award is being amended to reflect changes to the award selection criteria as follows:

- It will be open to students in the Department of Chemical Engineering only (previously Faculty-wide).
- Selection will be based on studies that have an emphasis on research areas relating to energy and/or environment (chemical processes research has been removed).
- Addition of matching to a QEII-GSST award alongside the OGS.

NB: Due to a late submission, item (c) and (d) as shown above where inserted into this document by Senate Graduate and Resarch Council secretary, Kathy Winter, in conjunction with Heidi Mussar. Once descriptions are finalized for those items, this attachment will be updated and will replace the provided herein. *KW 4 June 2018*