University of Waterloo
SENATE
Notice of Meeting

Date: Tuesday 19 May 2020
Time: 3:30 p.m.
Place: Videoconference

	OPEN SESSION	Action
3:30	**Consent Agenda** **Motion:** To approve or receive for information by consent items 1-7 below.	
	1. Minutes of the 20 April 2020 Meeting	Decision
	2. Reports from Committees and Councils	
	a. Executive Committee	Information
	b. Graduate & Research Council	Decision/Information
	3. Report of the President	
	a. Recognition and Commendation	Information
	4. Report of the Vice-President, Academic & Provost	
	a. Convocation Update	Information
	5. Reports from the Faculties	Information
	6. Committee Appointments	Decision
	7. Department Name Change – WatCACE	Decision
	Regular Agenda	
3:35	8. Business Arising from the Minutes	
	9. Reports from Committees and Councils	
3:40	a. Graduate & Research Council	Decision
3:50	10. Outlining Discussions and Decisions Regarding COVID-19 and the Fall Term	Information
4:00	11. Report of the President	Information
4:10	12. Q&A Period with the President	Information
	13. Report of the Vice-President, Academic & Provost	
4:20	a. Roster of Graduands	Decision
4:25	b. Course Evaluation Project Team Update	Discussion/Decision
4:35	c. Complementary Teaching Assessment Processes Update	Discussion/Decision
4:45	14. Report of the Vice-President, Research & International	Information
4:50	15. Other Business	
	CONFIDENTIAL SESSION	
4:55	16. Minutes of the 20 April 2020 Meeting	Decision
5:00	17. Minutes of the 6 May 2020 Extraordinary Meeting	Decision

	CONFIDENTIAL SESSION	**Action**
5:05	18. Business Arising from the Minutes	
5:10	19. Other Business	

12 May 2020

KJJ/ees

Karen Jack
University Secretary
Secretary to Senate

University of Waterloo
SENATE
Minutes of the Monday 20 April 2020 Meeting

Present: Sheila Ager, Jean Andrey, Michael Balogh, Sandra Banks, Chris Bauch, Michael Beauchemin, Kankar Bhattacharya, Anne Bordeleau, Carmen Bruni, Kofi Campbell, Claudio Canizares, Jeff Casello, David Clausi, Tara Collington, Joan Coutu, Eric Croiset, Richard Culham, Alexandria De Sousa, Shannon Dea, Peter Deadman, Charmaine Dean, David DeVidi, Mathieu Doucet, Fraser Easton, Lynette Eulette, Paul Fieguth, Wendy Fletcher, George Freeman, Mark Giesbrecht, Rob Gorbet, Julia Goyal, David Ha, John Haddock, Feridun Hamdullahpur (chair), Craig Hardiman, Kevin Hare, Dennis Huber, Natalie Hutchings, Karen Jack (secretary), Martin Karsten, Sabrina Khandakar, Veronica Kitchen, Scott Kline, Alex Lee, Robert Lemieux, Lili Liu, Kesen Ma, Ellen MacEachen, Teferi Mergo, Ian Milligan, Katie Misener, Zoran Miskovic, Barb Moffatt, Rick Myers, Cathy Newell Kelly, Beth Namachchivaya, Erin O'Connell, Troy Osborne, David Perrin, William Power, William Pristanski, Neil Randall, James Rush, Max Salman, Naima Samuel, Mark Seasons, Marcus Shantz, Joanne Shoveller, Siva Sivoththaman, Jason Small, Richard Staines, Susan Tighe, Hamid Tizhoosh, Bryan Tolson, Bruno Tremblay, Cristina Vanin, Maya Venters, Johanna Wandel, Ross Willard, Nancy Worth, En-Hui Yang

Guests: Joe Allen, Bruce Campbell, Aldo Caputo, Priscila Carrara, Yufei Du, Donna Ellis, Anne Galang, Mike Grivicic, Candace Harrington, Gina Hickman, Melissa Holst, Igor Ivkovic, Ryan Jacobs, Ross Johnston, Andrea Kelman, Jennifer Kieffer, Meagan Lai, Nick Manning, Kelly McManus, Norah McRae, Christine McWebb, Bessma Momani, Diana Parry, Alice Raynard, Chris Read, Rachel Reist, Emily Schroeder, Daniela Seskar-Hencic, Greg Smith, Allan Starr, Brandon Sweet, Sean Thomas, Marilyn Thompson, Alyssa Voigt, Rebecca Wickens, Stan Woo

Absent: Dominica Barton*, Lisa Bauer-Leahy, Ashreena Bhangu, Fred Chereshski*, Cindy Forbes, Shikha Gandhi*, Kelly Grindrod, Linda Ogechi Iheme, Vivek Unnithan*, June Xu

*regrets

OPEN SESSION

CHAIR'S REMARKS

The Chair thanked departing members for their service: Michael Balogh, Chris Bauch, Michael Beauchemin, Ashreena Bhangu, Claudio Canizares, Fred Chereshski, Tara Collington, Alexandria De Sousa, Shannon Dea, Mathieu Doucet, Shikha Gandhi, Craig Hardiman, Alex Lee, Katie Misener, Linda Ogechi Iheme, William Pristanski, Mark Seasons, Jason Small, Hamid Tizhoosh, Vivek Unnithan, and Maya Venters.

With regard to the agenda, the Chair notified senators that there is no item 15, Minutes of the 30 March 2020 Meeting, as there was no confidential session held at that meeting.

Consent Agenda

Senate heard a motion to approve or receive for information the items on the consent agenda.

Andrey and DeVidi.

1. **MINUTES OF THE 30 MARCH 2020 MEETING**
   Senate approved the minutes of the meeting.

2. **REPORTS FROM COMMITTEES AND COUNCILS**
   Graduate & Research Council. Senate received the report for information.

   Undergraduate Council. Senate received the report for information.

3. REPORT OF THE PRESIDENT
Recognition and Commendation. Senate received the report for information.

4. REPORT OF THE VICE-PRESIDENT, ACADEMIC & PROVOST
University Professor Designation. Senate received the report for information.

5. REPORTS FROM THE FACULTIES
Senate received the reports for information.

The question was called and the motion carried unanimously.

Regular Agenda

6. BUSINESS ARISING FROM THE MINUTES
There was no business arising from the minutes.

7. REPORTS FROM COMMITTEES AND COUNCILS
Executive Committee. Senate heard that the deans, the chair of the heads of the affiliated and federated institutions of Waterloo, and the presidents of the Waterloo Undergraduate Student Association and Graduate Student Association have recommended names of nominees as provided on the list of nominees.

Senate heard a motion to acclaim the membership of Senate committees and councils and the Board of Governors as provided on the list of nominees.

The Chair asked for further nominations from the floor. Salman put his name forward as the graduate student representative on the Nominating Committee for Honorary Degrees.

The Chair notified senators that there would be an electronic election subsequent to the meeting for positions with more recommendations than required: graduate student representative on the Nominating Committee for Honorary Degrees, graduate student representative on the Board of Governors, and faculty representatives on the Board of Governors.

Hare and Casello. Carried unanimously.

Senate heard a motion to delegate approval to the Executive Committee any vacancies which still exist.

Newell Kelly and Hare. Carried unanimously.

Graduate & Research Council. Senate heard the following motions:

Program Change, Faculty of Engineering
Senate heard a motion to approve one new specialization within the Master of Engineering (MEng) in Chemical Engineering, effective 1 May 2020, as presented in Attachment 1.

Casello and Culham. Carried unanimously.

Senate heard the following two motions together:

Addition of Program, Faculty of Mathematics
Senate heard a motion to approve the addition of a PhD in Pure Mathematics – Quantum Information, effective 1 May 2020, as presented in Attachment 2.

Addition of Program, Faculty of Mathematics
Senate heard a motion to approve the addition of a MMath in Pure Mathematics – Quantum Information, effective 1 May 2020, as presented in Attachment 3.

Casello and Hare. Carried unanimously.

Graduate Studies Academic Calendar Changes
Senate heard a motion to approve Graduate Studies' Academic Calendar changes (under Policies and Guidelines) pertaining to University responsibilities regarding supervisory relationships, effective 1 May 2020, as presented in Attachment 4.

Casello and Hare.

In response to a question, Casello clarified that departments ought to use their discretion with respect to whether to count the current term for the two terms of funding for a student who has lost their supervisor.

The question was called and carried unanimously.

University Appointments Review Committee. Due to a technical issue, this item was deferred to later in the meeting.

8. REPORT OF THE PRESIDENT AND Q&A PERIOD

The President provided an overview of recent activities, issues, and priorities, including: adjusting to changes; recent accomplishments; some COVID-19 research occurring on campus; conversations with and information from government; the spring term; international students; priorities moving forward; the fall semester; the foundation of an internal think tank; other sources of information and discussion platforms; a recent CEO roundtable; what is being worked on immediately.

[Secretary's note: At this point in the meeting, there were several issues relating to its operation.]

A motion to adjourn the meeting in light of the challenges was moved by Freeman and seconded by Dea.

In discussion: some of the difficulties being experienced by many Senators; advice that many were not encountering the challenges; belief by some that business has been conducted properly, and opposing viewpoints by others; agreement that the delays being experienced are problematic and mean that time must be taken today to ensure proper governance; the authority of Senate to decide whether to continue.

The question was called, and time was provided to ensure that all members had the opportunity to vote. Following several minutes and the secretary's confirmation of quorum, the motion was defeated with 13 votes for, 48 votes against, and 6 abstentions.

The meeting continued. In response to questions, the president spoke to: the many factors involved with decisions regarding synchronous and asynchronous course offerings; Senate's role regarding decision making with regard to the spring term, and the coming decision about the fall term; the potential for special meetings of Senate as necessary; some synchronous elements of a course may

be scheduled, but entirely synchronous courses are discouraged; some details regarding the life long learning initiative; advice to faculty to provide feedback re: how things are working to graduate and undergraduate associate deans.

University Appointments Review Committee. Senate received the report for information.

Gerry Schneider, chair of the committee, spoke to his presentation, highlighting data about the proposals reviewed by the committee in 2018-19.

9. REPORT OF THE VICE-PRESIDENT, ACADEMIC & PROVOST
There was no report.

11. REPORT OF THE VICE-PRESIDENT, RESEARCH & INTERNATIONAL
Senate received the reports for information.

12. OTHER BUSINESS
There was no other business.

Senate convened in confidential session.

8 May 2020

Karen Jack
University Secretary

CONFIDENTIAL SESSION

The confidential minutes have been removed.

University of Waterloo
SENATE EXECUTIVE COMMITTEE
Report to Senate
19 May 2020

FOR INFORMATION

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Elections to Senate Committees and Councils

Senate Executive Committee met on 4 May 2020 and approved the new and revised membership recommendations for Senate committees and councils received after the 20 April 2020 Senate meeting. This delegation of authority was approved at the 20 April 2020 meeting of Senate.

New/change = green text
Vacancy to be filled = red text
Yellow highlight = declared successful candidates at close of Senate election on 29 April 2020

Feridun Hamdullahpur
Chair

LIST OF NOMINEES

- **Senate Executive Committee**
  Terms 1 May 2020 to 30 April 2021

  Faculty – one from each Faculty
  Applied Health Sciences
  Richard Staines
  Arts
  Joan Coutu
  Engineering
  George Freeman
  Environment
  ~~Erin O'Connell~~ **Johanna Wandel**
  Mathematics
  Christiane Lemieux
  Science
  William Power

  Faculty from Affiliated and Federated Institutions of Waterloo – one
  Kofi Campbell

  Undergraduate Students – two
  Samuel Rubin
  Abbie Simpson

  Graduate Student – one
  Naima Samuel

  Alumni – one
  Vacancy

- **Senate Finance Committee**
  Terms 1 May 2020 to 30 April 2021

  Faculty – one from each Faculty
  Applied Health Sciences
  Ellen MacEachen
  Arts
  David Ha
  Engineering
  Anne Bordeleau
  Environment
  Clarence Woudsma
  Mathematics
  Martin Karsten
  Science
  Stanley Woo

- **Senate Finance Committee continued**

  Faculty from Affiliated and Federated Institutions of Waterloo – one
  Cristina Vanin

  Undergraduate Students – two
  Sabrina Khandakar
  June Xu

  Graduate Student – one
  Vacancy

  Alumni – one
  Vacancy

- **Senate Long Range Planning Committee**
  Terms 1 May 2020 to 30 April 2021

  Faculty – one from each Faculty
  Applied Health Sciences
  Samantha Meyer
  Arts
  Neil Randall
  Engineering
  Kankar Bhattacharya
  Environment
  Neil Craik
  Mathematics
  Zoran Miskovic
  Science
  Barbara Moffatt

  Faculty from Affiliated and Federated Institutions of Waterloo – one
  Teferi Mergo

  Undergraduate Students – two
  Emma Schuster
  Samer Zu'Mot

  Graduate Student – one
  Twesh Upadhyaya

  Alumni – one
  Vacancy

- **Senate Nominating Committee for Honorary Degrees**
  Terms 1 May 2020 to 30 April 2021

  Faculty – one from each Faculty
  Applied Health Sciences
  Samantha Meyer
  Arts
  Ian Milligan
  Engineering
  En-Hui Yang
  Environment
  ~~Johanna Wandel~~ **Peter Deadman**
  Mathematics
  Achim Kempf
  Science
  Graham Murphy

  Faculty from Affiliated and Federated Institutions of Waterloo – one
  Troy Osborne

  Undergraduate Students – two
  Samuel Rubin
  Samer Zu'Mot

  Graduate Student – one
  Max Salman
  Twesh Upadhyaya

  Alumni – one
  Vacancy

- **Senate Graduate & Research Council**
  Terms 1 May 2020 to 30 April 2022

  Graduate Student – one from each Faculty
  Environment
  David Billedeau

- **Senate Undergraduate Council**
  Terms 1 May 2020 to 30 April 2022

  Faculty – one from each Faculty
  Engineering
  Bruce MacVicar
  Environment
  Jeremy Pittman

- **Senate Undergraduate Council continued**
  Terms 1 May 2020 to 30 April 2022

  Faculty – one from each Faculty
  Mathematics
  Francis Poulin (elected by Faculty election)
  Science
  Vivian Dayeh

  Faculty from the Federated University – one
  Veronica Austen

- **University Committee on Student Appeals**
  Terms 1 May 2020 to 30 April 2022

  Faculty – one from each Faculty
  Arts
  Duane Kennedy
  Engineering
  Andrew Heunis

  Staff Member
  Stephen Cook

  Graduate Student – one
  Environment
  Vacancy

  Terms 1 May 2020 to 30 April 2021

  Undergraduate Students – one from each Faculty
  Applied Health Sciences
  Kaitlin McCarter
  Arts
  Taijah O'Meally
  Engineering
  Maggie Brewster
  Science
  Zahra Hasan

- **Board of Governors**

  Faculty – four
  - Three positions – terms 1 May 2020 to 30 April 2022
  - One position – terms 1 May 2020 to 30 April 2021

  David Clausi
  Paul Fieguth
  Achim Kempf
  Ian Milligan (1 May 2020 to 30 April 2021)
  Daniel O'Connor
  Paul Ward
  Stanley Woo
  En-Hui Yang

  Undergraduate Student – two
  Term 1 May 2020 to 30 April 2022
  Abbie Simpson
  Vacancy

  Graduate Student – one
  Term 1 May 2020 to 30 April 2022
  Julia Goyal
  Twesh Upadhyaya

University of Waterloo
SENATE GRADUATE & RESEARCH COUNCIL
Report to Senate
19 May 2020

Senate Graduate & Research Council met on 13 April 2020 and agreed to forward the following items to Senate for approval or information as part of the consent agenda.

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

FOR APPROVAL

GRADUATE STUDIES ACADEMIC CALENDAR CHANGES

Motion: To approve the following Graduate Studies Academic Calendar changes, effective 1 May 2020, at Attachment 1.

1) Removing the Michigan English Language Assessment Battery (MELAB) as an accepted examination for the English language proficiency (ELP) requirements.
   Rationale: The MELAB is no longer being offered. After July 2020, MELAB results will no longer be accepted to meet English language requirements and as such, the MELAB is being removed from the ELP page in the GSAC.

2) Editorial update to the parental leave requirements.
   Rationale: A minor editorial update is being proposed to the parental leave requirements to provide better clarity.

FOR INFORMATION

CURRICULAR SUBMISSIONS

On behalf of Senate, council approved new courses, course revisions, and minor program revisions for the Faculty of Arts (global governance, English, peace and conflict studies, accounting and finance) and Environment (geography and environmental management, global governance, planning).

RENEWAL OF CENTRES AND INSTITUTES

On behalf of Senate, council approved the renewal, for a 5-year term, of the Waterloo Institute for Hellenistic Studies, as presented.

/kw

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

Charmaine Dean
Vice President, Research & International

UNIVERSITY OF WATERLOO

Graduate Studies and Postdoctoral Affairs
Waterloo, Ontario, Canada N2L 3G1
uwaterloo.ca/graduate-studies | gsoffice@uwaterloo.ca

April 6, 2020

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

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

RE: Graduate Studies Academic Calendar changes

Items for information/approval:

1) Removing the Michigan English Language Assessment Battery (MELAB) as an accepted examination for the English language proficiency (ELP) requirements.
2) Editorial update to the parental leave requirements.

1) MELAB

Description and rationale for proposed changes:

The MELAB is no longer being offered. After July 2020, we will no longer accept MELAB results to meet our English language requirements and as such, the MELAB is being removed from the ELP page in the GSAC.

Proposed effective date: Term: Spring Year: 2020

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

https://uwaterloo.ca/graduate-studies-academic-calendar/general-information-and-regulations/english-language-proficiency

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
English language proficiency The official language of instruction at the University of Waterloo is English. It is the responsibility of the University to ensure that its graduate students have sufficient English language skills to be successful with the demands of the academic environment. You are exempt from submitting an English language proficiency examination score if any one of the following conditions is true: • You have completed three or more years of post-secondary education or completed a graduate degree at a Canadian institution or university	English language proficiency The official language of instruction at the University of Waterloo is English. It is the responsibility of the University to ensure that its graduate students have sufficient English language skills to be successful with the demands of the academic environment. You are exempt from submitting an English language proficiency examination score if any one of the following conditions is true: • You have completed three or more years of post-secondary education or completed a graduate degree at a Canadian institution or university

Current Graduate Studies Academic Calendar content:

- You have completed three or more years of post-secondary education or completed a graduate degree at a university at which English was the primary language of instruction, as indicated on our ELP exemption list*
- You have been employed for at least three years in a position in which English was the language of business in a country listed on our ELP exemption list*

*Information on approved ELP exempted countries and institutions is available on the ~~Discover~~ Graduate Studies website.
Tests must have been taken within the last 24 months at the time the application is submitted. Tests that do not appear on this chart are not accepted for admission consideration. The University of Waterloo reserves the right to request an English language test result from any applicant.

Graduate Studies accepted examinations and required scores

Table of Graduate Studies accepted examinations and required scores					
Internet-based TOEFL (iBT)	IELTS (Academic)	~~MELAB~~	CAEL	PTE (Academic)	EFAS
90; writing 25; speaking 25	7.0; writing 6.5; speaking 6.5	~~85; 80 per section; speaking 3~~	70; 60 per band; 70 writing; 70 speaking	63; writing 65; speaking 65	75% overall in level 400 with at least 75% in writing, oral and academic skills

Graduate Studies accepted examinations and

Proposed Graduate Studies Academic Calendar content:

- You have completed three or more years of post-secondary education or completed a graduate degree at a university at which English was the primary language of instruction, as indicated on our ELP exemption list*
- You have been employed for at least three years in a position in which English was the language of business in a country listed on our ELP exemption list*

*Information on approved ELP exempted countries and institutions is available on the Graduate Studies and Postdoctoral Affairs website.
Tests must have been taken within the last 24 months at the time the application is submitted. Tests that do not appear on this chart are not accepted for admission consideration. The University of Waterloo reserves the right to request an English language test result from any applicant.

Graduate Studies accepted examinations and required scores

Internet-based TOEFL (iBT)	IELTS (Academic)	CAEL	PTE (Academic)	EFAS
90; writing 25; speaking 25	7.0; writing 6.5; speaking 6.5	70; 60 per band; 70 writing; 70 speaking	63; writing 65; speaking 65	75% overall in level 400 with at least 75% in writing, oral and academic skills

Graduate Studies accepted examinations

Current Graduate Studies Academic Calendar content:

alternative minimum scores

Departments accepting the alternative minimum scores are: Chemical Engineering; Civil and Environmental Engineering; Electrical and Computer Engineering; Mechanical and Mechatronics Engineering; and Systems Design Engineering.

Table of Graduate Studies accepted examinations and alternative minimum scores

Internet-based TOEFL (iBT)	IELTS (Academic)	~~MELAB~~	CAEL	PTE (Academic)	EFAS
80; writing 22; speaking 20; reading 20; listening 18	6.5; writing 6.0; speaking 6.0	~~80; 78 per section; speaking 3~~	60; 60 per band	60; writing 60; speaking 60	75% overall in level 300 with at least 75% in writing, oral and academic skills or 70% in level 400 with at least 70% in writing, oral and academic skills

Graduate Studies accepted examinations and alternative higher scores

Proposed Graduate Studies Academic Calendar content:

and alternative minimum scores

Departments accepting the alternative minimum scores are: Chemical Engineering; Civil and Environmental Engineering; Electrical and Computer Engineering; Mechanical and Mechatronics Engineering; and Systems Design Engineering.

Internet-based TOEFL (iBT)	IELTS (Academic)	CAEL	PTE (Academic)	EFAS
80; writing 22; speaking 20; reading 20; listening 18	6.5; writing 6.0; speaking 6.0	60; 60 per band	60; writing 60; speaking 60	75% overall in level 300 with at least 75% in writing, oral and academic skills or 70% in level 400 with at least 70% in writing, oral and academic skills

Graduate Studies accepted examinations and alternative higher scores

Departments/Schools/programs requiring higher scores are:

- Faculty of Applied Health Sciences: Public Health and Health Systems; Recreation and Leisure Studies

<table>
<tr><th>Current Graduate Studies Academic Calendar content:</th><th>Proposed Graduate Studies Academic Calendar content:</th></tr>
<tr><td>Departments/Schools/programs requiring higher scores are: Accounting and Finance; Anthropology; Architecture; Classical Studies; Climate Change; Computer Science; Data Science and Artificial Intelligence; Digital Experience Innovation; Economic Development and Innovation; English Language and Literature; Environment and Business; Environment, Resources and Sustainability; Fine Arts; Geography and Environmental Management; Global Governance; History; Philosophy; Planning; Public Health and Health Systems; Public Service; Quantitative Finance; Recreation and Leisure Studies; Religious Studies; Sociology and Legal Studies; Sustainability Management.
<table>
<tr><td colspan="6">Table of Graduate Studies accepted examinations and alternative higher scores</td></tr>
<tr><td>Internet-based TOEFL (iBT)</td><td>IELTS (Academic)</td><td>~~MELAB~~</td><td>CAEL</td><td>PTE (Academic)</td><td>EFAS</td></tr>
<tr><td>100; writing 26; speaking 26</td><td>7.5; writing 7.0; speaking 7.0</td><td>~~90; 80 per section; speaking 3~~</td><td>70; 60 per band; 70 writing; 70 speaking</td><td>68; writing 65; speaking 65</td><td>80% overall in level 400 with at least 75% in writing, oral and academic skills</td></tr>
</table>
</td><td>

Faculty of Arts: Accounting and Finance; Anthropology; Classical Studies; Digital Experience Innovation; English Language and Literature; Fine Arts; History; Philosophy; Public Service; Religious Studies; Sociology and Legal Studies
Faculty of Engineering: Architecture
Faculty of Environment: Climate Change; Economic Development and Innovation; Environment and Business; Environment, Resources and Sustainability; Geography and Environmental Management; Global Governance; Planning; Sustainability Management
Faculty of Mathematics: Computer Science; Data Science and Artificial Intelligence; Quantitative Finance

<table>
<tr><td>Internet-based TOEFL (iBT)</td><td>IELTS (Academic)</td><td>CAEL</td><td>PTE (Academic)</td><td>EFAS</td></tr>
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</table>
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2) Parental leave

Description and rationale for proposed changes:

A minor editorial update is being proposed to the parental leave requirements to provide better clarity.

Proposed effective date: Term: Spring Year: 2020

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

https://uwaterloo.ca/graduate-studies-academic-calendar/general-information-and-regulations/enrolment-and-time-limits#Parental%20leave

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
Parental leave Students who become parents through birth or adoption may take up to 5 terms of uninterrupted leave during the first ~~year~~ of birth or adoption. If both parents are University of Waterloo students, the leave can be split between the two. Both University of Waterloo parents cannot be on parental leave at the same time; however, one partner can be on parental leave while the other partner is on birth leave. Parental leaves must coincide with the start and end dates of academic terms. Students planning on going on parental leave must request a change of their enrolment status to Inactive by completing the Change of enrolment status form. Students on parental leave are not expected to study or conduct research while on leave, and thus should not expect access to their supervisor. Students who wish to apply for a University of Waterloo parental leave bursary should complete the Graduate Studies Parental Leave Bursary application.	**Parental leave** Students who become parents through birth or adoption may take up to 5 terms of interrupted leave during the first 20 months of birth or adoption. If both parents are University of Waterloo students, the leave can be split between the two. Both University of Waterloo parents cannot be on parental leave at the same time; however, one partner can be on parental leave while the other partner is on birth leave. Parental leaves must coincide with the start and end dates of academic terms. Students planning on going on parental leave must request a change of their enrolment status to Inactive by completing the Change of enrolment status form. Students on parental leave are not expected to study or conduct research while on leave, and thus should not expect access to their supervisor. Students who wish to apply for a University of Waterloo parental leave bursary should complete the Graduate Studies Parental Leave Bursary application.

University of Waterloo
SENATE
Report of the President
20 April 2020

FOR INFORMATION

Recognition and Commendation

Athetics & Recreation celebrated the achievements of the University's top athletes virtually this year. The top awards of the 2019-20 season went to **Taytum Clairmont** of women's hockey and **Tyler Ternowski** of football. Clairmont was named the 2020 **Marsden Trophy winner as the Female Athlete of the Year.** The fifth year Masters of Business Technology student put together the best statistical season in the history of the women's hockey program. She led the OUA in points (28) and assists (17) and was named the OUA Player of the Year, Forward of the Year and a First-Team All-Star. Clairmont is the first player in Warriors history to lead the league in scoring. She also collected a U SPORTS Second-Team All-Canadian recognition and was named the U SPORTS Athlete of the Month in November. Ternowski put together another incredible season in his fourth year with the football program. It is the second straight year a member of football has won the **Totzke Trophy as Male Athlete of the Year**. The fourth year Economics student was named a U SPORTS First-Team All-Canadian and First-Team OUA All-Star. He finished the season with 47 catches (4th most in U SPORTS) and 695 receiving yards (8th best in U SPORTS). His five receiving touchdowns were fourth most in the country and he was ninth with his 86.9 yards per game. Other awards included:

- WUSA Rookies of the Year Awards: **Janelle Clarke** (track and field) and **Pavle Milic** (men's tennis)
- Team of the Year Award**: Women's Golf**
- Imprint Coach of the Year**: Maria Leahy** (field hockey)
- Shield of Excellence Award, given to graduating student-athletes who have achieved an elite level of distinction throughout their university career with their respective teams: **Tyler Ternowski**, **Josh Lorentz**, and **Larissa McLeod**
- Warriors Community Service Award: **Larissa McLeod** and **Mackenzie Strong**
- Directors and J.O. Hemphill Awards presented annually to a male and female who has made a significant administrative contribution to the department: **Ashley Blayney-Hoffer** (track and field) and **Jorden Carthy** (baseball)
- Warrior Campus Service Award**: Maureen Jones**
- Brian Farrance Award **(**student therapists): **Emma Hatcher** (men's volleyball) and **Jacqueline Gu** (women's hockey)

(adapted from the *Athletics & Recreation News*, 3 April 2020)

Associate Professor of English **Sarah Tolmie's** novel about the history of science, *The Little Animals*, was **the Special Citation at the 2020 Philip K Dick Awards**. The novel, published in 2019 by Aqueduct Press, is about Antoni Van Leeuwenhoek, pioneer of the single-lens microscope and one of the founders of microbiology. The Philip K. Dick Award is presented annually with the support of the Philip K. Dick Trust for distinguished science fiction published in paperback original form in the United States during the previous calendar year.

(adapted from the *Daily Bulletin*, 14 April 2020)

John Cherry, a distinguished professor emeritus from the Department of Earth and Environmental Sciences, Faculty of Science has been named 2020 winner of the prestigious **Stockholm Water Prize**. The announcement was made March 23 by the Stockholm International Water Institute (SIWI). Cherry is the first hydrogeologist and the second Canadian to win the international award, which has gone to academics and organizations worldwide, including the International Water Management Institute in Sri Lanka and Great Britain's Water Aid. Awarded annually since 1991, the Stockholm Water Prize honours individuals and organizations whose work helps to conserve and protect water resources. Cherry is scheduled to receive the award from Princess Victoria of Sweden in late August and will address the opening session of this year's World Water Week conference organized by the Stockholm International Water Institute (SIWI).

(adapted from the *Daily Bulletin*, 16 April 2020)

Professor **Florian Kerschbaum** has received a **2019 Outstanding Young Computer Science Researcher Award** from CS-Can/Info-Can, the nation's professional society dedicated to representing all aspects of computer science and the interests of the discipline to Canadians. Conferred since 2009, these annual awards recognize excellence in computer science research. They are awarded to top faculty members in Canadian computer science departments, schools and faculties who are within the first ten years of their career after completing their PhD. "Florian is an accomplished expert in searching and processing encrypted data — keeping data secure, private and encrypted in the cloud while still allowing it to be searched and processed," said Mark Giesbrecht, director of the David R. Cheriton School of Computer Science. "His contributions to computer security, privacy-enhancing technologies, and database research are both respected internationally by his academic peers as well as adopted by leading high-tech companies, including SAP and Microsoft. His teaching of undergrads, supervision of graduate students at both Waterloo and SAP, and postdoctoral mentorship are exemplary."

(adapted from the *Daily Bulletin*, 17 April 2020)

Norah McRae, Associate Provost for Co-operative and Experiential Education, and **Judene Pretti**, Director of the Waterloo Centre for the Advancement of Co-operative Education (WatCACE), have been recognized by **Co-operative Education and Internship Association (CEIA)** as 2020 award recipients. These awards are given out annually to recognize distinguished achievements and significant impact in the field of work-integrated learning. McRae is awarded **The Dean Herman Schneider Award** for her significant and comprehensive record of contributions towards the advancement of the philosophy and practice of co-operative education. This award is presented annually to those who have demonstrated great success, typically spanning more than ten years, in the practice of co-operative education and internships. McRae's career in the field of work-integrated learning spans more than 20 years. Through her research on topics such as student engagement, community-engaged learning and intercultural competency development, her philosophy and leadership has strongly influenced experiential learning worldwide. Alongside McRae, Pretti is awarded the **Ralph W. Tyler Award** for her outstanding and distinguished research and publication in the field of co-operative education and internships. This award is presented to those who lead research and publications highlighting new knowledge and understanding associated with experiential learning. Pretti's role within WatCACE involves building strong partnerships with key stakeholders in both national and international co-op and work-integrated learning communities. These relationships enable WatCACE to identify priority areas for research and discover findings that are then shared within the global work-integrated learning community.

(adapted from the *Daily Bulletin*, 24 April 2020)

University of Waterloo
SENATE
Report of the Vice-President, Academic & Provost
19 May 2020

FOR INFORMATION

Convocation 2020

It was with great disappointment that we made the difficult decision to cancel the in-person Convocation ceremonies scheduled for June. These are extraordinary times, and we did not make this decision lightly. Many universities across the globe have had to take this same difficult direction. We recognize that Convocation is the culmination of years of hard work, passion, and commitment for our students, and their families and friends who have supported them. We have every hope that we will welcome all graduates and graduands to campus to celebrate with us in October at a "Convocation 2020" ceremony.

For our June graduands

For our graduands who should have been celebrating with us in June, we will confer their degrees and mail or courier their diplomas to them in late June/early July. Each graduate will receive a special, personalized video via email on the original date of their convocation, including messages from our Chancellor, President, Provost, and the appropriate Dean. We are still working out the details, but we will digitally congratulate and celebrate our graduands in a way that befits the University of Waterloo.

Award winners will receive their award along with their diploma, for awards that are not normally presented on-stage. For our on-stage awards, each Faculty will contact award winners to personally congratulate them and encourage them to attend the Convocation 2020 ceremony in the Fall. If this is not possible, we will offer to send their award to them with their diploma. The graduate on-stage awards will be sent to them with their diploma.

PhD graduates will receive a personal message from their supervisor (via phone if possible) and will receive a hat and hood along with their diploma. If an in-person meeting between the supervisor and the graduate is possible, these will be delivered in-person.

There will be no Honorary Degrees presented at this time.

Convocation 2020 in October

All June graduates will be encouraged to join us in October (21^{st} – 25^{th}) and will be asked to RSVP via an online form in July (when we will have more certainty that the ceremonies will proceed in the Fall). We intend to host a multi-day series of ceremonies to celebrate all of our 2020 graduates together. All on-stage awards will be presented at that time, Honorary Degrees will be conferred, and Valedictorians will address convocation. It will be a great week of celebrations in October! Specific details are still evolving.

In the unfortunate event that a Fall in-person ceremony is not possible, we will look to the earliest opportunity in the new year (ahead of the June 2021 scheduled ceremonies) to host the Convocation 2020 event.

University of Waterloo
REPORT OF THE DEAN OF APPLIED HEALTH SCIENCES TO SENATE
May 19, 2020

FOR INFORMATION

A. APPOINTMENTS

Adjunct Appointments

Graduate Supervision
DRYSDALE, Maureen, Professor, School of Public Health and Health Systems, July 1, 2020 – June 30, 2024.

Graduate Supervision and Research
DRAKE, Janessa, Associate Professor, Department of Kinesiology, March 1, 2020 – February 28, 2023.

Research
RILEY, Barbara, Associate Professor, Faculty of Applied Health Sciences, January 1, 2021 – March 31, 2021.

VINE, Michelle, Assistant Professor, School of Public Health and Health Systems, April 1, 2021 – March 31, 2022, extended one year.

Adjunct Reappointments

Graduate Supervision
PREMJI, Stephanie, Associate Professor, School of Public Health and Health Systems, April 1, 2020 – March 31, 2025.

Special Lecturer Appointments

MORRISON, Kristen, Lecturer, Department of Recreation and Leisure Studies, May 1, 2020 – August 31, 2020.

NORMAN, Richard, Lecturer, Department of Recreation and Leisure Studies, May 1, 2020 – August 31, 2020.

DREWERY, Dave, Lecturer, Department of Recreation and Leisure Studies, May 1, 2020 – August 31, 2020.

Postdoctoral Appointments

AZAD KHANEGHAH, Peyman, Faculty of Applied Health Sciences, April 1, 2020 – February 28, 2021.

OSTERTAG, Sonja, School of Public Health and Health Systems, April 1, 2020 – August 31, 2022.

Change in Visiting Appointment

WANG, Baoheng, Visiting Scholar, Department of Recreation and Leisure Studies, **September 1, 2020 – August 31, 2021.**

B. ADMINISTRATIVE REAPPOINTMENT

GLOVER, Troy, Professor and Chair, Department of Recreation and Leisure Studies, July 1, 2020 – June 30, 2024.

For Approval by the Board of Governors

C. SABBATICALS

DUNCAN, Robin, Associate Professor, Department of Kinesiology, January 1, 2021 – December 31, 2021, one year at 85% salary.

MAIR, Heather, Professor, Department of Recreation and Leisure Studies, January 1, 2021 – December 31, 2021, one year at 85% salary.

MAJOWICZ, Shannon, Associate Professor, School of Public Health and Health Systems, September 1, 2021 – August 31, 2022, one year at 85% salary.

Lili Liu, Dean
Applied Health Sciences

UNIVERSITY OF WATERLOO
REPORT OF THE DEAN OF THE FACULTY OF ARTS TO SENATE
May 19, 2020

FOR INFORMATION

A. APPOINTMENTS

Definite Term Reappointments

BILODEAU, Annik, Lecturer, Department of Spanish and Latin American Studies, August 1, 2020 to July 31, 2023.

HARRIGAN, Kevin, Lecturer, Stratford School of Interaction Design and Business, May 1, 2020 to April 30, 2021.

Adjunct Appointments – Instruction

DATTA, Shubham, Lecturer, School of Accounting and Finance, May 1, 2020 to August 31, 2020.

KENT, Jonathan, Lecturer, Department of Political Science, May 1, 2020 to August 31, 2020.

OBEID, Moussa, Lecturer, Department of Economics, May 1, 2020 to August 31, 2020.

Adjunct Reappointments – Instruction

ABULLARADE GAMEZ, Hector, Lecturer, School of Accounting and Finance, May 1, 2020 to August 31, 2020.

ALEKBEROV, Elshan, Lecturer, School of Accounting and Finance, May 1, 2020 to August 31, 2020.

ALMUSTAFA, Maissaa, Lecturer, Department of Political Science, May 1, 2020 to August 31, 2020.

AQUINO, Sara, Lecturer, School of Accounting and Finance, May 1, 2020 to August 31, 2020.

BALAISIS, Nicholas, Lecturer, Department of Communication Arts, May 1, 2020 to August 31, 2020.

BUCHENAUER, Cody, Lecturer, School of Accounting and Finance, May 1, 2020 to August 31, 2020.

CALVERT, Alyssa, Lecturer, School of Accounting and Finance, May 1, 2020 to August 31, 2020.

CHANG, Wayne, Lecturer, School of Accounting and Finance, May 1, 2020 to August 31, 2020.

COREY, Dylan, Lecturer, School of Accounting and Finance, May 1, 2020 to August 31, 2020.

CORREIA, Vanessa, Lecturer, School of Accounting and Finance, May 1, 2020 to August 31, 2020.

DATARDINA, Malik, Lecturer, School of Accounting and Finance, May 1, 2020 to August 31, 2020.

DE ROOIJ-MOHLE, Lecturer, Department of Germanic and Slavic Studies, May 1, 2020 to August 31, 2020.

DOLSON, Mark, Lecturer, Department of Anthropology, May 1, 2020 to August 31, 2020.

FATIMA, Nafeez, Lecturer, Department of Economics, May 1, 2020 to August 31, 2020.

GARSIDE, Nick, Lecturer, Department of Political Science, May 1, 2020 to August 31, 2020.

GERNON, Mark, Lecturer, Department of Psychology, May 1, 2020 to August 31, 2020.

HUNTER, Natalie, Lecturer, Department of Fine Arts. May 1, 2020 to August 31, 2020.

HUTTER, Daniel, Lecturer, Department of Classical Studies, May 1, 2020 to August 31, 2020.

IV, Kieng, Lecturer, School of Accounting and Finance, May 1, 2020 to August 31, 2020.

KARIMZADA, Muhebullah, Lecturer, Department of Economics, May 1, 2020 to August 31, 2020.

KUMASE, Wokia-azi, Lecturer, Department of Economics, May 1, 2020 to August 31, 2020.

LIN, David, Lecturer, School of Accounting and Finance, May 1, 2020 to August 31, 2020.

MCINTOSH, Alex, Lecturer, Stratford School of Interaction Design and Business, May 1, 2020 to August 31, 2020.

MIAN, Haaris, Lecturer, School of Accounting and Finance, May 1, 2020 to August 31, 2020.

NEEDHAM, Brent, Lecturer, Department of Political Science, May 1, 2020 to August 31, 2020.

NORTON, Roy, Lecturer, Department of Political Science, May 1, 2020 to August 31, 2020.

OAKES, Harrison, Lecturer, Department of Psychology, May 1, 2020 to August 31, 2020.

OZKARDAS, Ahmet, Lecturer, Department of Economics, May 1, 2020 to August 31, 2020.

PACEY, Dean, Lecturer, School of Accounting and Finance, May 1, 2020 to August 31, 2020.

PAWLAK, Conrad, Lecturer, School of Accounting and Finance, May 1, 2020 to August 31, 2020.

PECKHAM, William, Lecturer, Department of Psychology, May 1, 2020 to August 31, 2020.

RAHMAN, Fiona, Lecturer, Department of Economics, May 1, 2020 to August 31, 2020.

RAJSIC, Predrag, Lecturer, Department of Economics, May 1, 2020 to August 31, 2020.

RUFFUDEEN, Zamal, Lecturer, School of Accounting and Finance, May 1, 2020 to August 31, 2020.

SCHWEITZER, David, Lecturer, Department of History, May 1, 2020 to August 31, 2020.

TANGUAY, Greg, Lecturer, Department of Economics, May 1, 2020 to August 31, 2020.

TROIT, Anne Sophie, Lecturer, Department of French Studies, May 1, 2020 to August 31, 2020.

WIENS, Brianna, Lecturer, Department of Communication Arts, May 1, 202 to August 31, 2020.

Adjunct Reappointments – Graduate Supervision

ROWA, Karen, Professor, Department of Psychology, March 1, 2020 to February 28, 2023.

Graduate Students Appointed as Part-Time Lecturers
DUSOWOTH, Sushma, Department of French Studies, May 1, 2020 to August 31, 2020.

GALLAGHER, Sara, Department of English Language and Literature, May 1, 2020 to August 31, 2020.

MEYERS, Ethan, Department of Psychology, May 1, 2020 to August 31, 2020.

MITCHELL, James, Department of French Studies, May 1, 2020 to August 31, 2020.

MORTON, Travis, Department of English Language and Literature, May 1, 2020 to August 31, 2020.

RICKERT, Jennifer, Department of English Language and Literature, May 1, 2020 to August 31, 2020.

SCHIRM, Ronald Sam, Department of Germanic and Slavic Studies, May 1, 2020 to August 31, 2020.

VAN DE KEMP, Jessica-Leigh, Department of English Language and Literature, May 1, 2020 to August 31, 2020.

Staff Appointments to Faculty
DI GRAVIO, Katrina, Lecturer, Department of Psychology, May 1, 2020 to August 31, 2020.

MITTELSTAEDT, Walter, Director, Campus Wellness, Department of Psychology, April 1, 2020 to March 31, 2021.

B. ADMINISTRATIVE APPOINTMENTS
BOYLE, Philip, Associate Chair, Undergraduate Studies – Legal Studies, Department of Sociology and Legal Studies, March 1, 2020 to August 31, 2020.

CLUETT, Cora, Associate Chair, Undergraduate Studies, Department of Fine Arts, July 1, 2020 to June 30, 2022.

COWAN, Douglas, Associate Chair, Graduate Studies, Department of Religious Studies, July 1, 2020 to June 30, 2021.

FABER, Riemer, Associate Chair, Undergraduate and Graduate Studies, Department of Classical Studies, July 1, 2020 to June 30, 2023.

HOUSTON, Andrew, Associate Chair, Undergraduate Studies – Theatre and Performance, Department of Communication Arts, July 1, 2020 to June 30, 2021.

SAVARESE, John, Associate Chair, Graduate Studies, Department of English Language and Literature, July 1, 2020 to June 30, 2023.

Administrative Reappointment
COOPER, Tara, Associate Chair, Graduate Studies, Department of Fine Arts, July 1, 2020 to June 30, 2022.

PACI, Tim, Associate Chair, Undergraduate Communication Outcomes Initiative (UCOI), Department of Communication Arts, July 1, 2020 to June 30, 2021.

CHANGE in DATES

SCHULENBERG, Jennifer, Associate Chair, Undergraduate Studies (LS), Department of Sociology and Legal Studies, **from** July 1, 2019 to June 30, 2021 **to** July 1, 2019 to February 29, 2020.

C. SABBATICAL LEAVES

For approval by the Board of Governors:

AURINI, Janice, Associate Professor, Department of Sociology and Legal Studies, September 1, 2020 to August 31, 2021, twelve months leave at 85% salary.

DIXON, Michael, Professor, Department of Psychology, September 1, 2020 to August 31, 2021, twelve months leave at 100% salary.

EASTON, Fraser, Associate Professor, Department of English Language and Literature, July 1, 2020 to December 31, 2020, six months leave at 100% salary.

VOORHEES, Gerald, Associate Professor, Department of Communication Arts, September 1, 2020 to February 28, 2021, six months leave at 85% salary.

WELCH, David, Professor, Department of Political Science, September 1, 2020 to August 31, 2021, twelve months at 85% salary.

Approved by the Board of Governors

DEJUAN, Joseph, Associate Professor, Department of Economics, September 1, 2020 to August 31, 2021, twelve months leave at 85% salary.

Sheila Ager
Dean, Faculty of Arts

UNIVERSITY OF WATERLOO
REPORT OF THE DEAN OF ENGINEERING TO SENATE
May 19, 2020

FOR INFORMATION

A. ***APPOINTMENTS***

Continuing Lecturers

HURWITZ, Marc, Conrad School of Entrepreneurship and Business, May 1, 2020. PhD, University of Waterloo, Waterloo, ON, 2010; MBA, 2000; MSc, 1988; MSc, 1984; BSc 1983. Dr. Hurwitz, recipient of the Sanford Fleming Award for Teaching Excellence in the Faculty of Engineering, teaches leadership, entrepreneurship, corporate innovation and related subjects in the Conrad School. He publishes in the area of leadership, focusing particularly on followership. In addition to his teaching, Marc serves as Conrad's Associate Director of Undergraduate and Non-degree Programs.

ROBINSON, Mary, Engineering Undergraduate Office, May 1, 2020. MSc University of Waterloo, Waterloo, ON, 2010; BSc, ON, 2005. This position primarily revolves around first-year engineering activities, including academic advising, student outreach and orientation, training of academic staff, and various liaison and policy roles. In addition, the position enriches the Engineering Undergraduate Office with expertise in scholarship related to teaching and pedagogy, as well as teaching in the chemical engineering domain.

Probationary Term

MACDONALD, Ewen, Associate Professor, Department of Systems Design Engineering, July 1, 2020 – June 30, 2023. PhD, University of Toronto, Toronto, ON, 2007; Bachelor degree, ON, 1994. Professor MacDonald's research program centers around speech communication, hearing-aid signal processing and hearing loss. His research interests also include verbal interactions with robots and dementia as well as the design of hearing aid. Professor MacDonald's research fits into our department's strategic objectives of increasing interdisciplinary research in biomedical engineering and in the area of social robotics and health.

Definite Term Reappointment Full-time

AHMADI, Lena, Lecturer, Department of Chemical Engineering, April 30, 2020 – April 28, 2022. PhD, University of Waterloo, Waterloo, ON, 2105; BSc, Iran, 2004.

BASHA, Mohamed, Research Associate Professor, Department of Electrical and Computer Engineering, February 29, 2020 – March 31, 2021. PhD, University of Waterloo, Waterloo, ON, 2007; BSc, Egypt, 1996.

BORJI, Amir, Research Assistant Professor, Department of Electrical and Computer Engineering, March 3, 2020 – June 2, 2020. PhD in Electrical and Computer Engineering, University of Waterloo, Waterloo, ON, 2004; MSc in Electrical and Computer Engineering (Communication Systems), Isfahan, Iran, 1998; BSc in Electrical and Computer Engineering, Isfahan University of Technology, Isfahan, Iran, 1994.

MANDAL, Kalikinkar, Research Assistant Professor, Department of Electrical and Computer Engineering, February 16, 2020 – July 31, 2020. PhD, University of Waterloo, Waterloo, ON, 2013; BSc India, 2005.

NAAHIDI, Sheva, Research Assistant Professor, Department of Electrical and Computer

Engineering, March 1, 2020 – February 28, 2021. PhD, University of Waterloo, Waterloo, ON, 2014; BSc, ON, 2005.

SEDWARDS, Sean, Research Assistant Professor, Department of Electrical and Computer Engineering, April 1, 2020 – March 31, 2022. PhD, University of Trento, Italy, 2009; BEng, United Kingdom 1985.

Visiting Appointments

ABUAWWAD, Nihad, Assistant Professor, Department of Chemical Engineering, June 29, 2020 – September 10, 2020.

IMURA, Shigeyuki, Scientist, Department of Electrical and Computer Engineering, October 1, 2020 – September 30, 2021.

MACEDO JIMENEZ, Maria Fernanda, Researcher, Department of Mechanical and Mechatronics Engineering, May 18, 2020 – August 8, 2020.

SUN, Qiji, Scholar, Department of Mechanical and Mechatronics Engineering, June 1, 2020 – May 31, 2021.

Visiting Reappointments

KAZEMI, NASSER, Professor, Department of Chemical Engineering, April 1, 2020 – March 31, 2021.

SADEGHIMAKKI, Bahareh, Scientist, Department of Electrical and Computer Engineering, March 1, 2020 – February 28, 2022.

ZENG, Delu, Scholar, Department of Electrical and Computer Engineering, May 7, 2020 – November 6, 2020.

Special Appointments

Undergraduate Instruction

BABAEE CHESHMEAHMADREZA, Reza, Lecturer, Department of Department of Electrical and Computer Engineering, May 1, 2020 – August 31, 2020.

Adjunct Appointments

Graduate Supervision and Research

JANABI-SHARIFI, Farrokh, Professor, Department of Mechanical and Mechatronics Engineering, March 1, 2020 – February 28, 2022.

Adjunct Reappointments

Graduate Supervision and Research

WASEF, Albert, Lecturer, Department of Electrical and Computer Engineering, May 1, 2020 – April 30, 2021.

Adjunct Reappointments

Undergraduate Teaching

WASEF, Albert, Lecturer, Department of Electrical and Computer Engineering, May 1, 2020 – April 30, 2021.

ZARNETT, Jeffrey, Lecturer, Department of Electrical and Computer Engineering, May 1, 2020 – April 29, 2022.

Changes in Appointments

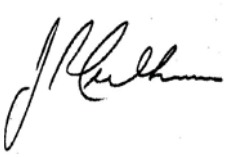
KARIM, Karim, Associate Dean, Outreach, September 1, 2017 – September 30, 2020, (change in end date only).

B. ***ADMINISTRATIVE APPOINTMENTS***

FIEGUTH, Paul, Associate Dean, Outreach, May 1, 2020 – August 31, 2020.

ADMINISTRATIVE REAPPOINTMENTS

GORBET, Maud, Interim Chair, Department of Systems Design Engineering, April 1, 2020 – July 31, 2020.



Richard Culham, Interim Dean
Faculty of Engineering

UNIVERSITY OF WATERLOO
REPORT OF THE DEAN OF THE FACULTY OF ENVIRONMENT TO SENATE
May 19, 2020

FOR INFORMATION

A. APPOINTMENTS

Definite Term Appointments
ESMAIL, Shefaza, Lecturer, School of Environment, Resources, and Sustainability, September 1, 2020 to August 31, 2021.

Adjunct Appointments
Graduate Supervision
SEIRLIS, Julia K., Grad Committee Member, School of Environment, Enterprise and Development, January 1, 2020 to December 31, 2022.

SLATTERY, Stuart, Grad Committee Member, School of Environment, Resources and Sustainability, April 1, 2020 to March 31, 2023.

THEVATHASAN, Naresh, Associate Professor**,** School of Environment, Resources and Sustainability, April 1, 2020 to March 31, 2023.

Research
KLINKOVA, Anna, Assistant Professor, School of Environment, Enterprise and Development, January 1, 2020 to December 31, 2021.

Special Appointments
Instruction
CURTIS, Kevin, Lecturer, School of Planning, May 1, 2020 to August 31, 2020. *(Overload)*

McKENZIE, Ian, Associate Professor, Department of Geography and Environmental Management, July 1, 2020 to June 30, 2021.

SABERI, Nastaran, Lecturer, Department of Geography and Environmental Management, May 1, 2020 to August 31, 2020.

TJORNBO, Ola, Lecturer, School of Environment, Enterprise and Development, May 1, 2020 to August 31, 2020.

Graduate Students Appointed as Part-Time Lecturer
PALASCHUK, Nicholas, Lecturer, Department of Geography and Environmental Management, May 1, 2020 to August 31, 2020.

Cross Appointments

THISTLETHWAITE, Jason, Associate Professor, School of Environment, Enterprise and Development to Department of Geography and Environmental Management, April 1, 2020 to December 23, 2023.

WOOD, Laura, Assistant Professor, Department of Recreation and Leisure Studies to School of Environment, Enterprise and Development, January 1, 2020 to December 31, 2024.

B. ADMINISTRATIVE REAPPOINTMENTS

McKENZIE, Ian, Adjunct Associate Professor, Department of Geography and Environmental Management, Director, Aviation Program, Department of Geography and Environmental Management and Faculty of Science, July 1, 2020 to June 30, 2021.

McKENZIE, Ian, Adjunct Associate Professor, Department of Geography and Environmental Management, Associate Chair for Undergraduate Studies, Aviation & Geomatics Programs, July 1, 2020 to June 1, 2021.

C. SABBATICAL LEAVES

For approval by the Board of Governors

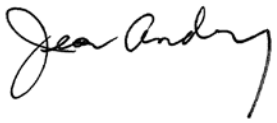
KEARNS, Suzanne, Associate Professor, Department of Geography and Environmental Management, January 1, 2021 to June 30, 2021, six months at 100% salary.

PRICE, Jonathan, Professor, Department of Geography and Environmental Management, September 1, 2020 to August 31, 2021, twelve months at 100% salary.

Approved by the Board of Governors

AUGUST, Martine, Assistant Professor, School of Planning, July 1, 2020 to December 31, 2020, six months at 100% salary.

PITTMAN, Jeremy, Assistant Professor, School of Planning, July 1, 2020 to December 31, 2020, six months at 100% salary.



Jean Andrey
Dean

University of Waterloo
REPORT OF THE DEAN OF MATHEMATICS TO SENATE
May 19, 2020

FOR INFORMATION

A. APPOINTMENTS (for approval by the Board of Governors)

Probationary-Term Appointments

GAO, Lucy (BSc (Hons), 2015, University of Victoria; PhD, 2020 (exp), University of Washington), Assistant Professor, Dept. of Statistics and Actuarial Science, July 1, 2020 – June 30, 2023. Ms. Gao is currently completing her PhD in Biostatistics. Her PhD research is based on Statistical Inference for Multi-View Clustering but she has another ongoing parallel research track in experimental design. Ms. Gao will contribute to strengthening the connections between our biostatistics and classical statistics research groups.

GUGLIELMI, Roberto (BSc, 2007, University of Bari; MSc, 2009, Eberhard Karls Universität Tübingen; PhD, 2013, joint with the University of Rome Tor Vergata and the University of Lorraine), Assistant Professor, Dept. of Applied Mathematics, July 1, 2020 – June 30, 2023. Dr. Guglielmi is currently a research fellow at the Fundacao Getulio Varagas in Rio de Janeiro. His research interests address questions in control theory for infinite dimensional systems at the intersection analysis of partial differential equations, calculus of variations, dynamical systems theory and optimization. His presentation and reference letters confirm that he will be a great teacher, supervisor and colleague with numerous potential collaborations and research interactions with other colleagues in the Department.

MELCZER, Stephen (BSc, 2011; MSc, 2014, both from Simon Fraser University; PhD, 2017 from both the University of Waterloo and the École normale supérieure de Lyon), Assistant Professor, Dept. of Combinatorics and Optimization, July 1, 2020 – June 30, 2023. Dr. Melczer is currently a CRM-ISM Postdoctoral Fellow in the Dept. of Math at the Université du Québec à Montréal. His research involves developing effective tools for mathematics and combinatorics using techniques from computational algebraic geometry, complex analysis, and topology. His talk was well received and it was felt that his research in enumerative questions would add variety to the algebraic combinatorics research in the Department.

XU, Meng (BEngineering, 2014, Nanyang Technological University; PhD, 2020 (exp), Georgia Institute of Technology), Assistant Professor, David R. Cheriton School of Computer Science, July 1, 2021 – June 30, 2024. Mr. Xu is currently completing his PhD degree from the Georgia Institute of Technology. His research is in the area of software security. Mr. Xu's research has focused on the Linux operating system which is widely deployed on the Internet and also the basis for the commercial Android system used in many smartphones. Using software analysis techniques Mr. Xu's research automates the search for implementation faults in Linux. Using his research more than 100 implementation faults in Linux have been found and later fixed. These results underpin the applicability of Mr. Xu's research to real-world security problems. Mr. Xu will complement our security and privacy area.

Probationary-Term Reappointments

SHUM, Park Heng, Assistant Professor, Dept. of Applied Mathematics, July 1, 2020 – June 30, 2023).

TRAN, Giang, Assistant Professor, Dept. of Applied Mathematics, July 1, 2020 – June 30, 2023).

Definite Term - Reappointments
FORREST, Barbara, Lecturer, Office of the Dean, August 28, 2020 – August 26, 2022.

VINETTE, Francine, Lecturer, Office of the Dean, September 1, 2020 – August 31, 2021.

Visiting Appointments
GHAFURIAN, Moojan, Researcher, David R. Cheriton School of Computer Science, May 1, 2020 – April 30, 2021.

Adjunct Appointments
Instructor
LENNOX, Michelle, Lecturer, Dept. of Statistics and Actuarial Science, May 1, 2020 – August 31, 2020.

Adjunct Reappointments
Instructor
AKINYEMI, John, Lecturer, David R. Cheriton School of Computer Science, May 1, 2020 – August 31, 2020.

BROGLY, Chris, Lecturer, David R. Cheriton School of Computer Science, May 1, 2020 – August 31, 2020.

DICKSON, David, Lecturer, Dept. of Statistics and Actuarial Science, May 1, 2020 – August 31, 2020.

HINTZ, Erik, Lecturer, Dept. of Statistics and Actuarial Science, May 1, 2020 – August 31, 2020.

HOLTBY, Dan, Lecturer, David R. Cheriton School of Computer Science, May 1, 2020 – August 31, 2020.

IBRAHIM, Ahmed, Lecturer, David R. Cheriton School of Computer Science, May 1, 2020 – August 31, 2020.

KAMAL, Zille, Lecturer, David R. Cheriton School of Computer Science, May 1, 2020 – August 31, 2020.

McKINNON, Jennifer, Lecturer, Office of the Dean, May 1, 2020 – August 31, 2020.

MOZAFFARI, Ahmad, Lecturer, Dept. of Statistics and Actuarial Science, May 1, 2020 – August 31, 2020.

TURNER, Graeme, Lecturer, Office of the Dean, May 1, 2020 – August 31, 2020.

YUAN, Meng, Lecturer, Dept. of Statistics and Actuarial Science, May 1, 2020 – August 31, 2020.

ZIMA, Eugene, Lecturer, David R. Cheriton School of Computer Science, May 1, 2020 – August 31, 202.

ZORZITTO, Frank, Professor Emeritus, Office of the Dean, May 1, 2020 – August 31, 2020.

Research
DeMAST, Jeroen (The Jheronimus Academy of Data Science), Professor, Dept. of Statistics and Actuarial Science, July 1, 2020 – June 30, 2023.

FAREWELL, Vern, Professor, Dept. of Statistics and Actuarial Science, July 1, 2020 – June 30, 2023.

LAWLESS, Jerald, Professor Emeritus, Dept. of Statistics and Actuarial Science, September 1, 2020 – August 31, 2023.

O'HARA-HINES, Jeanette, Associate Professor Emeritus, Dept. of Statistics and Actuarial Science, September 1, 2020 – August 31, 2023.

Cross Reappointments
CHEN, Helen (Continuing Lecturer, in the School of Public Health & Health Systems), in the Dept. of Statistics and Actuarial Science, March 1, 2020 – February 28, 2022.

Graduate Students appointed as Part-time Lecturers
ALBAYRAK, Gulizar, Dept. of Pure Mathematics, May 1, 2020 – August 31, 2020.

BRANIFF, Nathan, Dept. of Applied Mathematics, May 1, 2020 – August 31, 2020.

KING, Nathan, David R. Cheriton School of Computer Science, May 1, 2020 – August 31, 2020.

KIRK, Keegan, Dept. of Applied Mathematics, May 1, 2020 – August 31, 2020.

NAYLOR, Patrick, Dept. of Pure Mathematics, May 1, 2020 – August 31, 2020.

SINGHAI, Ragini, Dept. of Pure Mathematics, May 1, 2020 – August 31, 2020.

WANG, Chaunzhang, Dept. of Applied Mathematics, May 1, 2020 – August 31, 2020.

Graduate Students reappointed as Part-time Lecturers
FARSI, Milad, Dept. of Applied Mathematics, May 1, 2020 – August 31, 2020.

MURRAY, Dean, David R. Cheriton School of Computer Science, May 1, 2020 – August 31, 2020.

Postdoctoral Fellows appointed as Part-time Lecturers
DaRONG, Cheng, Dept. of Pure Mathematics, August 1, 2020 – July 31, 2022.

DENG, Jintao, Dept. of Pure Mathematics, September 1, 2020 – August 31, 2022.

DIXIT, Anup, Dept. of Pure Mathematics, July 1, 2020 – June 30, 2022.

KRISHNAN, Arundhathi, Dept. of Pure Mathematics, January 1, 2021 – December 31, 2022.

ROMANOV, Anna, Dept. of Pure Mathematics, August 1, 2020 – July 31, 2023.

Changes in Appointments
ZHANG, Yizhou, Assistant Professor, David R. Cheriton School of Computer Science, (*ref.* Dean's Report to Senate, September 18, 2019)
From: August 1, 2019 – June 30, 2023
To: October 1, 2019 – June 30, 2024

B. ADMINISTRATIVE REAPPOINTMENTS

DAWOUD, Dina, International Exchange Coordinator, Office of the Dean, April 28, 2020 – August 31, 2021.

SIVALOGANATHAN, Sivabal, Chair, Dept. of Applied Mathematics, July 1, 2020 – June 30, 2023.

VAVASIS, Steve, Associate Dean, Computing, Office of the Dean, July 1, 2020 – December 31, 2020.

C. SABBATICALS (already approved by the Board of Governors)

FUKASAWA, Ricardo (Associate Professor), Dept. of Combinatorics and Optimization, September 1, 2020 – August 31, 2021 with 98.2% salary.

ILYAS, Ihab (Professor), David R. Cheriton School of Computer Science, September 1, 2020 – August 31, 2021, with 85% salary.

(to be approved by the Board of Governors)

LHOTAK, Ondrej (Associate Professor), David R. Cheriton School of Computer Science, September 1, 2020 – August 31, 2021.

LI, Pengfei (Professor), Dept. of Statistics and Actuarial Science, September 1, 2020 – August 31, 2021.

LIN, Jimmy (Professor), David R. Cheriton School of Computer Science, September 1, 2020 – August 31, 2021, with 85% salary.

MA, Bin (Professor), David R. Cheriton School of Computer Science, September 1, 2020 –August 31, 2021.

D. SPECIAL LEAVE (already approved by the Board of Governors)

HARE, Kathryn (Professor), Dept. of Pure Mathematics, September 1, 2020 – December 31, 2020 with 100% salary. This is an administrative leave.

Kevin Hare
Interim Dean

UNIVERSITY OF WATERLOO
REPORT OF THE DEAN OF SCIENCE TO SENATE
May 19, 2020

For information:

A. *APPOINTMENTS*

Definite Term – Full-Time

DELANEY, Keith, Lecturer, Department of Earth and Environmental Sciences, April 30, 2020 to October 31, 2020. [B.A. Honours, Geography, University of Guelph (2003); MES, Geography, Wilfrid Laurier University (2006); Ph.D., Earth and Environmental Sciences, University of Waterloo (2014).]

REZANEZHAD, Fereidoun, Research Associate Professor, Department of Earth and Environmental Sciences, January 1, 2020 to December 31, 2024. [B.Sc., Physics, University of Tabriz, Iran (1998); M.Sc., Physics, University of Zahedan, Iran (2000); Ph.D., Soil and Environmental Physics, University of Heidelberg, Germany (2007).]

WOO, Lisa, Clinical Lecturer, School of Optometry and Vision Science, September 1, 2020 to August 30, 2022. [BA, Microbiology, University of Texas at Austin (1996); OD, University of Houston (2000).]

Adjunct Appointments

Graduate Instruction/Graduate Supervision

TORNERO-VELEZ, Rogelio (Mike), Assistant Professor, School of Pharmacy, March 1, 2020 to February 28, 2023.

Adjunct Reappointments

Undergraduate Instruction

AHMAD, Jauher, Assistant Clinical Professor, School of Pharmacy, March 1, 2020 to December 31, 2020.

Graduate Instruction/Graduate Supervision

NEWMAN, Amy, Associate Professor, School of Pharmacy, January 1, 2020 to December 31, 2022.

Graduate Supervision and Research

CRAIG, Jennifer, Associate Professor, School of Optometry and Vision Science, April 1, 2020 to March 31, 2023.

SCHNETTER, Eric, Assistant Professor, Department of Physics and Astronomy, April 1, 2020 to September 1, 2024.

Cross Reappointment

AUCOIN, Marc, Professor, Department of Chemical Engineering, cross appointed to School of Pharmacy, April 1, 2020 to March 31, 2023.

MOSCA, Michele, Professor, Combinatorics and Optimization, cross appointed to Department of Physics and Astronomy, April 1, 2020 to December 31, 2023.

Special Appointments
Undergraduate Instruction

EL-SHATSHAT, Amna, Lecturer, School of Pharmacy, May 1, 2020 to August 31, 2020.

WAKED, Khrystine, Lecturer, School of Pharmacy, May 1, 2020 to August 31, 2020.

Special Reappointments
Undergraduate Instruction

FERNANDEZ, Heidi, Lecturer, School of Pharmacy, May 1, 2020 to August 31, 2020.

McARTHUR, Robyn, Lecturer, School of Pharmacy, May 1, 2020 to August 31, 2020.

Changes in Appointment

CHOI, Kyung-Soo, Assistant Professor, Department of Physics and Astronomy, second probationary appointment extended one year (Covid-19). New end date June 30, 2022.

HOULE, Sherilyn, Clinical Assistant Professor, second probationary period extended two years (Covid 19 and parental leave). New end date June 30, 2023.

HUG, Laura, Assistant Professor, Department of Biology, second probationary period extended two years (Covid-19 and parental leave). New end date June 30, 2024.

SPAFFORD, Marlee, Associate Dean Undergraduate, Faculty of Science, end date of administrative appointment changed to August 31, 2020.

B. ***ADMINISTRATIVE APPOINTMENT***

BARRA, Monica, Associate Dean Undergraduate Studies, Faculty of Science, September 1, 2020 to August 31, 2023.

EDGINTON, Andrea, Hallman Director of Pharmacy and Associate Dean of Science for Pharmacy, School of Pharmacy, January 1, 2021 to December 31, 2024.

ADMINISTRATIVE REAPPOINTMENT

McKENZIE, Ian, Director, Aviation Program (Geography and Science) appointment joint between Faculty of Environment and Faculty of Science, July 1, 2020 to June 30, 2021.

FOR APPROVAL BY THE BOARD OF GOVERNORS

C. ***SABBATICAL LEAVE***

MacIVER, Sarah, Associate Clinical Professor, School of Optometry and Vision Science, special early sabbatical, July 1, 2020 to December 31, 2020, 100% salary arrangement.

SPAFFORD, Marlee, Professor, School of Optometry and Vision Science, September 1, 2020 to April 30, 2023, 100% salary arrangement.

STANBERRY, Andre, Associate Clinical Professor, School of Optometry and Vision Science, special early sabbatical, July 1, 2020 to December 31, 2020, 100% salary arrangement.

SABBATICAL LEAVE CANCELLATION

CHEN, Jeff, sabbatical leave scheduled for May 1, 2020 to April 30, 2021 has been cancelled.

R.P. Lemieux
Dean

University of Waterloo
SENATE
Report to Senate
19 May 2020

FOR APPROVAL

Senate Committee Appointments

Motion: To approve the following appointments:

- **University Committee on Student Appeals:** In order to ensure the principles of natural justice are followed, and in particular to preclude bias, or a perception of bias, it has become necessary to temporarily appoint two extraordinary members to the University Committee on Student Appeals (the UCSA). These individuals are proposed to be a part of the tribunal that will hear one specific student matter in the Spring 2020 term: Mario Coniglio, former chair of the UCSA, to act as chair of the tribunal, and Micheal Stone, Professor in the Faculty of Environment, Department of Geography and Environmental Management and chair of the Faculty of Environment Faculty Committee on Student Appeals as the faculty representative on the tribunal.

University of Waterloo
SENATE
19 May 2020

FOR APPROVAL

Waterloo Centre for the Advancement of Co-operative Education (WatCACE) Name Change
Motion: That Senate recommends to the Board of Governors the following name change: from "Waterloo Centre for the Advancement of Co-operative Education (WatCACE)" to "Work-Learn Institute (WxL)"

Rationale:
WatCACE has as its primary focus conducting, facilitating, and disseminating the results of research into cooperative education and work integrated learning. By making this research available internally, WatCACE contributes to the practice of Co-op and Work Integrated Learning at Waterloo, but as a research unit it publishes its results and so has a role in the research contribution Waterloo makes to Canada and the world.

The suggested name change has two main purposes. First, since its launch the remit of WatCACE has broadened beyond Cooperative Education to inform other sorts of Work Integrated Learning, and the new name will better reflect existing practice; secondly, the new name better reflects the role WatCACE might play in expanding the University's role as a thought leader in the development of all forms of Work Integrated Learning, as envisioned in the 2020-25 Strategic Plan (for instance in its commitment to develop talent for a complex future).

Background:

WatCACE was established in 2002 by UW past-president James Downey. Downey found that in his time as president there were many occasions when he was required to justify the existence of the co-operative education program in national and international forums. Moreover, he recognized the importance of co-op to the brand of Waterloo, and that research into the most effective ways of delivering co-op would be valuable for advancing the acceptance, understanding and practice of co-op.

Since its inception WatCACE has grown to become a world leader in research into co-operative education and work-integrated learning. WatCACE has engaged with faculty members at Waterloo, and with researchers elsewhere in Canada and internationally, in collaborative research projects. Though it remains a small research team, it has been successful in securing grant funding from provincial and association sources, and consistently publishes in high impact, peer-reviewed venues. WatCACE has also been an incubator for pilot projects that emerged from the 2013-18 strategic plan, testing ways to continue to advance the co-op model and to develop new models of work-integrated learning, such as the EDGE program.

While a significant focus for WatCACE's research and development will always be co-op, with the national and international focus on work-integrated learning, and the fact of its research already being broader than co-op, there is a strategic advantage in its name being broader than the 'advancement of co-op' as well. This should open up new audiences for its work and new potential sources of funding, such as, government and industry leaders who are interested in many models of work-integrated learning, not just co-op. Our aim is to position WatCACE as the world's leading research and development institute for co-operative education and work-integrated learning.

The proposed new name is a result of consultation with University Relations. We feel the new name sets us apart as innovative and fresh, eliminates jargon, and encompasses work happening in WatCACE already and likely to happen in the future.

If approved, the proposed name change would be implemented in the Spring 2020 academic term.

Dr. Judene Pretti Director, WatCACE	Dr. David DeVidi Associate Vice-President, Academic	Dr. Norah McRae Associate Provost, Co-operative and Experiential Education

University of Waterloo
SENATE GRADUATE & RESEARCH COUNCIL
Report to Senate
19 May 2020

Senate Graduate & Research Council met on 13 April 2020 and agreed to forward the following items to Senate for approval as part of the regular agenda.

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

FOR APPROVAL

PROGRAM CHANGE

Faculty of Applied Health Sciences

1. **Motion:** To approve the addition of a "Work and Health" graduate research field to the School of Public Health and Health Systems field option for both MSc and PhD students, effective 1 September 2020, as presented in Attachment 1.

   Rationale: The School of Public Health and Health Systems introduced six fields to their thesis-based MSc and PhD programs last year. These fields represent a concentration of courses and milestone work in specific areas that represent an emphasis within the broader degree - Public Health & Health Systems. They now propose a seventh field: Work and Health. This is an area that several Faculty members work in. Moreover, with the inactivation of the AHS Collaborative PhD in Work and Health, which is in progress, this provides a new option to recognize the emphasis. The Field includes existing courses.

Faculty of Arts

1. **Motion:** To approve the addition of a graduate research field in Peace Integration within the Master of Arts in Global Governance, effective 1 September 2020, as presented in Attachment 2.

   Rationale: The increasing complexity of global conflict requires sophisticated responses from a new generation of graduates working for peace. The proposed Graduate Research Field in Peace Integration will provide students with the opportunity to enroll in world class, interdisciplinary academic courses offered by programs highlighting holistic and integrated approaches to the study of peace that encapsulates more than simply the absence of violent conflict. Moreover, the Graduate Research Field will enhance the University's reputation as an innovative leader in transformative, graduate-level teaching and research focusing on the advancement of global peace and international change through educating, training, and developing a future generation of peace-builders.

   The Graduate Research Field in Peace Integration is distinctive in that it will go beyond traditional disciplines that study peace, such as Peace and Conflict Studies and International Relations, by integrating knowledge from complementary programs, specifically Global Governance, Climate Change, Development Practice and Public Health and Health Systems. To earn the Graduate Research Field, students will be required to take a core course from the home program, plus three other courses from a menu of existing, peace-related offerings from the other complementary programs. In order to ensure an interdisciplinary experience, students will have to take at least one course each from three of the five participating programs.

   The primary benefit to students will be the integration of knowledge from five different masters programs. Much of what we are proposing with the Graduate Research Field in Peace Integration is a further formalization of existing bilateral collaboration that is already taking place among the participating programs. Indeed, many of the courses that will be part of the Graduate Research Field are already cross-listed among the programs.

   All five of the participating programs have been involved in the development of the proposal and are keen to see it come to fruition.

2. **Motion:** To approve the addition of a graduate specialization in Peace Integration within the Master of Peace and Conflict Studies, effective 1 September 2020, as presented in Attachment 3.

   Rationale: The same rationale presented immediately above applies to the proposed addition of the graduate specialization in Peace Integration.

/*kw*

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

Charmaine Dean
Vice President, Research & International

UNIVERSITY OF WATERLOO

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 and Postdoctoral Affairs (GSPA).

Faculty: Applied Health Sciences

Program: Master of Science (MSc) in Public Health and Health Systems

Program contact name(s): Ellen MacEachen, Brian Alan Mills

Form completed by: Daniel Rodgers, Ellen MacEachen

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

Updating the MSc degree requirements to include a "Work and Health" graduate research field. Updating some course titles to reflect previous revisions made to the course catalog.

Is this a major modification to the program? Yes

Rationale for change(s):

Since SPHHS Fields were established, new courses have been added to the SPHHS curriculum (HLTH 628, HLTH 639 Spring Evaluation), making a Work and Health field possible. Additionally, the Work and Health Field would complement build on our faculty-level Work and Health PhD degree.

Proposed effective date: Term: Fall Year: 2020

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

Please include link here. https://uwaterloo.ca/graduate-studies-academic-calendar/applied-health-sciences/school-public-health-and-health-systems/master-science-msc-public-health-and-health-systems

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
Graduate research fields • Epidemiology and Biostatistics • Health Evaluation • Health Informatics • Health and Environment • Global Health • Aging and Health **Program information** • Admit term(s) o Fall	**Graduate research fields** • Epidemiology and Biostatistics • Health Evaluation • Health Informatics • Health and Environment • Global Health • Aging and Health • Work and Health **Program information** • Admit term(s)

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

• Delivery mode
  o On-campus
• Program type
  o Master's
  o Research
• Registration option(s)
  o Full-time
  o Part-time
• Study option(s)
  o Thesis
 	
Admission requirements
• Minimum requirements
  o 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.
  o 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.
  o Students may be allowed to transfer into the PhD program directly from the SPHHS Master's programs. Such students must have completed all Master's coursework requirements, have demonstrated a superior academic record, and have evidence of prior research achievements (e.g., adjudicated research report, significant documented contribution as a co-author to a peer-reviewed publication, first author peer-reviewed publication).
• 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
  ▪ Students must submit a copy of previous academic work, such as a publication, term paper, or Honours thesis written during
	o Fall
	• Delivery mode
	  o On-campus
	• Program type
	  o Master's
	  o Research
	• Registration option(s)
	  o Full-time
	  o Part-time
	• Study option(s)
	  o Thesis
	
	Admission requirements
	• Minimum requirements
	  o 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.
	  o 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.
	  o Students may be allowed to transfer into the PhD program directly from the SPHHS Master's programs. Such students must have completed all Master's coursework requirements, have demonstrated a superior academic record, and have evidence of prior research achievements (e.g., adjudicated research report, significant documented contribution as a co-author to a peer-reviewed publication, first author peer-reviewed publication).
	• 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
	  ▪ Students must submit a copy of previous academic work, such as a publication, term paper, or

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
the last two years of their undergraduate education. • References o Number of references: 2 o Type of references: preferably from faculty members • English language proficiency (ELP) (if applicable) **Degree requirements** Thesis option: ▪ Graduate Academic Integrity Module (Graduate AIM) ▪ Courses o The normal minimum requirement will be 5 one-term (0.50 unit weight) graduate courses (3 required and 2 free electives or approved equivalents): ▪ Required courses: • HLTH 601 Lifespan ~~Approaches to Disease Prevention and Health Promotion~~ ▪ 2 of the following: • HLTH 605 Regression Models (or equivalent) or HLTH 705 Advanced Statistical Methods for Analyzing Public Health and Health Systems Data* • ~~AHS 600 Foundations of Qualitative Research Methodologies~~ (or equivalent) or HLTH 704 Advanced Qualitative Methods for Health Research* • HLTH 606 Epidemiological Methods (or equivalent) or HLTH 706 Advanced Epidemiological Methods* • HLTH 619 Fundamental Research Methods in Health Informatics (or equivalent) or HLTH 719 Advanced Research Methods in Health Informatics* ▪ Elective courses: • 2 free elective courses, selected in consultation	Honours thesis written during the last two years of their undergraduate education. • References o Number of references: 2 o Type of references: preferably from faculty members • English language proficiency (ELP) (if applicable) **Degree requirements** Thesis option: ▪ Graduate Academic Integrity Module (Graduate AIM) ▪ Courses o The normal minimum requirement will be 5 one-term (0.50 unit weight) graduate courses (3 required and 2 free electives or approved equivalents): ▪ Required courses: • HLTH 601 Lifespan <u>Determinants of Health and Disease</u> ▪ 2 of the following: • HLTH 605 Regression Models (or equivalent) or HLTH 705 Advanced Statistical Methods for Analyzing Public Health and Health Systems Data* • <u>HLTH 625 Foundations of Qualitative Research Methodologies</u> (or equivalent) or HLTH 704 Advanced Qualitative Methods for Health Research* • HLTH 606<u>A</u> Epidemiological Methods (or equivalent) or HLTH 706 Advanced Epidemiological Methods* • HLTH 619 Fundamental Research Methods in Health Informatics (or equivalent) or HLTH 719 Advanced Research Methods in Health Informatics* ▪ Elective courses: • 2 free elective courses, selected in consultation

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
with the supervisor (may include courses outside SPHHS, or any courses offered by SPHHS, including additional courses from the required list, online courses, etc.) • *It is highly recommended that MSc students with a strong background or previous training in one of these areas take the 700-level equivalent in place of the 600-level course requirement (e.g., those with a strong statistical background may opt to take HLTH 705). Such decisions should be made in collaboration with the supervisor. 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. Students in the MSc in Public Health and Health Systems program may also wish to pursue one of the following Graduate Research Fields: 1. Epidemiology and Biostatistics 2. Health Evaluation 3. Health Informatics 4. Health and Environment 5. Global Health 6. Aging and Health A Graduate Research Field is a University credential that is recognized on the student's transcript and is intended to reflect that a student has successfully completed research and a set of courses that together provide an in-depth study in the area of the Graduate	with the supervisor (may include courses outside SPHHS, or any courses offered by SPHHS, including additional courses from the required list, online courses, etc.) • *It is highly recommended that MSc students with a strong background or previous training in one of these areas take the 700-level equivalent in place of the 600-level course requirement (e.g., those with a strong statistical background may opt to take HLTH 705). Such decisions should be made in collaboration with the supervisor. 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. Students in the MSc in Public Health and Health Systems program may also wish to pursue one of the following Graduate Research Fields: 1. Epidemiology and Biostatistics 2. Health Evaluation 3. Health Informatics 4. Health and Environment 5. Global Health 6. Aging and Health 7. <u>Work and Health</u> A Graduate Research Field is a University credential that is recognized on the student's transcript and is intended to reflect that a student has successfully completed research and a set of courses that together

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
Research Field. A student will only obtain the Graduate Research Field on their transcript if they have completed the requirements associated with the MSc degree and the requirements associated with the Graduate Research Field. All MSc Graduate Research Fields in the SPHHS consist of Graduate Studies Seminars I and II, a Master's Thesis that is confirmed by the SPHHS to be in the chosen Graduate Research Field, and a set of 5 graduate (0.50 weight) level courses. This set of courses is comprised of a mix of required and elective courses. Required courses are those that are prescribed as part of the Graduate Research Field. Elective courses are those that are on a list of courses designated as electives for a given Graduate Research Field. For any of the Graduate Research Fields below, a directed studies course (HLTH 620 or HLTH 720) focused on the Graduate Research Field may replace a required or elective course, with the approval of the Associate Director, Research Graduate Program, School of Public Health and Health Systems. The course requirements for each of the Graduate Research Fields are described below. *1.Graduate Research Field in Epidemiology and Biostatistics* Students must successfully complete 3 required courses and 2 elective courses. An assessment of whether or not the student's thesis warrants the Epidemiology and Biostatistics Graduate Research Field designation will be completed by the SPHHS. Required courses: ▪ HLTH 601 Lifespan ~~Approaches to Disease Prevention and Health Promotion~~ ▪ HLTH 605A Regression ~~Methods~~ ▪ HLTH 606A Epidemiological Methods Elective courses: select 2 from the following list: ▪ HLTH 634 Environmental Epidemiology ▪ HLTH 672 Epidemiological Methods in Aging ▪ HLTH 705 Advanced Statistical Methods for Analyzing ~~PHHS~~ Data ▪ HLTH 706 Advanced Epidemiological Methods *2.Graduate Research Field in Health Evaluation* Students must successfully complete 2 required courses and 3 elective courses. An assessment of	provide an in-depth study in the area of the Graduate Research Field. A student will only obtain the Graduate Research Field on their transcript if they have completed the requirements associated with the MSc degree and the requirements associated with the Graduate Research Field. All MSc Graduate Research Fields in the SPHHS consist of Graduate Studies Seminars I and II, a Master's Thesis that is confirmed by the SPHHS to be in the chosen Graduate Research Field, and a set of 5 graduate (0.50 weight) level courses. This set of courses is comprised of a mix of required and elective courses. Required courses are those that are prescribed as part of the Graduate Research Field. Elective courses are those that are on a list of courses designated as electives for a given Graduate Research Field. For any of the Graduate Research Fields below, a directed studies course (HLTH 620 or HLTH 720) focused on the Graduate Research Field may replace a required or elective course, with the approval of the Associate Director, Research Graduate Program, School of Public Health and Health Systems. The course requirements for each of the Graduate Research Fields are described below. *1.Graduate Research Field in Epidemiology and Biostatistics* Students must successfully complete 3 required courses and 2 elective courses. An assessment of whether or not the student's thesis warrants the Epidemiology and Biostatistics Graduate Research Field designation will be completed by the SPHHS. Required courses: ▪ HLTH 601 Lifespan <u>Determinants of Health and Disease</u> ▪ HLTH 605A Regression <u>Models</u> ▪ HLTH 606A Epidemiological Methods Elective courses: select 2 from the following list: ▪ HLTH 634 Environmental Epidemiology <u>for Public Health</u> ▪ HLTH 672 Epidemiological Methods in Aging <u>Research</u> ▪ HLTH 705 Advanced Statistical Methods for Analyzing <u>Public Health and Health Systems</u> Data ▪ HLTH 706 Advanced Epidemiological Methods *2.Graduate Research Field in Health Evaluation*

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
whether or not the student's thesis warrants the *Health Evaluation* Graduate Research Field designation will be completed by the SPHHS. Required courses: ▪ HLTH 601 Lifespan ~~Approaches to Disease Prevention and Health Promotion~~ ▪ HLTH 655 Health Measurement and Survey Methods Elective courses: Select 1 from the following list: ▪ HLTH 605A Regression ~~Methods~~ or HLTH 656 Quantitative Methods and Analysis ▪ HLTH 625 Foundations of Qualitative Research Methodologies or HLTH 652 Qualitative Methods and Analysis Select 1 or 2 from the following list: ▪ HLTH 614 Foundations of Program Evaluation ▪ HLTH 651 Theory and Applications in Program Evaluation ▪ HLTH 653 Evaluation Practice and Management ▪ HLTH 654 Systems Thinking and Analysis in Health Program Planning and Evaluation Select 1 from the following list, if only 1 course was selected from the category above: ▪ HLTH 603 Health Policy ▪ HLTH 626 Analysis and Management of Health Information ▪ HLTH ~~620~~ Experiential Learning in Evaluation *3.Graduate Research Field in Health Informatics* Students must successfully complete 2 required courses and 3 elective courses. An assessment of whether or not the student's thesis warrants the *Health Informatics* Graduate Research Field designation will be completed by the SPHHS. Required courses: ▪ HLTH 601 Lifespan ~~Approaches to Disease Prevention and Health Promotion~~ ▪ HLTH 619 Fundamental Research Methods in Health Informatics Elective courses: Select 1 from the following list:	Students must successfully complete 2 required courses and 3 elective courses. An assessment of whether or not the student's thesis warrants the *Health Evaluation* Graduate Research Field designation will be completed by the SPHHS. Required courses: ▪ HLTH 601 Lifespan <u>Determinants of Health and Disease</u> ▪ HLTH 655 Health Measurement and Survey Methods Elective courses: Select 1 from the following list: ▪ HLTH 605A Regression <u>Models</u> or HLTH 656 Quantitative Methods and Analysis ▪ HLTH 625 Foundations of Qualitative Research Methodologies or HLTH 652 Qualitative Methods and Analysis Select 1 or 2 from the following list: ▪ HLTH 614 Foundations of Program Evaluation ▪ HLTH 651 Theory and Applications in Program Evaluation ▪ HLTH 653 Evaluation Practice and Management ▪ HLTH 654 Systems Thinking and Analysis in Health Program Planning and Evaluation Select 1 from the following list, if only 1 course was selected from the category above: ▪ HLTH 603 Health <u>Systems and</u> Policy ▪ HLTH 626 Analysis and Management of Health Information <u>in Aging Populations</u> ▪ HLTH <u>639</u> Experiential Learning in Evaluation *3.Graduate Research Field in Health Informatics* Students must successfully complete 2 required courses and 3 elective courses. An assessment of whether or not the student's thesis warrants the *Health Informatics* Graduate Research Field designation will be completed by the SPHHS. Required courses: ▪ HLTH 601 Lifespan <u>Determinants of Health and Disease</u> ▪ HLTH 619 Fundamental Research Methods in Health Informatics

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
▪ HLTH 605A Regression ~~Methods~~ OR HLTH 705 Advanced Statistical Methods for Analyzing Public Health and Health Systems Data ▪ HLTH 625 Foundations of Qualitative Research Methodologies or HLTH 652 Qualitative Methods and Analysis or HLTH 704 Advanced Qualitative Methods for Health Research ▪ HLTH 606A Epidemiological Methods or HLTH 706 Advanced Epidemiological Methods Select 1 from the following list: ▪ HLTH 633 Digital Health ▪ HLTH 629 Information Visualization ▪ HLTH 626 Analysis and Management of Health Information in Aging Populations ▪ HLTH 615 Requirements Specification and Analysis in Health Systems ▪ HLTH 616 Decision Making and Systems Thinking in Health Informatics ▪ HLTH 637 Public Health Informatics Select 1 from the following list: ▪ COGSCI 600 Cognitive Science ▪ SYDE 642 Cognitive Engineering Methods ▪ SYDE 644 Human Factors Testing ▪ CS 634 Security and Privacy for Health Systems ▪ CS 792 Data Structures and Standards in Health Informatics *4.Graduate Research Field in Health and Environment* Students must successfully complete 2 required courses and 3 elective courses. An assessment of whether or not the student's thesis warrants the *Health and Environment* Graduate Research Field designation will be completed by the SPHHS. Required courses: ▪ HLTH 601 Lifespan ~~Approaches to Disease Prevention and Health Promotion~~ ▪ HLTH 604 Public Health and the Environment Elective courses: Select 2 from the following list: ▪ HLTH 606A Epidemiological Methods	Elective courses: Select 1 from the following list: ▪ HLTH 605A Regression <u>Models</u> OR HLTH 705 Advanced Statistical Methods for Analyzing Public Health and Health Systems Data ▪ HLTH 625 Foundations of Qualitative Research Methodologies or HLTH 652 Qualitative Methods and Analysis or HLTH 704 Advanced Qualitative Methods for Health Research ▪ HLTH 606A Epidemiological Methods or HLTH 706 Advanced Epidemiological Methods Select 1 from the following list: ▪ HLTH 633 Digital Health ▪ HLTH 629 Information Visualization ▪ HLTH 626 Analysis and Management of Health Information in Aging Populations ▪ HLTH 615 Requirements Specification and Analysis in Health Systems ▪ HLTH 616 Decision Making and Systems Thinking in Health Informatics ▪ HLTH 637 Public Health Informatics Select 1 from the following list: ▪ COGSCI 600 <u>Seminar in</u> Cognitive Science ▪ SYDE 642 Cognitive Engineering Methods ▪ SYDE 644 Human Factors Testing ▪ CS 634 Security and Privacy for Health Systems ▪ CS 792 Data Structures and Standards in Health Informatics *4.Graduate Research Field in Health and Environment* Students must successfully complete 2 required courses and 3 elective courses. An assessment of whether or not the student's thesis warrants the *Health and Environment* Graduate Research Field designation will be completed by the SPHHS. Required courses: ▪ HLTH 601 Lifespan <u>Determinants of Health and Disease</u> ▪ HLTH 604 Public Health and the Environment Elective courses: Select 2 from the following list:

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
▪ HLTH 605A Regression ~~Methods~~ or HLTH 656 Quantitative Methods and Analysis ▪ HLTH 625 Foundations of Qualitative Research Methodologies or HLTH 652 Qualitative Methods and Analysis Select 1 from the following list: ▪ HLTH 623 Risk and Exposure Assessment in Public Health ▪ HLTH 624 Environmental Toxicology in Public Health ▪ HLTH 634 Environmental Epidemiology ▪ HLTH 631 Public Health Surveillance ▪ HLTH 661 ~~GIS~~ and Public Health ▪ HLTH 662 Global Health *5.Graduate Research Field in Global Health* Students must successfully complete 2 required courses and 3 elective courses. An assessment of whether or not the student's thesis warrants the *Global Health* Graduate Research Field designation will be completed by the SPHHS. Required courses: ▪ HLTH 601 Lifespan ~~Approaches to Disease Prevention and Health Promotion~~ ▪ HLTH 662 Global Health Elective courses: Select 2 from the following list: ▪ HLTH 605A Regression ▪ HLTH 606A Epidemiological Methods ▪ HLTH 625 Foundations of Qualitative Research Methodologies or HLTH 652 Qualitative Methods and Analysis ▪ HLTH 619 Fundamental Research Methods in Health Informatics Select 1 from the following list (these courses are global-health focused in all examples and assignments): ▪ HLTH 632 Health Economics and Public Health ▪ HLTH 654 Systems Thinking and Analysis in Health Program Planning and Evaluation *6.Graduate Research Field in Aging and Health*	▪ HLTH 606A Epidemiological Methods ▪ HLTH 605A Regression <u>Models</u> or HLTH 656 Quantitative Methods and Analysis ▪ HLTH 625 Foundations of Qualitative Research Methodologies or HLTH 652 Qualitative Methods and Analysis Select 1 from the following list: ▪ HLTH 623 Risk and Exposure Assessment in Public Health ▪ HLTH 624 Environmental Toxicology in Public Health ▪ HLTH 634 Environmental Epidemiology <u>for Public Health</u> ▪ HLTH 631 Public Health Surveillance ▪ HLTH 661 <u>Geographic Information Systems</u> and Public Health ▪ HLTH 662 Global Health *5.Graduate Research Field in Global Health* Students must successfully complete 2 required courses and 3 elective courses. An assessment of whether or not the student's thesis warrants the *Global Health* Graduate Research Field designation will be completed by the SPHHS. Required courses: ▪ HLTH 601 Lifespan <u>Determinants of Health and Disease</u> ▪ HLTH 662 Global Health Elective courses: Select 2 from the following list: ▪ HLTH 605A Regression <u>Models</u> ▪ HLTH 606A Epidemiological Methods ▪ HLTH 625 Foundations of Qualitative Research Methodologies or HLTH 652 Qualitative Methods and Analysis ▪ HLTH 619 Fundamental Research Methods in Health Informatics Select 1 from the following list (these courses are global-health focused in all examples and assignments): ▪ HLTH 632 Health Economics and Public Health ▪ HLTH 654 Systems Thinking and Analysis in Health Program Planning and Evaluation

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
Students must successfully complete 1 required course and 4 elective courses. An assessment of whether or not the student's thesis warrants the *Aging and Health* Graduate Research Field designation will be completed by the SPHHS. Required course: ▪ HLTH 601 Lifespan ~~Approaches to Disease Prevention and Health Promotion~~ Elective courses: Select 2 from the following list: ▪ HLTH 625 Foundations of Qualitative Research Methodologies or HLTH 652 Qualitative Methods and Analysis ▪ HLTH 672 Epidemiologic Methods in Aging Research ▪ HLTH 605A Regression ▪ HLTH 606A Epidemiological Methods ▪ HLTH 619 Fundamental Research Methods in Health Informatics Select 2 from the following list: ▪ HLTH 642 Interdisciplinary Perspectives on Aging ▪ HLTH 627 Dementia Care ▪ HLTH 630 Geriatric Medicine ▪ HLTH 626 Analysis Management of Health Informatics in Aging Population ▪ Link(s) to courses o Health Studies (HLTH) courses o Graduate course search ▪ Academic Integrity Workshop ▪ Graduate Studies Seminar I o The Fall term segment of the seminar will provide a weekly opportunity for MSc students in their first term of study to attend research seminars led by SPHHS faculty members and senior graduate students. In addition, opportunities will be arranged for students to participate in workshops relating to research methods, presentation skills, grantsmanship, or to attend guest lectures delivered by scholars from outside SPHHS. ▪ Graduate Studies Seminar II o The Winter term segment of the seminar will provide a weekly	*6.Graduate Research Field in Aging and Health* Students must successfully complete 1 required course and 4 elective courses. An assessment of whether or not the student's thesis warrants the *Aging and Health* Graduate Research Field designation will be completed by the SPHHS. Required course: ▪ HLTH 601 Lifespan <u>Determinants of Health and Disease</u> Elective courses: Select 2 from the following list: ▪ HLTH 625 Foundations of Qualitative Research Methodologies or HLTH 652 Qualitative Methods and Analysis ▪ HLTH 672 Epidemiologic Methods in Aging Research ▪ HLTH 605A Regression <u>Models</u> ▪ HLTH 606A Epidemiological Methods ▪ HLTH 619 Fundamental Research Methods in Health Informatics Select 2 from the following list: ▪ HLTH 642 Interdisciplinary Perspectives on Aging ▪ HLTH 627 <u>Advanced</u> Dementia Care ▪ HLTH 630 <u>Advanced</u> Geriatric Medicine <u>and Healthcare</u> ▪ HLTH 626 Analysis Management of Health Informatics in Aging Population <u>*7.Graduate Research Field in Work and Health*</u> <u>Students must successfully complete 2 required courses and 3 elective courses. An assessment of whether or not the student's thesis warrants the Work and Health Research Field designation will be completed by the SPHHS.</u> <u>Required courses:</u> • <u>HLTH 601 Lifespan Determinants of Health and Disease</u> • <u>HLTH 628 What is Fair? International Perspectives On Equity In Work and Health</u> <u>Elective courses:</u> <u>Select 2 from the following list:</u>

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
opportunity for MSc students in their second term of study to participate in a journal club led by members of their cohort. Each student will be responsible for selecting one article, providing an electronic copy to the instructors to allow for placement on the course website, and then leading discussion around the article's purpose, content, strengths, and limitations. In addition, students will be expected to read through the articles chosen by their colleagues, and actively participate in the discussion held each week. ▪ Master's Thesis o For the Master's thesis, an approved topic is required and will be defended in an oral examination. The MSc thesis committee consists of a minimum of three faculty and includes the student's supervisor, appointed in the School, and at least one other member of the School of Public Health and Health Systems faculty. One committee member may be from outside the School (whether from within the university or from another university). The composition of the Thesis Advisory Committee must be approved by the School's Graduate Committee.	• HLTH 605A Regression Models • HLTH 606A Epidemiological Methods • HLTH 625 Foundations of Qualitative Research Methodologies or HLTH 652 Qualitative Methods and Analysis • HLTH 619 Fundamental Research Methods in Health Informatics Select 1 from the following list: • HLTH 623 Risk and Exposure Assessment in Public Health • HLTH 614 Foundations of Program Evaluation • HLTH 639 Experiential Learning in Evaluation • HLTH 654 Systems Thinking and Analysis In Health Program Planning and Evaluation ▪ Link(s) to courses ▪ Health Studies (HLTH) courses ▪ Graduate course search ▪ Academic Integrity Workshop ▪ Graduate Studies Seminar I o The Fall term segment of the seminar will provide a weekly opportunity for MSc students in their first term of study to attend research seminars led by SPHHS faculty members and senior graduate students. In addition, opportunities will be arranged for students to participate in workshops relating to research methods, presentation skills, grantsmanship, or to attend guest lectures delivered by scholars from outside SPHHS. ▪ Graduate Studies Seminar II o The Winter term segment of the seminar will provide a weekly opportunity for MSc students in their second term of study to participate in a journal club led by members of their cohort. Each student will be responsible for selecting one article, providing an electronic copy to the instructors to allow for placement on the course website, and then leading discussion around the article's purpose, content, strengths, and limitations. In addition, students will be expected to read through the articles chosen by their colleagues, and actively participate in the discussion held each week.

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
	▪ Master's Thesis o For the Master's thesis, an approved topic is required and will be defended in an oral examination. The MSc thesis committee consists of a minimum of three faculty and includes the student's supervisor, appointed in the School, and at least one other member of the School of Public Health and Health Systems faculty. One committee member may be from outside the School (whether from within the university or from another university). The composition of the Thesis Advisory Committee must be approved by the School's Graduate Committee.

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

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

Department/School approval date (mm/dd/yy): 09/20/19

Reviewed by GSPA (for GSPA use only) ☒ date (mm/dd/yy): 04/02/2020
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 and Postdoctoral Affairs (GSPA).

Faculty: Applied Health Sciences

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

Program contact name(s): Ellen MacEachen, Brian Alan Mills

Form completed by: Daniel Rodgers, Ellen MacEachen

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

Updating the PhD degree requirements to include a "Work and Health" graduate research field. Updating some course titles to reflect previous revisions made to the course catalog.

Is this a major modification to the program? Yes

Rationale for change(s):

Since SPHHS Fields were established, new courses have been added to the SPHHS curriculum (HLTH 628, HLTH 639), making a Work and Health field possible. Additionally, the Work and Health Field would complement build on our faculty-level Work and Health PhD degree.

Proposed effective date: Term: Fall Year: 2020

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

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**:
Graduate research fields • Epidemiology and Biostatistics • Health Evaluation • Health Informatics • Health and Environment • Global Health • Aging and Health **Program information**	**Graduate research fields** • Epidemiology and Biostatistics • Health Evaluation • Health Informatics • Health and Environment • Global Health • Aging and Health • Work and Health **Program information**

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

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

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
research report, significant documented contribution as a co-author to a peer-reviewed publication, first author peer-reviewed publication). Directly admitted students will be required to complete 9 (required and elective) graduate courses, graduate milestones and a doctoral thesis. • Application materials o Résumé/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. • References o Number of references: 3 o Type of references: academic • English language proficiency (ELP) (if applicable) **Degree requirements** Thesis option: • Graduate Academic Integrity Module (Graduate AIM) • Courses o 9 one-term graduate courses beyond the Bachelor's degree, including at least 4 courses (2 required and 2 electives) beyond the Master's degree, is the normal minimum requirement. • Required courses (2) o HLTH 701 Interdisciplinary Seminar in Public Health and Health Systems • 1 of the following required methods courses: o HLTH 704 Advanced Qualitative Methods for Health Research o HLTH 705 Advanced Statistical Methods for Analyzing Public Health and Health Systems Data o HLTH 706 Advanced Epidemiological Methods o HLTH 719 Advanced Research Methods in Health Informatics	achievements (e.g., adjudicated research report, significant documented contribution as a co-author to a peer-reviewed publication, first author peer-reviewed publication). Directly admitted students will be required to complete 9 (required and elective) graduate courses, graduate milestones and a doctoral thesis. • Application materials o Résumé/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. • References o Number of references: 3 o Type of references: academic • English language proficiency (ELP) (if applicable) **Degree requirements** Thesis option: • Graduate Academic Integrity Module (Graduate AIM) • Courses o 9 one-term graduate courses beyond the Bachelor's degree, including at least 4 courses (2 required and 2 electives) beyond the Master's degree, is the normal minimum requirement. • Required courses (2) o HLTH 701 Interdisciplinary Seminar in Public Health and Health Systems • 1 of the following required methods courses: o HLTH 704 Advanced Qualitative Methods for Health Research o HLTH 705 Advanced Statistical Methods for Analyzing Public Health and Health Systems Data o HLTH 706 Advanced Epidemiological Methods

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
• Elective courses (2) o 1 methods elective course at the 600-or 700-level, selected in consultation with the supervisor (may include courses outside the School of Public Health and Health Systems (SPHHS), or courses offered by SPHHS, including additional courses from the required course list. o 1 additional elective, selected in consultation with the supervisor. Students without a background in public health and health systems, and focusing in research areas other than Health Informatics, should take HLTH 601 Lifespan ~~Approaches to Disease Prevention and Health Promotion~~. Students focusing in Health Informatics may choose to take HLTH 611 The Health Care System or an equivalent course approved by the SPHHS Graduate Officer. • Plus other free electives as may be required o It is important to keep in mind that these are minimum requirements. Many students complete at least three courses within their area of research interest, which may require the addition of one or more extra courses to the minimum coursework requirement. • At a minimum, students must obtain an average of 75% or higher in aggregate on the courses presented in 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. Students in the SPHHS PhD program may also wish to pursue one of the following Graduate Research Fields: 1. Epidemiology and Biostatistics 2. Health Evaluation 3. Health Informatics 4. Health and Environment 5. Global Health 6. Aging and Health	o HLTH 719 Advanced Research Methods in Health Informatics • Elective courses (2) o 1 methods elective course at the 600-or 700-level, selected in consultation with the supervisor (may include courses outside the School of Public Health and Health Systems (SPHHS), or courses offered by SPHHS, including additional courses from the required course list. o 1 additional elective, selected in consultation with the supervisor. Students without a background in public health and health systems, and focusing in research areas other than Health Informatics, should take HLTH 601 Lifespan <u>Determinants of Health and Disease</u>. Students focusing in Health Informatics may choose to take HLTH 611 The Health Care System or an equivalent course approved by the SPHHS Graduate Officer. • Plus other free electives as may be required o It is important to keep in mind that these are minimum requirements. Many students complete at least three courses within their area of research interest, which may require the addition of one or more extra courses to the minimum coursework requirement. • At a minimum, students must obtain an average of 75% or higher in aggregate on the courses presented in 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. Students in the SPHHS PhD program may also wish to pursue one of the following Graduate Research Fields: 1. Epidemiology and Biostatistics 2. Health Evaluation 3. Health Informatics 4. Health and Environment 5. Global Health 6. Aging and Health 7. <u>Work and Health</u>

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
A Graduate Research Field is a University credential that is recognized on the student's transcript and is intended to reflect that a student has successfully completed research and a set of courses that together provide an in-depth study in the area of the Graduate Research Field. A student will only obtain the Graduate Research Field on their transcript if they have completed the requirements associated with the PhD degree and the requirements associated with the Graduate Research Field. All PhD Graduate Research Fields in the School of Public Health and Health Systems (SPHHS) consist of a Comprehensive Examination, a PhD Thesis that is confirmed by the SPHHS to be in the chosen Graduate Research Field, and a set of 4 graduate (0.50 weight) level courses. This set of courses is comprised of a mix of required and elective courses. Required courses are those that are prescribed as part of the Graduate Research Field. Elective courses are those that are on a list of courses designated as electives for a given Graduate Research Field. Students who have completed the MSc in SPHHS and obtained a Graduate Research Field can obtain the same or another Field or (by taking the applicable required/elective courses) as part of their PhD program. For any of the Graduate Research Fields below, a directed studies course (HLTH 620 or HLTH 720) focused on the Graduate Research Field or an appropriate alternate course may replace a required or elective course, with the approval of the Associate Director, Research Graduate Program, School of Public Health and Health Systems. The course requirements for the Graduate Research Fields are described below. 1. Graduate Research Field in Epidemiology and Biostatistics Students must successfully complete 3 required courses and 1 elective course. An assessment of whether or not the student's thesis warrants the Epidemiology and Biostatistics Graduate Research Field designation will be completed by the SPHHS. Required courses: • HLTH 701 Interdisciplinary Seminar in Public Health and Health Systems • HLTH 705 Advanced Statistical Methods for Analyzing ~~PHHS~~ Data	A Graduate Research Field is a University credential that is recognized on the student's transcript and is intended to reflect that a student has successfully completed research and a set of courses that together provide an in-depth study in the area of the Graduate Research Field. A student will only obtain the Graduate Research Field on their transcript if they have completed the requirements associated with the PhD degree and the requirements associated with the Graduate Research Field. All PhD Graduate Research Fields in the School of Public Health and Health Systems (SPHHS) consist of a Comprehensive Examination, a PhD Thesis that is confirmed by the SPHHS to be in the chosen Graduate Research Field, and a set of 4 graduate (0.50 weight) level courses. This set of courses is comprised of a mix of required and elective courses. Required courses are those that are prescribed as part of the Graduate Research Field. Elective courses are those that are on a list of courses designated as electives for a given Graduate Research Field. Students who have completed the MSc in SPHHS and obtained a Graduate Research Field can obtain the same or another Field or (by taking the applicable required/elective courses) as part of their PhD program. For any of the Graduate Research Fields below, a directed studies course (HLTH 620 or HLTH 720) focused on the Graduate Research Field or an appropriate alternate course may replace a required or elective course, with the approval of the Associate Director, Research Graduate Program, School of Public Health and Health Systems. The course requirements for the Graduate Research Fields are described below. 1. Graduate Research Field in Epidemiology and Biostatistics Students must successfully complete 3 required courses and 1 elective course. An assessment of whether or not the student's thesis warrants the Epidemiology and Biostatistics Graduate Research Field designation will be completed by the SPHHS. Required courses: • HLTH 701 Interdisciplinary Seminar in Public Health and Health Systems

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
• HLTH 706 Advanced Epidemiological Methods Elective courses: select 1 from the following list: • HLTH 634 Environmental Epidemiology • HLTH 672 Epidemiological Methods in Aging 2. Graduate Research Field in Health Evaluation Students must successfully complete 1 required course and 3 elective courses. An assessment of whether or not the student's thesis warrants the Health Evaluation Graduate Research Field designation will be completed by the SPHHS. Required course: □ HLTH 701 Interdisciplinary Seminar in Public Health and Health Systems Elective courses: Select 1 from the following list: • HLTH 705 Advanced Statistical Methods for Analyzing Public Health and Health Systems • HLTH 704 Advanced Qualitative Methods or Health Research • HLTH 655 Health Measurement and Survey • Methods Select 1 or 2 from the following list: • HLTH 614 Foundations of Program Evaluation • HLTH 651 Theory and Applications in Program Evaluation • HLTH 653 Evaluation Practice and Management • HLTH 654 Systems Thinking and Analysis in Health Program Planning and Evaluation Select 1 from the following list if only 1 course was selected above: • HLTH 603 Health Policy • HLTH 626 Analysis and Management of Health Information • HLTH ~~620~~ Experiential Learning in Evaluation 3. Graduate Research Field in Health Informatics Students must successfully complete 2 required courses and 2 elective courses. An assessment of whether or not the student's thesis warrants the Health	• HLTH 705 Advanced Statistical Methods for Analyzing <u>Public Health and Health Systems</u> Data • HLTH 706 Advanced Epidemiological Methods Elective courses: select 1 from the following list: • HLTH 634 Environmental Epidemiology <u>for Public Health</u> • HLTH 672 Epidemiological Methods in Aging <u>Research</u> 2. Graduate Research Field in Health Evaluation Students must successfully complete 1 required course and 3 elective courses. An assessment of whether or not the student's thesis warrants the Health Evaluation Graduate Research Field designation will be completed by the SPHHS. Required course: □ HLTH 701 Interdisciplinary Seminar in Public Health and Health Systems Elective courses: Select 1 from the following list: • HLTH 705 Advanced Statistical Methods for Analyzing Public Health and Health Systems <u>Data</u> • HLTH 704 Advanced Qualitative Methods or Health Research • HLTH 655 Health Measurement and Survey • Methods Select 1 or 2 from the following list: • HLTH 614 Foundations of Program Evaluation • HLTH 651 Theory and Applications in Program Evaluation • HLTH 653 Evaluation Practice and Management • HLTH 654 Systems Thinking and Analysis in Health Program Planning and Evaluation Select 1 from the following list if only 1 course was selected above: • HLTH 603 Health <u>Systems and</u> Policy • HLTH 626 Analysis and Management of Health Information <u>in Aging Populations</u> • HLTH <u>639</u> Experiential Learning in Evaluation

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
Informatics Graduate Research Field designation will be completed by the SPHHS. Required courses: • HLTH 701 Interdisciplinary Seminar in Public Health and Health Systems • HLTH 719 Advanced Research Methods in Health Informatics OR Equivalent Elective courses: Select 1 from the following list: • HLTH 633 Digital Health • HLTH 629 Information Visualization • HLTH 626 Analysis and Management of Health Information in Aging Populations • HLTH 615 Requirements Specification and Analysis in Health Systems • HLTH 616 Decision Making and Systems Thinking in Health Informatics • HLTH 637 Public Health Informatics Select 1 from the following list: • CS 634 Security and Privacy for Health Systems • CS 792 Data Structures and Standards in Health Informatics • COGSCI 600 Cognitive Science • SYDE 642 Cognitive Engineering Methods • SYDE 644 Human Factors Testing • CS 846 Software Engineering for Big Data 4. Graduate Research Field in Health and Environment Students must successfully complete 2 required courses and 2 elective courses. An assessment of whether or not the student's thesis warrants the Health and Environment Graduate Research Field designation will be completed by the SPHHS. Required courses: • HLTH 701 Interdisciplinary Seminar in Public Health and Health Systems • HLTH 604 Public Health and the Environment (or equivalent) Elective courses: Select 1 from the following list:	3. Graduate Research Field in Health Informatics Students must successfully complete 2 required courses and 2 elective courses. An assessment of whether or not the student's thesis warrants the Health Informatics Graduate Research Field designation will be completed by the SPHHS. Required courses: • HLTH 701 Interdisciplinary Seminar in Public Health and Health Systems • HLTH 719 Advanced Research Methods in Health Informatics OR Equivalent Elective courses: Select 1 from the following list: • HLTH 633 Digital Health • HLTH 629 Information Visualization • HLTH 626 Analysis and Management of Health Information in Aging Populations • HLTH 615 Requirements Specification and Analysis in Health Systems • HLTH 616 Decision Making and Systems Thinking in Health Informatics • HLTH 637 Public Health Informatics Select 1 from the following list: • CS 634 Security and Privacy for Health Systems • CS 792 Data Structures and Standards in Health Informatics • COGSCI 600 <u>Seminar in</u> Cognitive Science • SYDE 642 Cognitive Engineering Methods • SYDE 644 Human Factors Testing • CS 846 <u>Advanced Topics in Software Engineering: Topic 30</u> Software Engineering for Big Data 4. Graduate Research Field in Health and Environment Students must successfully complete 2 required courses and 2 elective courses. An assessment of whether or not the student's thesis warrants the Health and Environment Graduate Research Field designation will be completed by the SPHHS. Required courses: • HLTH 701 Interdisciplinary Seminar in Public Health and Health Systems

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
• HLTH 704 Advanced Qualitative Methods for Health Research • HLTH 705 Advanced Statistical Methods for • Analyzing Public Health and Health Systems Data • HLTH 706 Advanced Epidemiological Methods Select 1 from the following list: • HLTH 623 Risk and Exposure Assessment in Public Health • HLTH 624 Environmental Toxicology in Public Health • HLTH 634 Environmental Epidemiology • HLTH 631 Public Health Surveillance • HLTH 661 ~~GIS~~ and Public Health • HLTH 662 Global Health 5. Graduate Research Field in Global Health Students must successfully complete 2 required courses and 2 elective courses. An assessment of whether or not the student's thesis warrants the Global Health Graduate Research Field designation will be completed by the SPHHS. Required courses: • HLTH 701 Interdisciplinary Seminar in Public Health and Health Systems • HLTH 662 Global Health (or equivalent) Elective courses: Select 1 from the following list: • HLTH 704 Advanced Qualitative Methods for Health Research • HLTH 705 Advanced Statistical Methods for Analyzing Public Health and Health Systems Data • HLTH 706 Advanced Epidemiological Methods • HLTH 719 Advanced Research Methods in Health Informatics Select 1 from the following list (these courses are global-health focused in all examples and assignments): • HLTH 632 Health Economics and Public Health • HLTH 654 Systems Thinking and Analysis in Health Program Planning and Evaluation 6. Graduate Research Field in Aging and Health	• HLTH 604 Public Health and the Environment (or equivalent) Elective courses: Select 1 from the following list: • HLTH 704 Advanced Qualitative Methods for Health Research • HLTH 705 Advanced Statistical Methods for • Analyzing Public Health and Health Systems Data • HLTH 706 Advanced Epidemiological Methods Select 1 from the following list: • HLTH 623 Risk and Exposure Assessment in Public Health • HLTH 624 Environmental Toxicology in Public Health • HLTH 634 Environmental Epidemiology <u>for Public Health</u> • HLTH 631 Public Health Surveillance • HLTH 661 <u>Geographic Information Systems</u> and Public Health • HLTH 662 Global Health 5. Graduate Research Field in Global Health Students must successfully complete 2 required courses and 2 elective courses. An assessment of whether or not the student's thesis warrants the Global Health Graduate Research Field designation will be completed by the SPHHS. Required courses: • HLTH 701 Interdisciplinary Seminar in Public Health and Health Systems • HLTH 662 Global Health (or equivalent) Elective courses: Select 1 from the following list: • HLTH 704 Advanced Qualitative Methods for Health Research • HLTH 705 Advanced Statistical Methods for Analyzing Public Health and Health Systems Data • HLTH 706 Advanced Epidemiological Methods • HLTH 719 Advanced Research Methods in Health Informatics

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

Students must successfully complete 2 required courses and 2 elective courses. An assessment of whether or not the student's thesis warrants the Aging and Health Graduate Research Field designation will be completed by the SPHHS.
 	
Required courses:
 	
• HLTH 701 Interdisciplinary Seminar in Public Health and Health Systems
• HLTH 750 Fundamentals of Aging, Health and Well Being (over two terms, parts A and B)
 	
Elective courses:
 	
Select 1 from the following list:
 	
• HLTH 704 Advanced Qualitative Methods for Health Research
• HLTH 705 Advanced Statistical Methods for Analyzing Public Health and Health Systems Data
• HLTH 706 Advanced Epidemiological Methods
 	
Select 1 from the following list:
 	
• ~~HLTH 751 Aging Health and Well Being Research Seminar~~
• HLTH 642 Interdisciplinary Perspectives on Aging
• HLTH 627 Dementia Care
• HLTH 630 Geriatric Medicine
• HLTH 626 Analysis Management of Health Informatics in Aging Population
• HLTH 672 Epidemiologic Methods in Aging Research
 	
• Link(s) to courses
  o Health Studies (HLTH) courses
  o Graduate course search
 	
• Academic Integrity Workshop
• PhD Comprehensive Examination
  o Students are required to meet the University-level PhD Comprehensive Examination minimum requirements outlined in the "Minimum requirements for the PhD degree" section of the Graduate Studies Academic Calendar (GSAC), with certain noted differences that are specific to the Faculty of Applied Health Sciences
	Select 1 from the following list (these courses are global-health focused in all examples and assignments):
	
	• HLTH 632 Health Economics and Public Health
	• HLTH 654 Systems Thinking and Analysis in Health Program Planning and Evaluation
	
	6. Graduate Research Field in Aging and Health
	
	Students must successfully complete 2 required courses and 2 elective courses. An assessment of whether or not the student's thesis warrants the Aging and Health Graduate Research Field designation will be completed by the SPHHS.
	
	Required courses:
	
	• HLTH 701 Interdisciplinary Seminar in Public Health and Health Systems
	• HLTH 750 Fundamentals of Aging, Health and Well Being (over two terms, parts A and B)
	
	Elective courses:
	
	Select 1 from the following list:
	
	• HLTH 704 Advanced Qualitative Methods for Health Research
	• HLTH 705 Advanced Statistical Methods for Analyzing Public Health and Health Systems Data
	• HLTH 706 Advanced Epidemiological Methods
	
	Select 1 from the following list:
	
	• HLTH 642 Interdisciplinary Perspectives on Aging
	• HLTH 627 <u>Advanced</u> Dementia Care
	• HLTH 630 <u>Advanced</u> Geriatric Medicine <u>and Healthcare</u>
	• HLTH 626 Analysis Management of Health Informatics in Aging Population
	• HLTH 672 Epidemiologic Methods in Aging Research
	
	<u>7. Graduate Research Field in Work and Health</u>
	
	<u>Students must successfully complete 2 required courses and 2 elective courses. An assessment of whether or not the student's thesis warrants the Work and Health Research Field designation will be completed by the SPHHS.</u>

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
Comprehensive Examination minimum requirements: ▪ Comprehensive examination purpose: Consistent with University-level minimum requirements. Note: In the Faculty of Applied Health Sciences, the novel research topic is tested through a separate thesis proposal process. ▪ Timing: Consistent with University-level minimum requirements. ▪ Committee: Consistent with University-level minimum requirements with the exception that in the Faculty of Applied Health Sciences, the composition of the comprehensive examining committee will be approved by the Associate Chair or Director, Graduate Studies for the student's Department/School, as delegated by the Associate Dean, Graduate Studies. ▪ Who Chairs an examination: Consistent with University-level minimum requirements. ▪ Format / Content: Consistent with University-level minimum requirements. ▪ Academic integrity: Consistent with University-level minimum requirements. o In addition to the University-level and Faculty-level PhD Comprehensive Examination minimum requirements, students in the PhD in Public Health and Health Systems program must also note the following: ▪ The purpose of the comprehensive examination is to test the breadth and depth of the candidate's comprehension of the methodological and theoretical aspects of their field of study. The process is designed to enable candidates to acquire a solid grounding in their core area of public health research that will provide a foundation for undertaking dissertation research. The	Required courses: • HLTH 701 Interdisciplinary Seminar in Public Health and Health Systems • HLTH 728 What is Fair? International Perspectives On Equity In Work and Health Elective courses: Select 1 from the following list: • HLTH 704 Advanced Qualitative Methods for Health Research • HLTH 705 Advanced Statistical Methods for Analyzing Public Health and Health Systems Data • HLTH 706 Advanced Epidemiological Methods • HLTH 719 Advanced Research Methods in Health Informatics • Select 1 from the following list: • HLTH 731 Approaches to Research in Work and Health • HLTH 623 Risk and Exposure Assessment in Public Health • HLTH 614 Foundations of Program Evaluation • HLTH 639 Experiential Learning in Evaluation • HLTH 654 Systems Thinking and Analysis In Health Program Planning and Evaluation • Link(s) to courses o Health Studies (HLTH) courses o Graduate course search • Academic Integrity Workshop • PhD Comprehensive Examination o Students are required to meet the University-level PhD Comprehensive Examination minimum requirements outlined in the "Minimum requirements for the PhD degree" section of the Graduate Studies Academic Calendar (GSAC), with certain noted differences that are specific to the Faculty of Applied Health Sciences Comprehensive Examination minimum requirements: ▪ Comprehensive examination purpose: Consistent with

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
examination will also test the candidate's ability to critically evaluate the literature and synthesize information from sources to identify knowledge gaps and recommend solutions. ▪ The comprehensive examination consists of three written questions followed by an oral examination. The written questions must be completed within eight weeks from the start date and the oral defence should be completed within four weeks of submission of the written examination. • PhD Thesis o A PhD thesis on an approved topic is required, which is to be defended in an oral examination. The research is to be conducted under the supervision of the student's supervisor and the advisory committee. The PhD thesis advisory committee consists of at least three members, with the supervisor and at least one other committee member being faculty from within the School of Public Health and Health Systems. The proposal will be defended before the thesis committee; however, upon completion of the thesis, the final document will be defended before a five-person Examination Board.	University-level minimum requirements. Note: In the Faculty of Applied Health Sciences, the novel research topic is tested through a separate thesis proposal process. ▪ Timing: Consistent with University-level minimum requirements. ▪ Committee: Consistent with University-level minimum requirements with the exception that in the Faculty of Applied Health Sciences, the composition of the comprehensive examining committee will be approved by the Associate Chair or Director, Graduate Studies for the student's Department/School, as delegated by the Associate Dean, Graduate Studies. ▪ Who Chairs an examination: Consistent with University-level minimum requirements. ▪ Format / Content: Consistent with University-level minimum requirements. ▪ Academic integrity: Consistent with University-level minimum requirements. o In addition to the University-level and Faculty-level PhD Comprehensive Examination minimum requirements, students in the PhD in Public Health and Health Systems program must also note the following: ▪ The purpose of the comprehensive examination is to test the breadth and depth of the candidate's comprehension of the methodological and theoretical aspects of their field of study. The process is designed to enable candidates to acquire a solid grounding in their core area of public health research that will provide a foundation for undertaking dissertation research. The examination will also test the candidate's ability to critically evaluate the literature and synthesize information from

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
	sources to identify knowledge gaps and recommend solutions. o The comprehensive examination consists of three written questions followed by an oral examination. The written questions must be completed within eight weeks from the start date and the oral defence should be completed within four weeks of submission of the written examination. • PhD Thesis o A PhD thesis on an approved topic is required, which is to be defended in an oral examination. The research is to be conducted under the supervision of the student's supervisor and the advisory committee. The PhD thesis advisory committee consists of at least three members, with the supervisor and at least one other committee member being faculty from within the School of Public Health and Health Systems. The proposal will be defended before the thesis committee; however, upon completion of the thesis, the final document will be defended before a five-person Examination Board.

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

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

Department/School approval date (mm/dd/yy): 09/20/19
Reviewed by GSPA (for GSPA use only) ☒ date (mm/dd/yy): 04/02/2020
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 and Postdoctoral Affairs (GSPA).

Faculty: Arts and Environment

Program: Master of Arts (MA) in Global Governance

Program contact name(s): Andrew Thompson

Form completed by:

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

Update of the MA in Global Governance degree requirements to include a new Graduate Research Field in Peace Integration.

Is this a major modification to the program? Yes

Rationale for change(s):

The increasing complexity of global conflict requires sophisticated responses from a new generation of graduates working for peace. The proposed Graduate Research Field in Peace Integration will provide students with the opportunity to enroll in world class, interdisciplinary academic courses offered by programs highlighting holistic and integrated approaches to the study of peace that encapsulates more than simply the absence of violent conflict. Moreover, the Graduate Research Field will enhance the University's reputation as an innovative leader in transformative, graduate-level teaching and research focusing on the advancement of global peace and international change through educating, training, and developing a future generation of peace-builders.

The Graduate Research Field in Peace Integration is distinctive in that it will go beyond traditional disciplines that study peace, such as Peace and Conflict Studies and International Relations, by integrating knowledge from complementary programs, specifically Global Governance, Climate Change, Development Practice and Public Health and Health Systems. To earn the Graduate Research Field, students will be required to take a core course from the home program, plus three other courses from a menu of existing, peace-related offerings from the other complementary programs. In order to ensure an interdisciplinary experience, students will have to take at least one course each from three of the five participating programs.

The primary benefit to students will be the integration of knowledge from five different masters programs. Much of what we are proposing with the Graduate Research Field in Peace Integration is a further formalization of existing bilateral collaboration that is already taking place among the participating programs. Indeed, many of the courses that will be part of the Graduate Research Field are already cross-listed among the programs.

All five of the participating programs have been involved in the development of the proposal and are keen to see it come to fruition.

Proposed effective date: Term: Fall Year: 2020

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

https://uwaterloo.ca/graduate-studies-academic-calendar/arts/global-governance/master-arts-ma-global-governance

https://uwaterloo.ca/graduate-studies-academic-calendar/environment/global-governance/master-arts-ma-global-governance

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
Graduate research fields • Conflict and Security • Global Environment • Global Justice and Human Rights • Global Political Economy • Global Social Governance • Multilateral Institutions and Diplomacy **Degree requirements** **Master's Research Paper option:** • **Graduate Academic Integrity Module (Graduate AIM)** • **Courses** o Students must complete 6 courses during the first two terms, as follows: ▪ Core course component: GGOV 600 Global Governance ▪ History component: 1 of the following courses (or an appropriate alternative): ▪ HIST 605 Global Governance in Historical Perspective ▪ HIST 606 International Development in Historical Perspective ▪ HIST 607 Human Rights in Historical Perspective I ▪ HIST 608 Human Rights in Historical Perspective II ▪ HIST 612 Indigenous Rights and Claims: A Global Perspective ▪ HIST 660 Transnational and Global History: Old Problems and New Directions ▪ Economics component: 1 of the following courses (or an appropriate alternative):	**Graduate research fields** • Conflict and Security • Global Environment • Global Justice and Human Rights • Global Political Economy • Global Social Governance • Multilateral Institutions and Diplomacy • Peace Integration **Degree requirements** **Master's Research Paper option:** • **Graduate Academic Integrity Module (Graduate AIM)** • **Courses** o Students must complete 6 courses during the first two terms, as follows: ▪ Core course component: GGOV 600 Global Governance ▪ History component: 1 of the following courses (or an appropriate alternative): ▪ HIST 605 Global Governance in Historical Perspective ▪ HIST 606 International Development in Historical Perspective ▪ HIST 607 Human Rights in Historical Perspective I ▪ HIST 608 Human Rights in Historical Perspective II ▪ HIST 612 Indigenous Rights and Claims: A Global Perspective ▪ HIST 660 Transnational and Global History: Old Problems and New Directions ▪ Economics component: 1 of the following courses (or an appropriate alternative):

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
▪ GGOV 610/PSCI 688/PACS 630 Governance of Global Economy ▪ GGOV 611/PSCI 686 Emerging Economies in Global Governance ▪ GGOV 613/PSCI 668 The Politics of National Innovation Systems ▪ GGOV 614/PSCI 614 Global Business and Development ▪ GGOV 615/PSCI 615 Global Poverty ▪ GGOV 618 Special Topics in Global Political Economy ▪ GGOV 619 Readings in Global Political Economy ▪ GGOV 621/PSCI 606/ERS 606 Governing Global Food and Agriculture Systems ▪ GGOV 663/PSCI 619 China and Global Governance ▪ ECON 637 Economic Analysis and Global Governance ▪ ECON 631 International Trade ▪ ECON 635 International Trade and Development ▪ ECON 673 Special Topics in Economics ▪ Political Science component: 1 of the following courses: ▪ GGOV 610/PSCI 688 Governance of Global Economy (GV 731 at WLU) ▪ GGOV 620/ERS 604/PSCI 604 Advanced Topics in Global Environmental Governance (GV 732 at WLU) ▪ GGOV 621/ERS 606/PSCI 606 Governing Global Food and Agriculture Systems ▪ GGOV 630/PSCI 678/PACS 634 Security Ontology-Theory (GV	▪ GGOV 610/PSCI 688/PACS 630 Governance of Global Economy ▪ GGOV 611/PSCI 686 Emerging Economies in Global Governance ▪ GGOV 613/PSCI 668 The Politics of National Innovation Systems ▪ GGOV 614/PSCI 614 Global Business and Development ▪ GGOV 615/PSCI 615 Global Poverty ▪ GGOV 618 Special Topics in Global Political Economy ▪ GGOV 619 Readings in Global Political Economy ▪ GGOV 621/PSCI 606/ERS 606 Governing Global Food and Agriculture Systems ▪ GGOV 663/PSCI 619 China and Global Governance ▪ ECON 637 Economic Analysis and Global Governance ▪ ECON 631 International Trade ▪ ECON 635 International Trade and Development ▪ ECON 673 Special Topics in Economics ▪ Political Science component: 1 of the following courses: ▪ GGOV 610/PSCI 688 Governance of Global Economy (GV 731 at WLU) ▪ GGOV 620/ERS 604/PSCI 604 Advanced Topics in Global Environmental Governance (GV 732 at WLU) ▪ GGOV 621/ERS 606/PSCI 606 Governing Global Food and Agriculture Systems ▪ GGOV 630/PSCI 678/PACS 634 Security Ontology-Theory (GV 733 at WLU)

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
733 at WLU) ▪ GGOV 631/PSCI 679/PACS 635 Security Ontology-Issues & Institutions ▪ GGOV 640/PSCI 658/PACS 633 Human Rights in the Globalized World ▪ GGOV 642/PSCI 639 Global Social Governance (GV 735 at WLU) ▪ PSCI 657/GGOV 650 International Organizations and Global Governance ▪ Elective component: 2 additional courses chosen from the following list: ▪ ECON 635 International Trade and Development ▪ GGOV 611/PSCI 686 Emerging Economies in Global Governance ▪ GGOV 613/PSCI 668 The Politics of National Innovation Systems ▪ GGOV 614/PSCI 614 International Business and Development ▪ GGOV 615/PSCI 615 Global Poverty ▪ GGOV 618 Special Topics in Global Political Economy ▪ GGOV 619 Readings in Global Political Economy ▪ GGOV 622 Complexity and Global Governance ▪ GGOV 628 Special Topics in Global Environmental Governance ▪ GGOV 629 Readings in Global Environmental Governance ▪ GGOV 632 Post-War Reconstruction and State Building ▪ GGOV 633 Managing Nuclear Risk ▪ GGOV 634/PSCI 620 Gender and Global Politics	▪ GGOV 631/PSCI 679/PACS 635 Security Ontology-Issues & Institutions ▪ GGOV 640/PSCI 658/PACS 633 Human Rights in the Globalized World ▪ GGOV 642/PSCI 639 Global Social Governance (GV 735 at WLU) ▪ PSCI 657/GGOV 650 International Organizations and Global Governance ▪ Elective component: 2 additional courses chosen from the following list: ▪ ECON 635 International Trade and Development ▪ GGOV 611/PSCI 686 Emerging Economies in Global Governance ▪ GGOV 613/PSCI 668 The Politics of National Innovation Systems ▪ GGOV 614/PSCI 614 International Business and Development ▪ GGOV 615/PSCI 615 Global Poverty ▪ GGOV 618 Special Topics in Global Political Economy ▪ GGOV 619 Readings in Global Political Economy ▪ GGOV 622 Complexity and Global Governance ▪ GGOV 628 Special Topics in Global Environmental Governance ▪ GGOV 629 Readings in Global Environmental Governance ▪ GGOV 632 Post-War Reconstruction and State Building ▪ GGOV 633 Managing Nuclear Risk ▪ GGOV 634/PSCI 620 Gender and Global Politics ▪ GGOV 638 Special Topics in Conflict and Security ▪ GGOV 639 Readings in Conflict and Security

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
▪ GGOV 638 Special Topics in Conflict and Security ▪ GGOV 639 Readings in Conflict and Security ▪ GGOV 641 International Human Rights (GV 760 at WLU) ▪ GGOV 643 Global Health Governance ▪ GGOV 644/SOC 784 International Migration: Practice, Theory and Regulation ▪ GGOV 648 Special Topics in Human Rights and Global Justice ▪ GGOV 649 Readings in Human Rights and Global Justice ▪ GGOV 651/PSCI 617 Unconventional Diplomacy ▪ GGOV 652/PSCI 618 Non-State Actors in Global Governance ▪ GGOV 653 International Organizations and Public Policy ▪ GGOV 658 Special Topics in Multilateral Institutions and Diplomacy ▪ GGOV 659 Readings in Multilateral Institutions and Diplomacy ▪ GGOV 660 Public International Law ▪ GGOV 661 International Organizations Law ▪ GGOV 662/SOC 781 Global Development Governance ▪ GGOV 663 China and Global Governance ▪ GGOV 668 Special Topics in Global Social Governance ▪ GGOV 669 Readings in Global Social Governance ▪ HIST 604 Theory and Practice of Insurgency and Counterinsurgency: Historical and	▪ GGOV 641 International Human Rights (GV 760 at WLU) ▪ GGOV 643 Global Health Governance ▪ GGOV 644/SOC 784 International Migration: Practice, Theory and Regulation ▪ GGOV 648 Special Topics in Human Rights and Global Justice ▪ GGOV 649 Readings in Human Rights and Global Justice ▪ GGOV 651/PSCI 617 Unconventional Diplomacy ▪ GGOV 652/PSCI 618 Non-State Actors in Global Governance ▪ GGOV 653 International Organizations and Public Policy ▪ GGOV 658 Special Topics in Multilateral Institutions and Diplomacy ▪ GGOV 659 Readings in Multilateral Institutions and Diplomacy ▪ GGOV 660 Public International Law ▪ GGOV 661 International Organizations Law ▪ GGOV 662/SOC 781 Global Development Governance ▪ GGOV 663 China and Global Governance ▪ GGOV 668 Special Topics in Global Social Governance ▪ GGOV 669 Readings in Global Social Governance ▪ HIST 604 Theory and Practice of Insurgency and Counterinsurgency: Historical and Contemporary Issues ▪ HIST 606 International Development in Historical Perspective ▪ HIST 610 War and Society in the Twentieth Century I ▪ HIST 611 War and Society in the Twentieth Century II

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
Contemporary Issues ▪ HIST 606 International Development in Historical Perspective ▪ HIST 610 War and Society in the Twentieth Century I ▪ HIST 611 War and Society in the Twentieth Century II ▪ HIST 626 Modern European History I ▪ HIST 627 Modern European History II ▪ HIST 632 History of the United States I ▪ HIST 651 Historians and Public Policy ▪ PSCI 639/GGOV 642 Global Social Governance ▪ PSCI 651 Democracy and Development ▪ PSCI 657/GGOV 650 International Organizations and Global Governance ▪ PSCI 658/GGOV 640 Human Rights in the Globalized World ▪ PSCI 680 Critical Security Studies ▪ PSCI 681 Power Politics and World Order Studies ▪ PSCI 684 Special Topics in International Diplomacy ▪ Note: Not all courses are offered each year and more courses may be available. Consult the respective departments for information on available courses in any given year. Consult the graduate studies calendar for full course descriptions. • **Link(s) to courses** o Global Governance (GGOV) courses o Graduate course search • **Academic Integrity Workshop** • **Master's Seminar**	▪ HIST 626 Modern European History I ▪ HIST 627 Modern European History II ▪ HIST 632 History of the United States I ▪ HIST 651 Historians and Public Policy ▪ PSCI 639/GGOV 642 Global Social Governance ▪ PSCI 651 Democracy and Development ▪ PSCI 657/GGOV 650 International Organizations and Global Governance ▪ PSCI 658/GGOV 640 Human Rights in the Globalized World ▪ PSCI 680 Critical Security Studies ▪ PSCI 681 Power Politics and World Order Studies ▪ PSCI 684 Special Topics in International Diplomacy ▪ Note: Not all courses are offered each year and more courses may be available. Consult the respective departments for information on available courses in any given year. Consult the graduate studies calendar for full course descriptions. • Students in the MA program may also wish to pursue a Graduate Research Field in Peace Integration. • A Graduate Research Field is a University credential that is recognized on the student's transcript and is intended to reflect that a student has successfully completed research and a set of courses that together provide an in-depth study in the area of the Graduate Research Field. A student will only obtain the Graduate Research Field on their transcript if they have completed the requirements associated with the MA degree and the requirements associated with the Graduate Research Field. • The course requirements for the Graduate Research Field in Peace Integration are described below. • Students must successfully complete the following courses: ▪ GGOV 600 Global Governance

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
o Students must attend the program seminar. The seminar will meet regularly throughout the first and second term. Meetings will include visiting speakers (at both the University of Waterloo and the Centre for International Governance Innovation), guest talks by core faculty members and, during the second term, discussions of the research plans of students for the Master's Research Paper (MRP). Attendance at the Seminar is required, but grades will be assigned on a credit/non-credit (or pass/fail) basis. • **Master's Internship** o All students are required to spend the equivalent of one academic term as an intern working on global governance issues in the public or private sector, at a research institute, or for a non-governmental organization. The work-term will normally take place in the third term of the program. A written report arising out of the internship experience will be required and will be evaluated. This report is distinct from the MRP, but could build towards it. • **Master's Research Paper** o After the completion of the internship, students will concentrate during their fourth term on the completion of a MRP. The MRP provides students with an opportunity to pursue a specific research topic of their choosing relating to the study of global governance. The minimum length is 40 pages double-spaced and the maximum is 60 pages double-spaced.	▪ 1 course from the following list: ▪ PACS 601 Systems of Peace, Order, and Good Governance ▪ PACS 602 Practice of Peace ▪ PACS 603 Building Civil Society ▪ PACS 604 Conflict Analysis ▪ PACS 605 Conflict Transformation and Peacebuilding ▪ 2 courses from the following list (note: each of the 2 courses must be from a different subject code/area): ▪ INDEV 604/PACS 650 Sustainable Food Systems ▪ INDEV 605/PACS 651 Economics for Sustainable Development ▪ INDEV 608/PACS 652 Water and Security ▪ INDEV 609 Sustainability Concepts, Applications and Key Debates ▪ INDEV 613 Water, Human Security and Development ▪ GEMCC 602 Climate Change: Vulnerability and Adaptation ▪ GEMCC 622 Climate Change, Natural Hazards and Disaster Risk Reduction ▪ GEMCC 640 Climate Change Governance: From Global Treaties to Local Innovation ▪ HLTH 604 Health and the Environment (blended on-campus/online offering ▪ HLTH 607 Social and Cultural Aspects of Public Health (blended on-campus/online offering) ▪ HLTH 614 Foundations of Program Evaluation ▪ HLTH 632 Health Economics and Public Health (online offering) ▪ HLTH 603 Health Systems and Policy ▪ HLTH 661 Geographic

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
	Information Systems and Public Health (online offering) ▪ HLTH 662 Global Health ▪ 2 additional courses from the following list (note: each of the 2 courses must be from a different subject code/area): ▪ History component: 1 of the following courses (or an appropriate alternative): ▪ HIST 605 Global Governance in Historical Perspective ▪ HIST 606 International Development in Historical Perspective ▪ HIST 607 Human Rights in Historical Perspective I ▪ HIST 608 Human Rights in Historical Perspective II ▪ HIST 612 Indigenous Rights and Claims: A Global Perspective ▪ HIST 660 Transnational and Global History: Old Problems and New Directions ▪ Economics component: 1 of the following courses (or an appropriate alternative): ▪ GGOV 610/PSCI 688/PACS 630 Governance of Global Economy ▪ GGOV 611/PSCI 686 Emerging Economies in Global Governance ▪ GGOV 613/PSCI 668 The Politics of National Innovation Systems ▪ GGOV 614/PSCI 614 Global Business and Development ▪ GGOV 615/PSCI 615 Global Poverty ▪ GGOV 618 Special Topics in Global Political Economy ▪ GGOV 619 Readings in Global Political Economy ▪ GGOV 621/PSCI 606/ERS 606 Governing Global Food and Agriculture Systems

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
	▪ GGOV 663/PSCI 619 China and Global Governance ▪ ECON 637 Economic Analysis and Global Governance ▪ ECON 631 International Trade ▪ ECON 635 International Trade and Development ▪ ECON 673 Special Topics in Economics ▪ Political Science component: 1 of the following courses: ▪ GGOV 610/PSCI 688 Governance of Global Economy (GV 731 at WLU) ▪ GGOV 620/ERS 604/PSCI 604 Advanced Topics in Global Environmental Governance (GV 732 at WLU) ▪ GGOV 621/ERS 606/PSCI 606 Governing Global Food and Agriculture Systems ▪ GGOV 630/PSCI 678/PACS 634 Security Ontology-Theory (GV 733 at WLU) ▪ GGOV 631/PSCI 679/PACS 635 Security Ontology-Issues & Institutions ▪ GGOV 640/PSCI 658/PACS 633 Human Rights in the Globalized World ▪ GGOV 642/PSCI 639 Global Social Governance (GV 735 at WLU) ▪ PSCI 657/GGOV 650 International Organizations and Global Governance • **Link(s) to courses** o Global Governance (GGOV) courses o Graduate course search • **Academic Integrity Workshop** • **Master's Seminar** o Students must attend the program seminar. The seminar will meet regularly

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
	throughout the first and second term. Meetings will include visiting speakers (at both the University of Waterloo and the Centre for International Governance Innovation), guest talks by core faculty members and, during the second term, discussions of the research plans of students for the Master's Research Paper (MRP). Attendance at the Seminar is required, but grades will be assigned on a credit/non-credit (or pass/fail) basis. • **Master's Internship** o All students are required to spend the equivalent of one academic term as an intern working on global governance issues in the public or private sector, at a research institute, or for a non-governmental organization. The work-term will normally take place in the third term of the program. A written report arising out of the internship experience will be required and will be evaluated. This report is distinct from the MRP, but could build towards it. • **Master's Research Paper** o After the completion of the internship, students will concentrate during their fourth term on the completion of a MRP. The MRP provides students with an opportunity to pursue a specific research topic of their choosing relating to the study of global governance. The minimum length is 40 pages double-spaced and the maximum is 60 pages double-spaced.

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

Current students won't be impacted at all. The 2020-2021 cohort of students will be the first ones to take advantage of the new field.

Department/School approval date (mm/dd/yy):
Reviewed by GSPA (for GSPA use only) ☒ date (mm/dd/yy): 11/01/2019
Faculty approval date (mm/dd/yy): 03/17/20
Senate Graduate & Research Council (SGRC) approval date (mm/dd/yy):
Senate approval date (mm/dd/yy) (if applicable):

UNIVERSITY OF WATERLOO

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 and Postdoctoral Affairs (GSPA).

Faculty: Arts

Program: Master of Peace and Conflict Studies (MPACS)

Program contact name(s): Nathan Funk, Chair, Peace and Conflict Studies

Form completed by:

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

Update of the MPACS degree requirements to include a new Graduate Specialization in Peace Integration.

Is this a major modification to the program? Yes

Rationale for change(s):

The increasing complexity of global conflict requires sophisticated responses from a new generation of graduates working for peace. The proposed Graduate Specialization in Peace Integration will provide students with the opportunity to enroll in world class, interdisciplinary academic courses offered by programs highlighting holistic and integrated approaches to the study of peace that encapsulates more than simply the absence of violent conflict. Moreover, the Graduate Specialization will enhance the University's reputation as an innovative leader in transformative, graduate-level teaching and research focusing on the advancement of global peace and international change through educating, training, and developing a future generation of peace-builders.

The Graduate Specialization in Peace Integration is distinctive in that it will go beyond traditional disciplines that study peace, such as Peace and Conflict Studies and International Relations, by integrating knowledge from complementary programs, specifically Global Governance, Climate Change, Development Practice and Public Health and Health Systems. To earn the Graduate Specialization, students will be required to take a core course from the home program, plus three other courses from a menu of existing, peace-related offerings from the other complementary programs. In order to ensure an interdisciplinary experience, students will have to take at least one course each from three of the five participating programs.

The primary benefit to students will be the integration of knowledge from five different masters programs. Much of what we are proposing with the Graduate Specialization in Peace Integration is a further formalization of existing bilateral collaboration that is already taking place among the participating programs. Indeed, many of the courses that will be part of the Graduate Specialization are already cross-listed among the programs.

Proposed effective date: Term: Fall Year: 2020

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

https://uwaterloo.ca/graduate-studies-academic-calendar/arts/department-peace-and-conflict-studies/master-peace-and-conflict-studies-mpacs

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 program requires successful completion of 10 courses (5.00 units total). o Full-time students will normally be expected to complete the degree requirements over a consecutive four-term period, enrolling in three courses for the first two terms and at least two courses in the last two terms. o Part-time students are expected to complete at least two courses per academic year and must complete the program within five years. o Students must complete the following courses: ▪ 2.50 units of: ▪ PACS 601 Systems of Peace, Order, and Good Governance ▪ PACS 602 The Practice of Peace ▪ PACS 603 Building Civil Society ▪ PACS 604 Conflict Analysis ▪ PACS 605 Conflict Transformation and Peacebuilding ▪ At least 1.00 units of: ▪ PACS 610 Contemporary Nonviolent Movements ▪ PACS 611 Reconciliation ▪ PACS 612 Culture, Religion, and Peacebuilding ▪ PACS 620 Special Topics in Peace and Conflict Studies ▪ PACS 621 Peace Research ▪ PACS 625 Internship ▪ PACS 626 Conflict Resolution Skills Training	**Graduate specializations** • Peace Integration **Degree requirements** **Coursework option:** • **Graduate Academic Integrity Module (Graduate AIM)** • **Courses** o The program requires successful completion of 10 courses (5.00 units total). o Full-time students will normally be expected to complete the degree requirements over a consecutive four-term period, enrolling in three courses for the first two terms and at least two courses in the last two terms. o Part-time students are expected to complete at least two courses per academic year and must complete the program within five years. o Students must complete the following courses: ▪ 2.50 units of: ▪ PACS 601 Systems of Peace, Order, and Good Governance ▪ PACS 602 The Practice of Peace ▪ PACS 603 Building Civil Society ▪ PACS 604 Conflict Analysis ▪ PACS 605 Conflict Transformation and Peacebuilding ▪ At least 1.00 units of: ▪ PACS 610 Contemporary Nonviolent Movements ▪ PACS 611 Reconciliation ▪ PACS 612 Culture, Religion, and Peacebuilding ▪ PACS 620 Special Topics in Peace and Conflict Studies ▪ PACS 621 Peace Research ▪ PACS 625 Internship

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
▪ An additional 1.50 units that can be chosen from: ▪ Additional courses from PACS 610 - PACS 626 ▪ PACS 630/GGOV 610/PSCI 688 Governance of Global Economy ▪ PACS 631/GGOV 612/PSCI 612 Theories of Globalization ▪ PACS 632/GGOV 632/PSCI 654 Post-War Reconstruction and State Building ▪ PACS 633/GGOV 640/PSCI 658 Human Rights in the Globalized World ▪ PACS 634/GGOV 630/PSCI 678 Security Ontology-Theory ▪ PACS 635/GGOV 631/PSCI 679 Security Governance: Actors, Institutions, and Issues ▪ PACS 650/INDEV 604 Sustainable Cities ▪ PACS 651/INDEV 605 Economics for Sustainable Development ▪ PACS 652/INDEV 608 Water and Security ▪ PACS 660/PSCI 624 Justice and Gender ▪ PACS 661/PSCI 655 Ethnic Conflict and Conflict Resolution I ▪ PACS 662/PSCI 659 Conflict and Conflict Resolution ▪ PACS 670/TS 637 War and Peace in Christian Theology ▪ PACS 671/TS 619 The Bible and Peace ▪ PACS 672/TS 731 Christianity's Encounter with Other Faiths o Students may request permission from the PACS Graduate Advisor to enrol in elective courses in other University of Waterloo or Wilfrid Laurier University graduate courses that will complement	▪ PACS 626 Conflict Resolution Skills Training ▪ An additional 1.50 units that can be chosen from: ▪ Additional courses from PACS 610 - PACS 626 ▪ PACS 630/GGOV 610/PSCI 688 Governance of Global Economy ▪ PACS 631/GGOV 612/PSCI 612 Theories of Globalization ▪ PACS 632/GGOV 632/PSCI 654 Post-War Reconstruction and State Building ▪ PACS 633/GGOV 640/PSCI 658 Human Rights in the Globalized World ▪ PACS 634/GGOV 630/PSCI 678 Security Ontology-Theory ▪ PACS 635/GGOV 631/PSCI 679 Security Governance: Actors, Institutions, and Issues ▪ PACS 650/INDEV 604 Sustainable Cities ▪ PACS 651/INDEV 605 Economics for Sustainable Development ▪ PACS 652/INDEV 608 Water and Security ▪ PACS 660/PSCI 624 Justice and Gender ▪ PACS 661/PSCI 655 Ethnic Conflict and Conflict Resolution I ▪ PACS 662/PSCI 659 Conflict and Conflict Resolution ▪ PACS 670/TS 637 War and Peace in Christian Theology ▪ PACS 671/TS 619 The Bible and Peace ▪ PACS 672/TS 731 Christianity's Encounter with Other Faiths o Students may request permission from the PACS Graduate Advisor to enrol in

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
their program of study. Permission must also be granted by the department or program in which the courses are offered. o The program offers 3 non-traditional courses which will be managed as follows: ▪ PACS 621 Peace Research: an agreement between the student and the supervising faculty member about research expectations, length of paper, format, topic, types of sources that can be used, and anticipated outcomes is required. Students will be required to prepare a detailed proposal prior to registration in this course that will fully explain the proposed research as well as provide a short bibliography to ensure that adequate sources exist to successfully complete the research. Students will meet periodically with their instructor throughout the term to ensure that milestones are reached. Written work will be evaluated per normal academic criteria. ▪ PACS 625 Internship: students will be required to submit a petition outlining the details of the proposed internship such as place, position, cost, academic work expectations, security concerns, etc. Students will be expected to engage in substantial research on issues related to the host agency as part of the internship. While PACS has the agreement of over ten organizations who are interested in hosting interns, it is anticipated that internships will be negotiated to fit the unique long-term goals of each student. Host agencies will be expected to submit a reference evaluating the student intern at the end of the internship. Written work submitted by the student (evidence of research and reflective report) will be evaluated per normal academic criteria.	elective courses in other University of Waterloo or Wilfrid Laurier University graduate courses that will complement their program of study. Permission must also be granted by the department or program in which the courses are offered. o The program offers 3 non-traditional courses which will be managed as follows: ▪ PACS 621 Peace Research: an agreement between the student and the supervising faculty member about research expectations, length of paper, format, topic, types of sources that can be used, and anticipated outcomes is required. Students will be required to prepare a detailed proposal prior to registration in this course that will fully explain the proposed research as well as provide a short bibliography to ensure that adequate sources exist to successfully complete the research. Students will meet periodically with their instructor throughout the term to ensure that milestones are reached. Written work will be evaluated per normal academic criteria. ▪ PACS 625 Internship: students will be required to submit a petition outlining the details of the proposed internship such as place, position, cost, academic work expectations, security concerns, etc. Students will be expected to engage in substantial research on issues related to the host agency as part of the internship. While PACS has the agreement of over ten organizations who are interested in hosting interns, it is anticipated that internships will be negotiated to fit the unique long-term goals of each student. Host agencies will be expected to submit a reference evaluating the student intern at the end of the internship. Written work submitted by the student (evidence of research and

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
▪ PACS 626 Conflict Resolution Skills Training: this course offers an opportunity for students to take skills-training workshops. Program consent is required to ensure that workshops selected by students, plus the expected additional assigned academic work, are appropriate. • **Link(s) to courses** o Peace and Conflict Studies (PACS) courses o Graduate course search • **Academic Integrity Workshop** o Students will be required to complete a non-credit Academic Integrity Workshop for graduate students offered by the University of Waterloo within their first two terms of study. Once completed, this milestone will be shown on each student's academic record. • **Graduate Studies Colloquium** o The Colloquium will be completed towards the end of the student's program. All students will be required to present publicly, at a Colloquium of MPACS faculty, students and guests, one of the papers they have written for an MPACS course. Length will normally be 25-30 pages (7,500 words). Each student will consult with the professor for whom the original paper was written to identify the core issues to emphasize and the best methods to employ to present the paper. The presentation will be followed by a formal peer response and open discussion. In addition to presenting their own research paper, each student will be required to read and present an oral evaluation of one of the other research papers presented at a Colloquium.	reflective report) will be evaluated per normal academic criteria. ▪ PACS 626 Conflict Resolution Skills Training: this course offers an opportunity for students to take skills-training workshops. Program consent is required to ensure that workshops selected by students, plus the expected additional assigned academic work, are appropriate. o Students in the MPACS program may also choose to pursue the Graduate Specialization in Peace Integration. o A Graduate Specialization is a University credential that is recognized on the student's transcript but not on the diploma and is intended to reflect that a student has successfully completed a set of courses that together provide an in-depth study in the area of the Graduate Specialization. A student will only obtain the Graduate Specialization on their transcript if they have completed the requirements associated with the MPACS degree and the requirements associated with the Graduate Specialization. o The course requirements for the Graduate Specialization in Peace Integration are described below. o Students must complete the following courses: ▪ PACS 605 Conflict Transformation and Peacebuilding ▪ 1.50 units from the following list (note: each 0.50 unit/course must be from a different subject code/area): ▪ GGOV 610/PSCI 688/PACS 630 Governance of Global Economy ▪ GGOV 622 Complexity and Global Governance ▪ GGOV 630/PSCI 678/PACS 634 Security Ontology-Theory ▪ GGOV 631/PSCI 679/PACS 635 Security Governance: Actors, Institutions, and Issues

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
	▪ GGOV 633 Managing Nuclear Risk ▪ GGOV 662/SOC 781 Global Development Governance ▪ INDEV 604/PACS 650 Sustainable Food Systems ▪ INDEV 605/PACS 651 Economics for Sustainable Development ▪ INDEV 608/PACS 652 Water and Security ▪ INDEV 609 Sustainability Concepts, Applications and Key Debates ▪ INDEV 613 Water, Human Security and Development ▪ GEMCC 602 Climate Change: Vulnerability and Adaptation ▪ GEMCC 622 Climate Change, Natural Hazards and Disaster Risk Reduction ▪ GEMCC 640 Climate Change Governance: From Global Treaties to Local Innovation ▪ HLTH 604 Health and the Environment (blended on-campus/online offering ▪ HLTH 607 Social and Cultural Aspects of Public Health (blended on-campus/online offering) ▪ HLTH 614 Foundations of Program Evaluation ▪ HLTH 632 Health Economics and Public Health (online offering) ▪ HLTH 603 Health Systems and Policy ▪ HLTH 661 Geographic Information Systems and Public Health (online offering) ▪ HLTH 662 Global Health ▪ 2.00 units of:

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
	▪ PACS 601 Systems of Peace, Order, and Good Governance ▪ PACS 602 The Practice of Peace ▪ PACS 603 Building Civil Society ▪ PACS 604 Conflict Analysis ▪ At least 1.00 units of: ▪ PACS 610 Contemporary Nonviolent Movements ▪ PACS 611 Reconciliation ▪ PACS 612 Culture, Religion, and Peacebuilding ▪ PACS 620 Special Topics in Peace and Conflict Studies ▪ PACS 621 Peace Research ▪ PACS 625 Internship ▪ PACS 626 Conflict Resolution Skills Training • **Link(s) to courses** o Peace and Conflict Studies (PACS) courses o Graduate course search • **Academic Integrity Workshop** o Students will be required to complete a non-credit Academic Integrity Workshop for graduate students offered by the University of Waterloo within their first two terms of study. Once completed, this milestone will be shown on each student's academic record. • **Graduate Studies Colloquium** o The Colloquium will be completed towards the end of the student's program. All students will be required to present publicly, at a Colloquium of MPACS faculty, students and guests, one of the papers they have written for an MPACS course. Length will normally be 25-30 pages (7,500 words). Each student will consult with the professor for whom the original paper was written to identify the core issues to emphasize and the best methods to employ to present the paper. The presentation will

Current Graduate Studies Academic Calendar content:	**Proposed Graduate Studies Academic Calendar content**:
	be followed by a formal peer response and open discussion. In addition to presenting their own research paper, each student will be required to read and present an oral evaluation of one of the other research papers presented at a Colloquium.

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

Currently registered students will be able to complete the Graduate Specialization in Peace Integration if they fulfill the requirements.

Department/School approval date Approved by PACS and Conrad Grebel College Council, March 1, 2019.
Reviewed by GSPA (for GSPA use only) ☐ date (mm/dd/yy):
Faculty approval date (mm/dd/yy): 03/17/20
Senate Graduate & Research Council (SGRC) approval date (mm/dd/yy):
Senate approval date (mm/dd/yy) (if applicable):

University of Waterloo
REPORT OF THE VICE-PRESIDENT, ACACEMIC & PROVOST
Report to Senate
19 May 2020

FOR APPROVAL

Roster of Graduands

Since the roster of graduands will not be available until after the regular meeting of Senate in May and approval is required before the June meeting, the following motion is proposed:

Motion: That Senate delegate such approval to its Executive Committee for its 1 June 2020 meeting.

University of Waterloo
SENATE
Report of the Vice-President, Academic & Provost
19 May 2020

FOR DISCUSSION/APPROVAL

UPDATE ON THE WORK OF CEPT2

Motion: That Senate endorse the decision of Deans' Council to accept and act on the recommendations described in the report, including the launch of the new Student Course Perception Instrument, currently planned for winter term 2021.

Background and Remit

The University of Waterloo has been exploring the potential for a new campus-wide course teaching evaluation model for some time. In 2014, the Associate Vice-President, Academic established the Course Evaluation Project Team (CEPT1) to update course evaluations to align with current institutional teaching and learning priorities and best practices.

In Sept 2017 Senate endorsed a final report by CEPT1, which recommended:

- Moving ahead with a new *cascaded* instrument to gather student perceptions about courses, including a core set of questions to be used in all Faculties
- The development of "Toolkits" (which we have since taken to calling Users Guides) for administrators and instructors to help them interpret the results of student surveys
- That a Phase 2 Team for the CEP (CEPT2) be established to:
    - Review, if appropriate modify, and pilot test the draft core set of 10 questions developed by CEPT1 thorough a process involving a review of the research literature and several rounds of consultation with the campus community
    - Develop the Users Guides
    - Choose suitable software, etc., for administering the new cascaded surveys
    - And otherwise put the University in a position to launch the new tool

CEPT2 was struck by the Provost, in consultation with the AVPA who had consulted about possible membership with FAUW and others. The Team included student representatives, a FAUW nominee, representation from the Centre for Teaching Excellence and Instructional Technologies and Media Services, a representative from an AFIW intending to make use of the new instrument, and a number of faculty members. David DeVidi, then Chair of the Philosophy Department, was asked to chair the committee, and a Senior Research Specialist and Project Manager, Sonya Buffone, was hired to support the committee's work.

CEPT2 began its work in January 2018. Its activities included:

- In Jan/Feb 2018, conducting a search and hiring Buffone
- In late Winter and Spring Terms of 2018, carrying out an extensive review of the literature on University Teaching and Learning, and of what are usually called Student Evaluations (and at Waterloo are now usually referred to as Student Course Perception surveys (SCPs)).

- In Spring Term 2018, six focus groups, one with students from each Faculty, were carried out to assess the extent to which student perceptions of "quality" teaching were aligned with the 10 proposed items for the core of new tool. Focus group data revealed that the items developed by CEPT1 were well-aligned with student perceptions of what constitutes "quality" teaching.[1] The results of the focus groups and the literature review led to small adjustments to the 10 questions in the CEPT1 draft instrument.
- In the Fall 2018 term CEPT2 conducted a pilot-test of the new draft SCP instrument.
- A review of implementation options, including the commercial vendors and the Evaluate tool currently in use on campus, was carried out. Key players involved in the implementation of the current course perception surveys in every Faculty were involved in this process.
- CEPT2 regularly updated Senate on its progress, did what it could to communicate with the larger campus community about its progress (a new website, updates in the Daily Bulletin, visits to student groups, the Academic Leadership Program, an episode of the Beyond the Bulletin Podcast, etc.)

An overview of the pilot-test

In late November 2018, the draft SCP survey was piloted across campus. The pilot test ran parallel to the regularly scheduled end-of-term course evaluations in all classes scheduled for the Fall 2018 term, both face-to-face and online, for which official surveys were running on the Evaluate system. In total 41,737 pilot test surveys from 2,196 courses were submitted by students from across the six Faculties and two affiliated institutions (Renison and Conrad Grebel).

Key aims of pilot-test

Three key research aims informed the design of the pilot test:

1. Determine the strength of association between SCP scores and predictive variables (e.g., gender, class size, etc.). The choice of which variables to test was determined by the Team's assessment of which variables are most often pointed to in the research literature as influencing SET scores, which would be of most interest to the campus community, and in some cases, the feasibility of carrying out an investigation in a timely way.

2. Group SCP items into composite scores measuring each of the three dimensions of learning experience identified by CEPT1: Course Design, Course Delivery, and Learning Experience.

3. Gather statistical information to inform the development of the toolkits/Users Guides for the SCP instrument.

What variables seem to influence SCP scores?

The complete pilot-test report can be accessed on the CEPT2 website: https://uwaterloo.ca/waterloo-course-evaluations. Some of the key findings from the pilot- test reveal the following patterns:

- Students who perceive the workload to be *average* or *high* rate courses much higher than those who perceive it to be *very high*, *low*, or *very low*;

- Students who expect a higher grade give higher scores;

- Students who report attending class more often give higher scores;

[1] To view the full report of the focus group study please refer to: Focus Group Report

Overall:

- A very small percentage of those who completed the survey expect a low grade or report infrequent attendance;
- Larger classes fare worse than smaller classes (though not to the same extent observed in other large studies at similar institutions, e.g. University of Toronto); and
- Online classes tend to receive lower scores than in-class courses.

Finally,

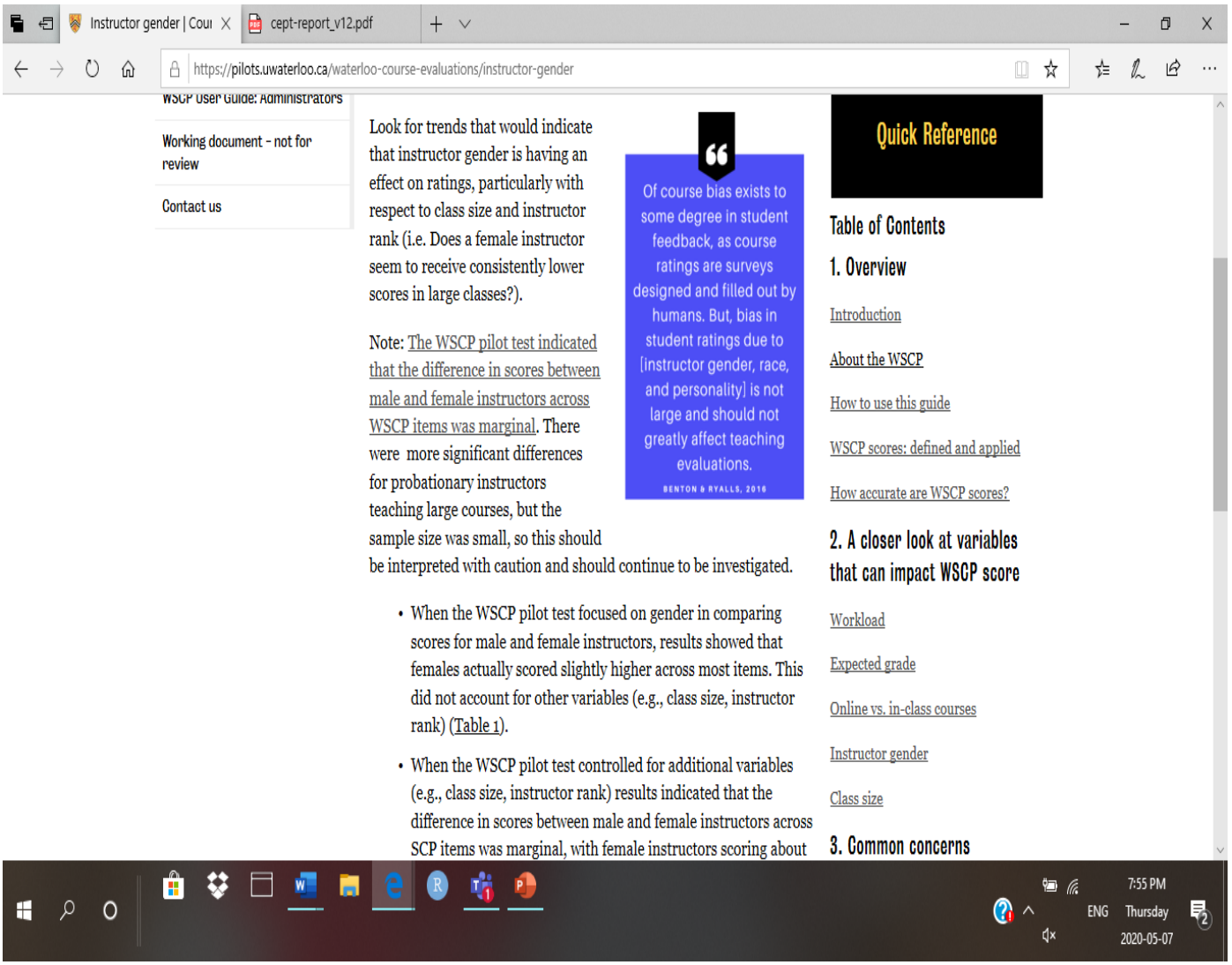
- Student gender did not seem to influence SCP scores.

What about instructor gender?

The CEPT2 recognized that the area of most general concern for the campus community, with respect to potential bias in SCP results, was instructor gender. To address this, the team devoted a large portion of the analysis to the assessment of how instructor gender is associated with SCP scores. When comparing average scores in a course we found very little difference, for any of the SCP items, between male and female instructors. We recognized, however, that at this level of analysis it is possible to miss important differences in scores. We therefore explored the association between instructor gender and scores when various combinations of other variables are included in the analysis.

In slightly more detail: course level results from the pilot test showed that differences between average scores for male and female instructors were marginal, at most 0.03 points on the five-point scale. These findings are similar to those found at other U15 institutions like the University of Toronto and McGill University, where differences in scores between male and female instructors on their evaluation instruments were found to be much less than 0.1 points on the 5-point scale.

When we investigated associations when instructor gender is combined with other predictors, including student gender, expected grade, workload, faculty, and instructor appointment type, we generally found at most marginal differences. However, in a few cases, when gender is combined with a number of other variables, SCP scores appeared to differ meaningfully by gender. For instance, we found that *female instructors* with *probationary status* teaching *very large classes* (200+) received substantially lower SCP scores than male instructors in the same circumstances. However, even with this very large pilot test, when this number of variables were combined the small number of courses involved (to preserve confidentiality of results we can only say that there were fewer than five courses for each gender in each category) mean that no firm conclusions can be drawn. Nonetheless, such results suggest important areas for continued monitoring and investigation. One reason for having User Guides is to make performance review and tenure and promotion committees aware of such issues. Below we have included a snapshot from the draft toolkit for academic administrators, with advice on interpreting scores with respect to gender.



Factor Analysis Findings

A key research aim of the pilot test was to group SCP items into composite scores measuring each of the three dimensions of learning experience identified by CEPT1: Course Design, Course Delivery, and Learning Experience. A confirmatory, qualitative factor analysis provides support for creating two composite measures which we have termed Course Design and Implementation (see the full research report for further explanation).

The new student course perception survey is intended as a tool to help measure institutional teaching principles and priorities (see University of Waterloo's Undergraduate Learning White Paper Report for full discussion) by measuring student perceptions of how well they are achieved. The items included on the new student course perception survey align with three of the five principles outlined in the Undergraduate Learning White Paper Report.[2]

[2] See Appendix A for a mapping of the links between institutional priorities, and SCP dimensions (Course Design/Implementation and items).

Overall lesson of the pilot test

In light of the remit of CEPT2, the pilot test was designed to detect significant issues that would make it inadvisable to follow the recommendation endorsed by Senate to replace the existing tools with the new SCP instrument. Based on the findings from the Fall 2018 pilot test, the opinion of the CEPT2 committee is that results do not provide any evidence against adoption of the new tool. Indeed, the results of the analysis provide good reason to move ahead with the new instrument, and provide valuable information to help improve the value and the fairness of teaching evaluation at Waterloo. Additionally, CEPT(2) believes that adoption of the new tool is warranted given that it is:

- Informed by the key institutional teaching and learning priorities at UW;
- Designed to measure key aspects of student learning identified in the literature;
- Designed to measure course features that are observable by students;
- Designed to be suitable for measuring various course formats and/or delivery methods (whereas many current tools include questions that implicitly or explicitly assume that every course is a lecture course, or is delivered in person rather than online, for instance).
- Designed to avoid inherent weaknesses found in many of the old tools (e.g., the use of wording likely to produce results that differ depending on instructor gender, double-barrelled items, etc.)

Current Status: Decisions at Deans' Council, current and future work

Drafts of the Users Guides have been produced, and members of CEPT2 have provided feedback on them to Buffone. With this work, CEPT2, as a committee, is completed. Work on the SCP continues. All of the actions described below have been endorsed by Deans Council and are underway. Some highlights from the recommendations and work-to-date include.

1. That the new core set of questions for Course Perception Surveys (as modified in light of the results of the pilot test) be employed by all Waterloo Faculties and participating AFIW, beginning in Winter Term 2021.
    - **Deans' Council decided in January 2020 that this recommendation will be implemented**
2. That over the next 18 months, each Faculty will engage in a consultative process to select an appropriate second tier of questions to be asked in every course in the Faculty; further tiers (for Departments or Programs, and perhaps for formative-only course specific question) will be developed later.
    - **This process is underway in Engineering and Environment and was set to start in AHS, prior to the pandemic. Sonya Buffone, the research specialist/project coordinator for CEPT is working with Gordon Stubley, former Assoc Dean Teaching and 3M Teaching Fellow, on this part of the project.**
3. That two Users' Guides, one for Instructors and one for Evaluators (Chairs, Performance Review Committees, T&P Committees) be created.
    - **A draft of the administrator User Guide has been completed and feedback received from CEPT2. The Instructor Users Guide is being drafted now. Consultations with Chairs and Deans about the administrators Guide and with instructors about the instructor Guide are planned for the second half of 2020**.
4. That the University work out an agreement with the Evaluate team and the Faculty of Science to use Evaluate as the platform for SCP surveys at Waterloo for the next five years.

- **Before the pandemic struck, discussions were underway between Evaluate and IST, with input from the AVPA.**

5. That the University should reassess the rules surrounding responses to open-ended questions on the SCP survey.
    - **Since Deans' Council endorsed this suggestion, after discussion with HREI, it has become clear to AVPA and the CEPT research specialist that before making further decisions on this matter, it will be useful to carry out a research project when the new tool is launched to study responses to open-ended questions at UW. This will help guide decisions about who should have access to the responses, perhaps instructional material for students about what sorts of comments are helpful and appropriate, and if the decision is that administrators should see the responses (as is considered best practice by most), guidance about how to appropriately use the for summative and formative assessments of teaching.**
6. That the University should continue to study the behaviour of the new tool once it is implemented.
    - **As noted above, further attention to the question of whether there is a real relationship between instructor gender and scores *in very large classes for probationary faculty* is warranted. There are also other variables that, for practical reasons, we were unable to consider in the pilot test, such as instructor ethnicity, which warrant investigation.**

Why these questions?

It is clear from our discussions with many groups that the first reaction to any list of survey items is to ask "why not this question instead?" We therefore conclude this report with an overview that illustrates of the thinking that informed the work of the CEPT1 working group that arrived at the draft of the core questions bequeathed to CEPT2 and CEPT2's thinking in light of its own research, the student focus groups, and the pilot test. The "Principles" are drawn from various University reports that have in various ways asked the question "what aspects of teaching matter at Waterloo" (the so-called Deep Learning report, the White Paper on teaching produced for the current Strategic Plan, etc.) while the Dimensions are the names assigned to the composite measures arising out of the factor analysis in the pilot test.

Mapping of institutional priorities to SCP items (and Dimensions)

Principle 1: Uses Alignment in Design Principles

Alignment in design occurs when outcomes that are focused on learning are made explicit for learners in courses and programs, the assessments of learning match the outcomes, and the incorporated activities prepare learners for the assessments (Biggs & Tang, 2007).

SCP

Dimension = Course Design

1. The instructor identified the intended learning outcomes for this course
2. The course activities prepared me for the graded work
3. The intended learning outcomes were assessed through my graded work

Principle 2: Fosters Motivation

Motivation occurs when learning experiences, inside and outside the classroom, are relevant and of value to learners, provide them with choice, and feel achievable yet appropriately challenging (Svinicki, 2004).

SCP

Dimension = Implementation

1. The instructor helped me to understand the course concepts
2. The instructor created a supportive environment that helped me learn
3. The instructor stimulated my interest in this course

Principle 3: Embodies Inclusivity

Inclusivity occurs when learning environments and experiences engage learners with differences respectfully and are designed to enable all to learn (Ouellett, 2005).

SCP

Dimension = Implementation

1. The instructor created a supportive environment that helped me learn

This item also appears in the list for Motivation, but addresses this principle as well).

_____

David DeVidi, Chair CEPT2 (now Associate Vice President Academic)
Sonya Buffone, Senior Research Specialist and Project Manager for the CEP

On behalf of CEPT2: Jasmin Habib (Political Science, FAUW appointee); Kofi Campbell (Renison); Clarence Woudsma (Planning); Matt Gerrits (WUSA); Donna Ellis (Director, CTE); Andrea Chappell (Director, ITMS); Tawnessa Carter (Philosophy, Admin Support)

Update on the work of CEPT2

- Brief background and Remit
- Overview of pilot-test results
  - Some vbls associated with differences in scores: *perceived workload* (but easier isn't better); *expected grade; reported attendance; online vs. on campus; class size*
- Dean's Council decisions: the key one is to launch new tool Winter 2021
- Future work … CEPT2 committee members have been set free, but CEP continues
  - Consultations about next tiers underway; further research of core tool; investigate responses to open ended questions; eventual need to sort relationship to recommendations from CTAPT, grad supervision committees

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University of Waterloo
SENATE
Report of the Vice-President, Academic & Provost
19 May 2020

FOR DISCUSSION/APPROVAL

Motion 1: That Senate endorse the decision of Deans' Council to accept and act on the recommendations as described in the report.

Motion 2: That Senate endorse the continued work to develop feasible mechanisms for the implementation of Teaching Dossiers and Peer Review of Teaching as part of the processes for assessment of teaching at the University.

Motion 3: That, regarding continuing work on teaching performance review, and in support of continuing improvement of teaching and learning at the University and fairness in performance review, the University continues working towards a system for summative assessment of teaching that considers many sources of information about all aspects of effective teaching.

CTAPT Interim Report to Senate

Executive Summary

The Complementary Teaching Assessment Project Team (CTAPT) was formed in Winter 2018. The purpose of CTAPT is to research and develop methods of assessing teaching and learning and to provide recommendations that are useful for both formative and summative assessment, based on empirical evidence and consultation with the University of Waterloo community. The focus of CTAPT is to recommend methods other than Student Course Perception Surveys that should be used campus-wide.

We have researched, consulted on, and developed a comprehensive definition of Teaching Effectiveness, with which teaching could be measured on our campus.

Our literature search and environmental scans confirm that the most appropriate complementary methods of teaching assessment to use at Waterloo are Teaching Dossiers and Peer Review of Teaching.

Based on our work to date, we initially recommend the following:

Recommendation #1: Continue to enhance culture of teaching

Recommendation #2: Adopt comprehensive definition of teaching effectiveness

Recommendation #3: Officially incorporate multi-faceted assessment

Recommendation #4: Provide opportunities for non-faculty instructors to have their teaching assessed

Our extensive consultations with campus about these complementary methods have provided very useful ideas for the conditions and tools that the need to be in place for eventual cross-campus implementation.

There are practical details of implementation that remain to be worked out before these recommendations can be implemented. We strongly suggest that the University continue the process of developing feasible mechanisms for the implementation of Teaching Dossiers (TD) and Peer Review of Teaching (PRT) at the University of Waterloo, and note that many members of the current CTAPT are willing to contribute to this ongoing work.

Introduction

The Complementary Teaching Assessment Project Team (CTAPT) was formed in Winter 2018 by the Provost in response to a motion from the Senate of the University of Waterloo. Our team, appointed in consultation with the Associate Vice-President Academic (AVPA) and the Faculty Association (FAUW), consists of representatives from multiple disciplines and stakeholder positions, including four faculty members from different Faculties, a staff member representing CTE, a staff member representing CEL, two graduate students, and two undergraduate students. CTAPT has also been ably assisted by a research associate.

The purpose of CTAPT is to research and develop methods of assessing teaching and learning and to provide recommendations that are useful for both formative and summative assessment, based on empirical evidence and consultation with the University of Waterloo community. The focus of CTAPT is to consider methods other than Student Course Perception Surveys (SCPS) that should be used campus-wide alongside SCPS.

To date, CTAPT has used multiple methods to compile evidence on current and best practices for the assessment of teaching, including:

- A literature review of definitions of effective teaching and methods for the assessment of teaching in higher education.
- An environmental scan of current and best practices of assessing teaching at the University of Waterloo and other U15 universities, including evidence from U15 reports and pilot studies.
- The documentation and compilation of current tools used for complementary methods that are based on these U15 best practices, reports, and research.
- Two separate rounds of extensive consultation with the campus community using online surveys and in-person consultation sessions in both phases of consultation.

Stakeholders across campus were further engaged through the communication our findings from research and consultations.

Committee Process to Date

The committee held bi-weekly meetings to discuss findings from our research and campus consultations, to develop a definition of teaching effectiveness, and to work towards consensus on the types and uses of complementary methods for the assessment of teaching.

CTAPT conducted a literature and environmental scan of U15 higher education institutions on assessment practices and definitions of teaching effectiveness (TE). Based on this research, CTAPT first worked to create a comprehensive, literature- and evidence-based definition of teaching effectiveness. A summary of key findings and our preliminary definition of TE were then shared with campus in a Backgrounder Report. In April 2019 and May 2019, CTAPT consulted with the campus community on this definition through an online qualitative survey sent campus-wide to all faculty, staff, graduate and undergraduate students, with an in-person session for Chairs. We received over 750 constructive comments from the consultation, and used this feedback to refine the definition. CTAPT communicated findings from phase 1 of consultations and the refined definition in a report, which was posted on our website here: CTAPT Teaching Effectiveness Survey Results.

Through our research, we found that current and best practices for the assessment of teaching include using Teaching Dossiers (TD) and Peer Review of Teaching (PRT) as part of a multi-faceted approach to evaluation. In October 2019, CTAPT consulted with campus on needs around these methods through seven in-person sessions and an online qualitative survey. Participants were very engaged in these discussions and offered valuable insights from different Faculty and disciplinary perspectives. Suggestions and feedback collected through the consultations echoed the findings from our research.

Preliminary Recommendations

Based on our research, consultations, and committee work to date, we make the following four preliminary recommendations to the University of Waterloo:

Recommendation #1: Continue to enhance culture of teaching
The University of Waterloo's mission is to advance learning and knowledge through teaching, research, and scholarship, nationally and internationally, in an environment of free expression and inquiry. CTAPT recommends that Waterloo institutionally commits to continuing to raise the prominence of teaching, improving the culture around teaching, and advocating for supporting and increasing the quality of teaching in all of its forms. Effective performance evaluation is one example of how we can make this commitment.

Recommendation #2: Adopt comprehensive definition of teaching effectiveness
CTAPT recommends that the University of Waterloo officially adopts a definition of teaching effectiveness. This definition should be a "living definition" that is evaluated and, if necessary, updated regularly by an appropriate cross-campus body. Having such a definition officially adopted will provide clarity and transparency around the question of "What are we assessing?".

Recommendation #3: Officially incorporate multi-faceted assessment
CTAPT recommends that the University of Waterloo adopts the use of Teaching Dossiers, Peer Review of Teaching, and Student Course Perception Surveys as campus-wide, multi-faceted process of teaching assessment. Each of these methods is useful for formative feedback, which will help make the quality of teaching at Waterloo even better and provide opportunities for innovation and professional growth for faculty members. Furthermore, the use of multiple methods of assessment, appropriately implemented for summative assessment, can both help to reduce bias in the process as well as to improve triangulation of information.

Recommendation #4: Provide opportunities for non-faculty instructors to have their teaching assessed
While the focus of CTAPT's conversations has been on formative and summative assessment of teaching done by regular faculty, there is a vast amount of teaching done at Waterloo by instructors who are not regular faculty (e.g. adjunct faculty, sessional instructors, postdoctoral fellows, graduate students, lab and staff instructors, etc.). CTAPT recommends that the structure implemented for formative and summative assessment of the teaching done by regular faculty be also implemented for formative assessment of instructors who are not regular faculty when possible.

These recommendations are entirely consistent with the literature dealing with teaching effectiveness and the assessment of teaching. These recommendations and the work around them incorporate the significant and positive feedback that we received during our broad consultations.

The formal adoption of these recommendations will help fulfil the need for a shared understanding of evidence-based principles of effective teaching for the purposes of growth, improvement, and assessment of teaching. Furthermore, the methods we recommend (PRT and TD)

- provide crucial evidence on teaching effectiveness from multiple sources that, in combination with other evidence, will produce a more valid representation of teaching,
- build on existing practices and create consistency and fairness in the process of the assessment of teaching, and
- empower faculty members to take ownership of the assessment of their teaching while maintaining the rigour of the assessment process.

Discussion of Recommendations

Recommendation #1: Continue to enhance culture of teaching
The University of Waterloo's mission is to advance learning and knowledge through teaching, research, and scholarship, nationally and internationally, in an environment of free expression and inquiry. CTAPT recommends that Waterloo institutionally commits to continuing to raise the prominence of teaching, improving the culture around teaching, and advocating for supporting and increasing the quality of teaching in all of its forms. Effective performance evaluation is one example of how we can make this commitment.

One of the primary facets of the work of the University is teaching. More members of our campus community are involved in teaching (either as instructors or as students) than any other aspect of our mission. For performance assessment, most faculty members have at least as much weight given to their teaching as to their scholarship. For all of these reasons, it is vital that teaching continue to be held up as crucial to the work of our institution and that we collectively strive to make improvements wherever possible and feasible. In particular, the recent enormous changes on our campus due to the 2020 pandemic further emphasize the need for improved commitment to teaching.

The literature shows that multi-level leadership in fostering a culture that values and rewards teaching, as well as consultation and communication, are key to an effective integrated and multi-faceted approach (Wright et al. 2014: 17, 18). Findings from our consultations echo the need for University commitment and leadership "from the top down" to ensure that effective teaching, the assessment of teaching in general, and newly proposed methods of assessment in particular are taken seriously. Support for ongoing professional development in teaching also needs to be clearly communicated by University and Faculty leadership.

At the end of the day, what we assess and how we assess it are themselves culture actions and speak to our commitment to teaching.

Recommendation #2: Adopt comprehensive definition of teaching effectiveness
CTAPT recommends that the University of Waterloo officially adopts a definition of teaching effectiveness. This definition should be a "living definition" that is evaluated and, if necessary, updated regularly by an appropriate cross-campus body. Having such a definition officially adopted will provide clarity and transparency around the question of "What are we assessing?".

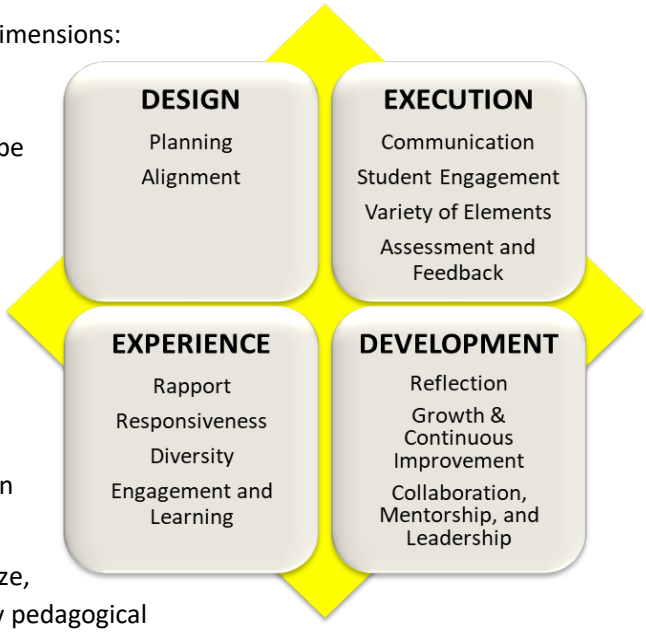
An essential component of the assessment of teaching is a clear and shared understanding of teaching effectiveness (TE). As instructors, we know that we must communicate clear expectations to our students about our assessment of their work, including the framework through which we will assess their learning. Similarly, as an institution, we need to have a clear "yardstick" in place against which effective teaching is measured.

The first step for CTAPT was to assemble a definition through whose lens teaching could be assessed at Waterloo. The task of defining effective teaching is, in the literature, tackled by identifying broad dimensions and sub-dimensions of teaching using a variety of theoretical perspectives, quantitative approaches, and qualitative approaches from disciplinary, teacher, and student perspectives. Our research revealed that, while there is no universal definition of TE, there is consensus on essential characteristics of effective teaching that are common across disciplines and modes of instruction. Moreover, these characteristics are consistently recognized from the perspective of both instructors and students.

CTAPT spent considerable time reviewing these characteristics of TE, with the aim of identifying the dimensions and sub-dimensions of TE that would build on previous Waterloo conversations about effective teaching. With members of the committee offering different perspectives, we also considered these dimensions in terms of whether they are "visible" and measurable. This led to outlining instructor behaviours and actions that are shown to be factors of effective teaching rather than measuring outcomes of learning.

Starting with a tentative definition of TE, CTAPT engaged in an extensive campus-wide consultation (faculty, staff, and students) through an online survey and an in-person session to ask if anything was missing from the definition. The aim was to ensure that this definition resonated across campus and made visible the work of instructors and the complexities of effective teaching both inside and outside the classroom. We received excellent response, with over 750 comments providing important feedback and suggestions. Overall, the response showed that our tentative definition was on track. CTAPT used the feedback and suggestions from the consultation to refine the definition (see CTAPT Teaching Effectiveness Survey Results).

This definition of teaching effectiveness is framed by four central dimensions: **Design**, **Execution**, **Student Experience**, and **Development.** The resulting acronym, "DEED", emphasizes that performance as an instructor is a matter of performing the behaviours understood to be part of teaching effectiveness. Each dimension includes sub-dimensions describing evidence-based principles of effective teaching adapted from Undergraduate Learning Issue Paper (May 2018), Allen et al. (2009), Bain (2004), Chickering and Gamson (1987), Hativa et al. 2001, and Ramsden (2000, 2003), that are relevant and applicable to the Waterloo context. We encourage readers to look at the more complete current version of the definition here: CTAPT Teaching Effectiveness Survey Results. This definition is consistent with other recent work done in this direction on campus.



It is important to note that context including course parameters (size, level, etc.), mode of teaching (online, in class, etc.), and disciplinary pedagogical approaches are also important factors for consideration, as some sub-dimension items may be more or less relevant depending on context, and should be assessed accordingly at the unit level (see Allen 2009; Devlin and Samarawickrema 2010). This definition applies to "teaching" in all its diverse forms and modes, such as undergraduate teaching, labs, graduate teaching and supervision, as applicable.

CTAPT believes that, using the comprehensive work that we have done to date, a "Waterloo definition of teaching effectiveness" should be finalized in consultation with the office of the AVPA and with the GSPA, and formally adopted by the University of Waterloo in the coming months.

Recommendation #3: Officially incorporate multi-faceted assessment
CTAPT recommends that the University of Waterloo adopts the use of Teaching Dossiers, Peer Review of Teaching, and Student Course Perception Surveys as campus-wide, multi-faceted process of teaching assessment. Each of these methods is useful for formative feedback, which will help make the quality of teaching at Waterloo even better and provide opportunities for innovation and professional growth for faculty members. Furthermore, the use of multiple methods of assessment, appropriately implemented for summative assessment, can both help to reduce bias in the process as well as to improve triangulation of information.

Following Arreola 2007, Chism 1999, Seldin 2006 and others, CTAPT recognizes that no one source or method can provide evidence for *all* aspects of teaching.

> "By drawing on three or more different sources of evidence, the strengths of each source can compensate for weaknesses of the other sources, thereby converging on a decision about teaching effectiveness that is more accurate than one based on any single source" (Berk 2014: 88).

Best practices for the assessment of teaching involve a multi-faceted approach, which uses multiple sources of evidence (e.g. from peers, instructor, and students) and multiple methods to gather evidence (e.g. surveys, peer observations, and teaching dossiers) (Wright et al. 5).

A multi-faceted approach to assessment, appropriately implemented, can both help reduce bias in the process as well as improve triangulation of evidence, which increases reliability (accuracy) and fairness (see Arreola 2007; Berk 2014: 88; Chism 1999, 2007; Hubball and Clark 2011, Wright et al. 2014: 16).

Not only is a multi-faceted approach more effective than using one method or source alone, especially in summative evaluation, it is also more likely to tease out the contextual and structural factors that impact teaching performance, thereby providing a more holistic picture of teaching and learning (Arreola 2007; Berk 2009; CTE, Wright et al 2014: 15, 16). This approach also provides a way for instructors to make their work visible and to take ownership of their own assessment.

Our review of the literature and environmental scan confirm that the most beneficial and most studied complementary methods used in higher education are Teaching Dossiers (TD) and Peer Review of Teaching (PRT). Phase 2 of CTAPT consultations found that there was more agreement than disagreement with using teaching dossiers (TD) and peer review of teaching (PRT) for the assessment of teaching. Appropriate comments were made about ensuring that implementing these methods actually improved teaching, rather than just creating additional work. Faculty also expressed that colleagues who eventually take on roles as peer reviewers need to have this commitment recognized (e.g. through service credit). Some units at Waterloo are already using one or both of these methods. One of CTAPT's goals is to create a path to consistency across campus and to ensure that evidence from these methods are valued and recognized in the assessment of teaching.

CTAPT has examined the literature on the use of TD and PRT to identify models and the potential benefits and concerns with using these methods. We also reviewed studies reporting on the development, implementation, and evaluation of pilot programmes, which provide evidence on models and best practices. Pilot projects and reports at the University of Waterloo and the Universities of Toronto, Alberta and British Columbia also offer insight on the use and implementation of these methods, in addition to examples of currently used guidebooks, toolkits and instruments.

Our research shows that the effective and well-supported use of PRT and TD also:

- strengthens the validity and reliability of teaching evaluation,
- enhances a scholarly approach to teaching, reflective practice and professional development,
- leads to innovations or changes to teaching practices, and
- facilitates opportunities for collegiality and dialogue around teaching.

The main concerns with PRT and TD identified in the literature include:

- time commitments,
- the lack of clear standards, criteria, and tools,
- concerns about validity, subjectivity, and bias, and
- the quality of feedback obtained through PRT.

The literature goes on to provide methods and approaches to mitigate these concerns. These are discussed in the following section of this report.

Following CTAPT discussions about our findings and the development of background documentation, CTAPT sought input from faculty members about the tools, mechanisms and conditions needed in order to implement and support the ongoing use of PRT and TD.

See further discussion of PRT and TD in the next section.

Recommendation #4: Provide opportunities for non-faculty instructors to have their teaching assessed
While the focus of CTAPT's conversations has been on formative and summative assessment of teaching done by regular faculty, there is a vast amount of teaching done at Waterloo by instructors who are not regular faculty (e.g. adjunct faculty, sessional instructors, postdoctoral fellows, graduate students, lab and staff instructors, etc.). CTAPT recommends that the structure implemented for formative and summative assessment of the teaching done by regular faculty be also implemented for formative assessment of instructors who are not regular faculty when possible.

In addition to the teaching done by regular faculty members, we are fortunate to have a wide variety of other people participate in teaching on our campus. It is important that the instruction provided by these people be treated as being as important as that provided by regular faculty, and that their teaching also be assessed in a robust way.

In most cases, these instructors will not have summative assessment built into their positions in the same way that regular faculty do. However, providing appropriate opportunities for formative feedback to these instructors will

- emphasize the importance of teaching effectiveness at the University regardless of the status of the instructor,
- empower these instructors to work to improve their teaching in the same way that regular faculty do,
- further embrace these instructors in the culture of teaching and thus motivate these improvements,
- show our students that the work of these instructors is treated seriously and thoughtfully by the University,
- allow those instructors for whom this is important (e.g. graduate students and postdoctoral fellows) to develop a portfolio of assessment materials useful to them when pursuing future employment, and
- give useful information to Chairs, Associate Deans, and others when making future teaching assignments.

Teaching Dossiers and Peer Review of Teaching

CTAPT is deliberately not making specific implementations around Teaching Dossiers (TD) and Peer Review of Teaching (PRT) at this time as we felt that it was important that we collectively agree first in principle on their adoption. After our next phase of work, we will return to Senate for endorsements of specific implementation details. However, we feel that it is appropriate to share some general thoughts about the direction in which we believe that we might go.

To reiterate, no final decisions have been made and extensive further consultations are necessary with regular faculty, with Chairs and Directors, with FAUW, and with University administration around how and when these should be rolled out, with whom, and so on.

Teaching Dossiers (TD)

A TD is to teaching what a CV is to research. It documents and supports claims about teaching based on multiple forms of empirical evidence. It describes documents and materials, which collectively suggest the scope, quality, and impact of teaching (Seldin 2010). A TD presents an integrated summary of one's teaching philosophy, approaches, accomplishments and effectiveness through a reflective narrative and curated assembly of "robust and accurate evidence" (Kenny et al 2018: 6). It is an ideal method to use in a multi-faceted approach to the assessment of teaching because it integrates and contextualizes multiple forms and sources of evidence (i.e. from instructor, peers, students, and the literature), providing a more accurate and reliable base for formative and summative decisions than using only one source (Berk 48, 49).

CTAPT anticipates recommending a structure that is neither onerous to produce nor onerous to assess. A possible structure could be a "focussed" dossier (approximately 5 to 8 pages long) describing one's teaching philosophy, teaching responsibilities, results and achievements, and professional development or future goals, with an appendix of supporting documentation as appropriate. This practical structure accommodates both formative and summative use. The required elements are flexible enough to account for disciplinary differences and leverage tools and assessments where they exist in the Faculties. Such a dossier will be useful for both Performance Review as well as for Tenure and Promotion. The use of TD provides a method for documenting and assessing teaching and a framework for reflecting on teaching allowing instructors to innovate, grow, and improve, which should always be the main goal.

CTAPT envisions that existing forms (e.g. for Tenure and Promotion, for Annual/Biannual Performance Reviews) should be aligned with a standard campus TD. Use of a TD should leverage existing tools and information rather than duplicating it.

As we confirmed in the findings from our second phase of consultations, it is important that appropriate tools and resources are in place to support this ongoing work on campus. In particular, we envision the development of a dossier template, rubric, and sample bank as part of a guidebook for developing and evaluating teaching dossiers.

A guidebook and training should both be in place to support evaluators. Clear guidelines and specified criteria help minimize subjectivity, reduce bias and increase inter-evaluator reliability (see Centra 2001; Knapper and Wright 2001: 26-7; Murphy et al. 2009: 230). As discussed above in Recommendation #2, agreement on what constitutes "teaching effectiveness" is also necessary as is a qualitative mechanism for evaluating a TD through the lens of our collective definition of teaching effectiveness.

For eventual implementation to be successful and useful, CTAPT envisions that

- the tools are consistent across campus,
- the tools are flexible for disciplinary differences and individual contexts,
- Chairs have support (training or workshops) on how to evaluate teaching dossiers; and

- the guidebook explains how to integrate evidence from multiple sources in the dossier based on a multi-faceted approach to assessment (for example, drawing on existing evidence from APR documents rather than duplicating it, or contextualizing peer reviews or student course perception surveys).

While developing and maintaining a TD will require a time commitment from regular faculty members, we believe that implementing TDs across campus can eventually happen relatively quickly as the necessary infrastructure is not significant. We also strongly believe that the self-reflection and accumulation of materials that happens with this time investment will be a "net positive" to our teaching efforts across campus.

Peer Review of Teaching (PRT)

"Peer review of teaching is a systematic, reflective process through which teaching colleagues offer instructors feedback about their teaching for either formative or summative purposes, based on multiple forms of data" (Chism 2017 in Wright 2014: 21). It is an intentional observation process in which a peer observes an instructor with the aim of providing critical feedback, based on predetermined goals and criteria (Thomas et al. 2014: 117). Significantly, research shows that faculty who participate in peer review of teaching make changes or improvements to their teaching (Barnard 2011: 443; Bell 2001: 33; Hendry et al. 2014: 322; Hubball and Clarke 2011: 19; Shortland 2004). The literature highlights how PRT provides opportunities for dialogue about teaching and learning, facilitates collegiality, and builds confidence among faculty (e.g. Bell and Cooper 2013: 64; Hendry et al. 2014: 325, 327; Mager et al. 2014). In addition, PRT is mutually beneficial for the reviewee and the reviewer (Hendry 2014: 325, 327; Hubball and Clarke 2011: 4; Mager et al. 2014). While these are all notable benefits, the use of PRT should also be recognized as service, where reviewer time and its contribution to the growth and improvement of teaching at Waterloo are recognized.

Our review of the literature revealed that PRT models vary in terms of how they are used (formative or summative or both), who conducts observations and the number of observers, the frequency of observations, and the number of steps or components of PRT (for example, see models in Barnard et al 2001; Bell 2001; Drew et al 2014; Mager et al. 2014). Each of these aspects needs to be eventually described in detail when implementing a PRT model so that procedures and processes are clear. The intended actual use of PRT should also be clear; for example, PRT done for formative purposes, but then submitted as evidence for tenure, should be thought of as summative (Chism 1999: 4).

Based on our research and on feedback from campus, CTAPT envisions recommending a basic three-stage model. This possible model would include a pre-observation meeting, one or more observations (in class or online), and a post-observation meeting for both formative and summative assessment of teaching, as well a review of course materials. A three-step model has been shown to be mutually beneficial for the reviewee and the reviewer (Hendry 2014: 325, 327; Hubball and Clarke 2011: 4; Mager et al. 2014). Our Waterloo model for PRT could include regular, cyclical use for summative purposes for all faculty members, with opportunity for formative feedback before summative use. It may be beneficial to give faculty who are pre-tenure, probationary, or definite-term additional opportunities for formative feedback.

Our consultations indicate that a primary concern with the use of PRT is the potential for bias. The literature around PRT includes strategies to reduce bias and enhance reliability, including codified procedures to ensure consistency within units, multiple observations and/or observers, training for observers, and the use of observation tools with guidelines. Some of these strategies are outlined below. Also, when done for summative purposes, best practices for PRT must include guidelines on how an observer is chosen and how evidence is gathered, clear criteria using one of the standardized tools, and more than one observation (Arreola 1995: 51; Chism 1999: 79).

As with TD, it is important that appropriate tools and resources are in place to support ongoing PRT on campus. Consultations with faculty members and supporting evidence gathered through our research both showed this strongly.

Thus, we envision the development of a toolkit or suite of tools and resources, such as rubrics, guiding questions for observation, standardized forms with space for comments, templates for reviewers to report to instructors and to evaluators, and tip sheets as part of a guidebook for undertaking and reporting on peer review of teaching. The end result needs to include standardized observation tools suitable for various teaching contexts, with flexibility to select tools based on disciplinary norms.

In addition, we anticipate the need for:

- A training program on how to use observation tools, how to provide feedback, and how to interpret the results to ensure reviews are reliable, equitable and fair.
- The acknowledgement of the value of peer review of teaching by formally recognizing reviewers' time (e.g. through service credit).
- Mechanisms for the "right of reply" in response to an unfavourable review, and "right of refusal of reviewer".

The literature confirms that clear guidelines and procedures enable the reliability of observations (Chism 1999: 76). The development of a variety of instruments as part of a guidebook will ensure that tools are consistent but flexible. Training on how to conduct observations, use these tools, and provide feedback will be another key factor for successful implementation of PRT.

A campus-wide implementation of a PRT system might seem like a daunting prospect, but has been done elsewhere. We will craft and consult broadly on specific possibilities around implementation in order to eventually recommend a system that is seen broadly as being feasible and useful. As part of this, there are great opportunities to learn from and build on existing examples at Waterloo (e.g. School of Pharmacy) and at other Canadian universities, and use these learnings to move forward.

It is important to note also that studies examining the use of PRT in an online environment also found participants valued the opportunity to discuss online teaching and processes, learn from each other, and build community (Bennett and Barp 2008; Harper and Nicolson 2011). This is especially good to know in our current situation.

Next Steps

CTAPT requests the endorsement of Senate to continue its work. With Senate's endorsement:

- The Chair of CTAPT and the AVPA would work together to adjust and refresh the membership of CTAPT so that current members who do not wish to continue can move off the committee and new members can be added to achieve representation from more Faculties as well as including additional members with experience as evaluators of faculty. The Chair of CTAPT and the AVPA would also work together on how to provide support to the work of CTAPT over the next phase of its work.
- CTAPT would plan to continue its work between now and September 2021.
- CTAPT would work closely with the Course Evaluation Project Team and the Task Force on Graduate Supervision as well as with other stakeholders to create a unified definition of teaching effectiveness to bring to the appropriate University bodies for endorsement.
- A proposed implementation strategy for the use of Teaching Dossiers (TD) and Peer Review of Teaching (PRT) would be developed based on our research and consultations to date.
- CTAPT would be share this strategy and broadly consult with regular faculty members and with Chairs and Directors across campus to ensure that it is useful (and seen as useful) for the improvement of teaching, and that it is feasible (and seen as feasible) for regular faculty as well as for evaluators in the assessment process.

We also note that there remains the important question of how the various facets of teaching effectiveness (including SCPS, TD and PRT) should work together in the formal teaching evaluation process, once it is clear how all the facets will be implemented at Waterloo. We suggest that the University bring together an appropriate group to begin to consider this question at the appropriate time in the near future.

We also note that the some of these new directions may point towards appropriate revisions of some existing Policies (e.g. Policy 77, Section 2 on "Teaching" and "Assessment of Teaching") and that these be kept in mind.

Conclusions

Because teaching and learning are such important parts of the mission of the University of Waterloo, we are very encouraged by the support and visibility that CTAPT has received so far during its mandate. Based on our research and our consultations, we believe that great benefits will come from the broad adoption of new ways of providing formative and summative assessment for our teaching. This value will come from improved Design, Execution, Student Experience, and Professional Development and a renewed sense of teaching culture, making the teaching and learning environment better for our students.

Additional Information

For more complete information on CTAPT's work to date, please see our website here.

Specific documents produced thus far by CTAPT include:

- Backgrounder: Defining Teaching Effectiveness
- Dimensions of Teaching Effectiveness: Links to Literature
- CTAPT Teaching Effectiveness Survey Results
- Backgrounder: Methods for the Assessment of Teaching
- Findings from Consultations Phase 2 - Campus Report

An extensive bibliography of literature consulted can be found here.

Update on the work of CTAPT

- Background and Terms of Reference
- Process and Progress to Date
- Current Recommendations
  - #1: Continue to enhance culture of teaching
  - #2: Adopt comprehensive definition of teaching effectiveness
  - #3: Officially incorporate multi-faceted assessment
  - #4: Provide opportunities for non-faculty instructors to have their teaching assessed
- Notes about Teaching Dossiers (TD) and Peer Review of Teaching (PRT)
- Next Steps

Vice-President, Research and International

Report to Senate

May 2020

Awards

Research Partnerships

The Department of National Defence solicited proposals to address challenges in domains such as surveillance, cyber tools for defence, space, artificial intelligence, remotely pilot systems, data analytics, and human performance. The following two projects by Waterloo researchers, having successfully completed a proof of concept, were awarded a second round of funding under the Department of National Defence - Innovation for Defence Excellence and Security (IDEaS) Program - Competitive Projects stream.

- **Eihab Abdel-Rahman**, Systems Design Engineering, was awarded $974,000 for a project titled, *Wearable Chemical Hazard Sensors*
- **Catherine Burns**, Systems Design Engineering, was awarded $934,000 for a project titled *Understanding and Influence the stress process through biofeedback, wearable and mobile technologies to prevent and address PTSD*

International Research and Partnerships

Over $800,000 was recently awarded to Waterloo researchers for international research collaborations.

- **Geoffrey Fong,** Psychology, has been awarded over $480,000 CDN to continue his ITC research surveys with the University of Otago in New Zealand**.** Fong will conduct a research study on smoking and vaping-related activities with investigators from University of Otago, New Zealand. Their overall aim is to develop and improve evidence that will close smoking disparities, enhance how tobacco control evidence is used in decision making and accelerate progress towards a smoke free environment in New Zealand.
- **Hyock Ju Kwon,** Mechanical and Mechatronics Engineering, has been awarded $ 155,800 CDN for research involvement with the Korea Electrotechnology Research Institute (KERI). Kwon is involved in a research project with KERI, entitled “Development and Application of AI System for Manufacturing.” The project objectives are to establish an AI system for manufacturing through building a hardware platform for data collection and developing an optimum AI model for data processing.
- **Carrie McAiney,** School of Public Health and Health Systems, has been awarded $219,964 CDN through the CIHR-EU Joint Program for Neurodegenerative Disease Research. McAiney is involved in a large consortia research collaboration funded by McGill University through CIHR as part of a large EU-Joint Program with partners in Australia, The Netherlands, United Kingdom and Poland worth over € 15,500,000 (approximately $ 23,500,000 CDN). The project entitled “Co-Designing Dementia Diagnosis And Post-Diagnostic Care (COGNISANCE)” aims to co-design and deliver in partnership with people with dementia, their family care partners and health care professionals, toolkits and campaigns to improve the dementia diagnostic process and post-diagnostic support.

COVID-19 Updates

Sponsored Funding: Tri-Agency Updates

The Tri-Agencies have been clear in their perspective on paying personnel with existing grant funds: Any members of the research team eligible to be paid from an agency grant continue to be eligible (and should continue to be paid) in the current context. This has been their stated perspective on several occasions and applies regardless whether those members of the research team are currently able to work directly on the originally planned project(s).

Canadian Institutes for Health Research

The Canadian Institutes for Health Research (CIHR) held a COVID-19 funding opportunity and funded 99 grants worth total of $54.2M, however the March 2020 project competition was cancelled due to lack of capacity to review applications. CIHR will be providing one-year extensions with funding to project grants ending between June 30, 2020, and March 30 2021 so long as recipients do not apply in fall 2020, the purpose for which is to ease competition pressure in the fall. All active CIHR grants are receiving a one-year, no-cost extension, several competition deadlines have been extended, and with the exception to COVID-related research, there is a moratorium on all new strategic calls.

Natural Sciences and Engineering Research Council

The Natural Sciences and Engineering Research Council (NSERC) has provided a one-year, no-cost extension to all active grants originally slated to terminate between February 1, 2020 and March 31, 2021. In addition, NSERC has announced a one-year extension with funding available to all active Discovery Grants which is expected to translate to a reduced cohort for the fall 2020 Discovery Grants competition. NSERC has also announced a new funding opportunity for COVID-19 grants through the NSERC Alliance program. There is $15M in funding available through this program.

Social Sciences and Humanities Research Council

While additional information from the Social Sciences and Humanities Research Council (SSHRC) is expected shortly, they have to date offered one-year, no-cost extensions to all active grants originally slated to terminate between February 1, 2020 and to May 31, 2021.

Ongoing Critical Research

As of April 17, there are 86 requests that have been approved for ongoing, on-campus critical research. Another 50 requests either currently being processed or under discussion. There are currently 17 COVID-19 specific research studies active on campus. An additional opportunity has also been presented for researchers to formalize requests to conduct field research.

Student Support

In an attempt support graduate students at risk due to the payments from industrial, non-profit and government contracts being cancelled, delayed, reduced or extended due to COVID-19, the Office of Research has initiated diverting funding from existing internal programs and collaborating with Centres and Institutes to help fill the gap of the GRS portion of students' funding. Students funded by industry

matching programs (e.g. NSERC CRD, OCE, Mitacs) directly tied to such contracts will also be eligible. A funding program has been developed and a campus-wide call with defined criteria has been disseminated.

Community Response

The Office of Research continues to facilitate the collection of thousands of items, including Personal Protective Equipment, required by medical workers for frontline care. Donations continue to be requested and received from industry partners and international collaborators. All donations have been sent to the local designated COVID-19 supply collection for distribution. Subsequently, the Office of Research also facilitated the donation of reagents as requested by the federal government. Finally, there are three facilities on campus that are printing face shields with their existing 3D printers. The largest of these is the Multi-Scale Additive Manufacturing Lab (MSAM).