University of Waterloo  
SENATE  
Notice of Meeting

Date: Monday 18 January 2016  
Time: 3:30 p.m.  
Place: Needles Hall, room 3407

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
<th>Description</th>
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<tbody>
<tr>
<td>3:30</td>
<td>1.</td>
<td>Conflict of Interest Declaration</td>
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<tr>
<td></td>
<td>Consent Agenda</td>
<td>Motion: To approve or receive for information by consent items 2-5 below.</td>
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<td>2.</td>
<td>Reports from Committees and Councils Information</td>
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<tr>
<td></td>
<td>a.</td>
<td>Executive Committee Decision/Information</td>
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<td>b.</td>
<td>Graduate &amp; Research Council Decision/Information</td>
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<td>c.</td>
<td>Undergraduate Council Decision/Information</td>
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<td>3.</td>
<td>Report of the President Information</td>
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<tr>
<td></td>
<td>a.</td>
<td>Recognition and Commendation Information</td>
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<td>b.</td>
<td>Tenure and Promotion Information</td>
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<td>4.</td>
<td>Reports from the Faculties Information</td>
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<td>5.</td>
<td>Committee Appointments Information</td>
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<td>3:35</td>
<td>6.</td>
<td>Business Arising from the Minutes Information</td>
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<tr>
<td>3:40</td>
<td>7.</td>
<td>Teaching Presentation – Information</td>
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<td>Christine Moresoli, Associate Dean Co-op Education &amp; Professional Affairs</td>
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<td>3:55</td>
<td>8.</td>
<td>Reports from Committees and Councils Decision</td>
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<td>a.</td>
<td>Executive Committee Decision</td>
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<td>b.</td>
<td>Graduate &amp; Research Council Decision</td>
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<td>c.</td>
<td>Undergraduate Council Decision</td>
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<td>4:05</td>
<td>9.</td>
<td>Report of the President Information</td>
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<td>4:15</td>
<td>10.</td>
<td>Q&amp;A Period with the President Information</td>
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<tr>
<td></td>
<td>a.</td>
<td>Course Evaluation Project Update Information</td>
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<td>b.</td>
<td>Overview of Quality Assurance of Academic Programs Information</td>
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<td>5:10</td>
<td>12.</td>
<td>Report of the Vice-President, University Research Information</td>
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<td>5:20</td>
<td>13.</td>
<td>Report of the Vice-President, University Relations Information</td>
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<td></td>
<td>a.</td>
<td>Brand Refinement Update Information</td>
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<td>5:35</td>
<td>14.</td>
<td>Other Business Information</td>
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<td>5:40</td>
<td>15. Conflict of Interest</td>
<td>Declaration</td>
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<td>5:45</td>
<td>16. Business Arising from the Minutes</td>
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<td>5:50</td>
<td>17. Report of the President</td>
<td>Information</td>
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<td>5:55</td>
<td>18. Reports from Committees and Councils</td>
<td>Information</td>
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<tr>
<td></td>
<td>a. Executive Committee</td>
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<td>6:00</td>
<td>19. Report of the Dean of Arts Nominating Committee</td>
<td>Decision</td>
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<td>6:10</td>
<td>20. Report of the Nominating Committee for Honorary Degrees</td>
<td>Decision</td>
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<td>6:15</td>
<td>21. Other Business</td>
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10 January 2016
Logan Atkinson
University Secretary & General Counsel
MEMORANDUM

To: Senate

From: Senate Executive Committee

Date: 18 January 2016

Re: Report of Committee Activities

Pursuant to the powers vested in the Senate Executive Committee pursuant to Senate Bylaw 2, paragraph 1.04(b), at its meeting of 7 December 2015 the committee received for information, on behalf of Senate, the following reports, all of which are attached to this report:

1. Report from Graduate & Research Council
2. Report from Undergraduate Council
3. Reports from Faculties

Further, on behalf of Senate, the committee approved the minutes of the confidential session of Senate held on 19 October 2015 (submitted to Senate at its meeting of 16 November 2015), and the minutes of the open session of Senate held on 16 November 2015, a copy of which is attached to this report.

Feridun Hamdullahpur
President & Vice-Chancellor
Chair, Senate Executive Committee
Senate Graduate & Research Council met on 9 November 2015, and agreed to forward the following items to Senate for information. These items are recommended for inclusion in the consent agenda.

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

### FOR INFORMATION

#### NEW AND CONTINUING MEMBERSHIPS
On behalf of Senate, council approved the membership recommendations for the Human Research Ethics Committee.

#### SCHOLARSHIPS AND AWARDS
On behalf of Senate, council approved the creation of the African Institute for Mathematical Sciences (AIMS) Entrance Scholarship.

#### CURRICULAR MODIFICATIONS
On behalf of Senate, council reviewed and approved minor plan changes, course inactivations, course changes, new courses and changes to calendar text for the Faculty of Arts (French studies; history; peace and conflict studies; psychology; sociology) the Faculty of Engineering (electrical and computer engineering; mechanical engineering) and the Faculty of Mathematics (combinatorics and optimization).

#### RENEWAL OF CENTRES AND INSTITUTES

**Centre for Pavement and Transportation Technology**
Under the current direction of Susan Tighe, the centre focuses on emerging and innovative technologies while fostering sustained partnerships and cultivating the talents of highly-qualified personnel focused on these areas. The centre offers a robust program of training for professionals and also features the John J. Carrick laboratory, which offers state-of-the-art equipment for testing pavement and materials. The centre benefits from two research chairs in sustainable pavement engineering and in pavement materials and is engaged in a wide array of research with funding from a variety of sources including industrial partners.

In view of the success of the centre to date and its strong future prospects, on behalf of Senate council approved its renewal for a five-year term ending November 2020.

**The Games Institute**
Under the current direction of Neil Randall, the institute was formed in 2010 and serves to advance the culture of, and surrounding, games in Canada. Since that time the institute has become a focal point for games and games-related research at the university, in Canada, and internationally. The institute works to foster effective and active industry and non-profit initiatives, including partnerships and funded research projects as well as entrepreneurial ventures. With dozens of members from across the entire academic spectrum at Waterloo, the institute engages in activities spanning: brown bag sessions, open house events, graduate student research, the Interactive and Multi-Modal Experience Research Syndicate (IMMERSe) research network, the Engage Lab at Stratford campus, and the conference activities including the Gamification Conference.

In appreciation of the institute’s unique offering and pioneering activities, on behalf of Senate council approved its renewal for a five-year term ending November 2020.
Institute for Polymer Research
Under the current direction of Jean Duhamel, the institute is among the leading centres of polymer expertise in North America. Established in 1984 and currently having 15 faculty members plus a considerable graduate student complement, the institute offers a results-oriented program of graduate studies and research in experimental polymer science and engineering including applied and fundamental research in areas related to the plastics, coatings, adhesives and elastomers industries. The institute continues to attract industrial partners for consulting, contract research and interdisciplinary training. Other activities include the training of 60 graduate students, support for publications and conferences/symposia, and annual awards available to graduate students.

In recognition of the solid track record and strong future prospects of the institute, on behalf of Senate council approved its renewal for a five-year term ending November 2020.

Jim Frank
Associate Provost, Graduate Studies

George Dixon
Vice President, University Research
Senate Undergraduate Council met on 10 November 2015 and, on behalf of Senate, approved minor changes to academic plans, faculty promotion rules and course changes. Council agreed to forward the following items for information. Council recommends that these items be included in the consent agenda.

Further details are available at: uwaterloo.ca/secretariat/committees-and-councils/senate-undergraduate-council

FOR INFORMATION

NEW UNDERGRADUATE AWARDS

Attachment #1 to this report contains a listing of newly-approved entrance scholarships/awards/bursaries, upper-year scholarships/awards/bursaries, international experience awards and athletic awards.

CURRICULAR MODIFICATIONS

Changes to faculty promotion rules were approved for the Faculty of Engineering (architecture) effective 1 September 2015. These changes remedy an oversight whereby the promotion rules applied to BASc and BSE students but not for BAS students; the faculty has obtained the approval of students in architecture, as this change is to their benefit.

Course changes and plan changes were approved for the Faculty of Engineering (nanotechnology engineering) and the Faculty of Science (pharmacy; science) effective 1 September 2016.

Course changes were approved for the Faculty of Science (science) effective 2 January 2016.

Course changes were approved for the Faculty of Science (pharmacy; science) effective 2 September 2016.

Mario Coniglio
Associate Vice-President, Academic
**ENTRANCE SCHOLARSHIPS/AWARDS/BURSARIES:**

**Devani Charities Undergraduate Engineering Entrance Scholarship**
A scholarship, valued at $1,500, is awarded annually to a full-time undergraduate student entering in Year One in the Faculty of Engineering on the basis of academic excellence (minimum 90%). Preference will be given to international students from India moving to Canada to pursue their degree. This fund is made possible by a donation from Devani Charities in memory of Pradeep Anand, MASC 1974 Electrical Engineering alumnus.

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

**Gale/Seixeiro Entrance Scholarship**
A scholarship, valued at up to $1,200, is awarded annually to an outstanding undergraduate student entering Year One in the Faculty of Mathematics (excluding Software Engineering). Selection will alternate between any student from the province of Ontario and a female student from Northern Ontario (Postal Code ‘P’ area). This fund is made possible by a donation from Steve Seixeiro (BMath ’95, Computer Science) and April Gale-Seixeiro (BMath ’95, Actuarial Science and Statistics) who met at the University of Waterloo in 1990 and want to make a difference in students’ lives.

*Method of Financing: endowment*

**Valerie Greenwood Scholarship in Health Studies**
A scholarship, valued at $2,500, is awarded annually to a full-time undergraduate student enrolled in Year One of Health Studies or Public Health in the Faculty of Applied Health Sciences, School of Public Health and Health Systems on the basis of academic achievement and extracurricular involvement as assessed through the Admission Information Form. This award is made possible by a gift from Sean & Erin Sargeant Greenwood and their children in honour of Valerie Greenwood and her lifetime of service as a nurse and health care provider.

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

**Christopher Dean Moran Memorial Award**
An award, valued at $1,000, is provided annually to a full-time undergraduate student entering Year One of the Architecture program in the Faculty of Engineering who has demonstrated outstanding talent and creativity in the art portfolio presented by the student for acceptance to the School of Architecture. Christopher was a Waterloo Architecture student and talented artist at the time of his passing in 2014. This memorial award has been established by his parents to reward students who exhibit exceptional talent through their artwork.

*Method of Financing: endowment*

**NA Engineering Associates Inc. GBDA Entrance Scholarship**
A scholarship, valued at $2,500, is awarded annually to a student entering Year One of the Bachelor of Global Business and Digital Arts program in the Faculty of Arts on the basis of academic achievement (minimum 85% average). Preference will be given to students who reside in Perth County. This fund is made possible by a donation from NA Engineering Associates Inc.

*Method of Financing: annual donation (four-year pledge)*
**Gwilym Roberts Memorial Scholarship**

One or more scholarships, valued at up to $2,000 each over two years, are awarded annually to undergraduate students entering first year of an Honours Earth Sciences program within the Faculty of Science. The scholarship recipient(s) will have indicated an interest in selecting Geology Specialization as a major. The second portion of the award, payable in 2A, is dependent on the student maintaining an 80% overall average in Year One and continued interest in the Geology Specialization. These scholarships pay tribute to the remarkable professor and first Economic Geologist in the Department of Earth and Environmental Sciences, Gwilym Roberts, who paved the foundation for many geologists in their careers.

*Method of Financing: endowment*

**University of Waterloo HeForShe IMPACT Scholarships**

In May 2015, President Hamdullahpur accepted an invitation from the UN Women’s HeForShe campaign for the University of Waterloo to participate in their Impact 10x10x10 framework alongside governments, leading universities, and global businesses. HeForShe is a global effort to engage men and boys in removing the social and cultural barriers that prevent women and girls from achieving their potential, and together positively reshaping society. As part of our commitment to this campaign, the University of Waterloo will provide six scholarships, valued at up to $12,000 each over four years, to outstanding female students admitted to Year One of an undergraduate science, technology, engineering, or mathematics (STEM) degree program in which females are currently underrepresented. Recipients will receive $1,500 per academic term for up to eight terms. Continuance of the scholarship beyond Year One is dependent on the student maintaining an 80% overall average and continued full-time enrolment in an eligible STEM program. Selection will be based on academic achievement combined with any other Faculty-specific entrance scholarship criteria. All female applicants to the Faculty of Engineering, Faculty of Mathematics and eligible programs in the Faculty of Science are considered and a separate application form is not required.

*Method of Financing: University funds*

**UPPER-YEAR SCHOLARSHIPS/ AWARDS/ BURSARIES:**

**Association of Ontario Land Surveyors Educational Foundation Academic Excellence in Geomatics Award**

Two awards, valued at $1,000 each, will be provided annually to full time undergraduate students enrolled in the Geomatics program in the Faculty of Environment on the basis of academic excellence: one to a second-year student and one to a third-year student. This fund is made possible by a donation from the Association of Ontario Land Surveyors Educational Foundation.

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

**Autodesk Canada Capstone Design Award**

An award, valued at $5,000, will be provided to an outstanding student group in any program in the Faculty of Engineering completing a Fourth-Year Capstone Design Project with a significant software component. The award will go to the project that, in the opinion of the judges, demonstrates an innovative and practical design solution to a problem. Interested groups must submit an application, available through the Faculty of Engineering website, to their departmental Capstone Coordinator and a faculty committee will make the final selection. All award funds will be divided equally among the winning team members. This fund is made possible by a donation from Autodesk Canada Inc.

*Method of Financing: annual donation (two-year pledge with option to renew)*
**Dan and Anik Colquhoun Award**

An award, valued at $2,000, is presented annually to a full-time undergraduate student enrolled in second-year or above of Computer Engineering on the basis of a demonstrated personal or medical challenge that has been overcome and a significant grade increase between any two consecutive terms after 2B. Eligible students should submit an application by November 1. This fund is made possible by a donation from Daniel and Anik Colquhoun.

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

**GHL Consultants 4th Year Fire Safety Award**

An award, valued at $2,000, is provided annually to a full-time undergraduate student enrolled in the fourth-year undergraduate Fire Safety Engineering course in the Department of Mechanical and Mechatronics Engineering. Selection is based on academic achievement (minimum 80% cumulative average) and demonstrated interest in pursuing a career in the area of fire safety engineering. Interested students should submit an application by February 1st. This fund is made possible by a donation from GHL Consultants Ltd.

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

**Grand House Award**

An award, valued at $3,000, is provided annually to a full-time undergraduate student enrolled in any year at the School of Architecture in the Faculty of Engineering on the basis of interest and desire to live in a unique student residence. The Grand House is the only student residence in Cambridge that was designed and built by students for students. It presents a great opportunity for all students to interact and learn more from each other, put their ideas to use, and build enthusiasm for architecture. Interested students should contact the Undergraduate Student Services Coordinator at the School of Architecture for more information in order to apply by June 15.

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

**Rick Haldenby Rome Award**

An award, valued at approximately $1,000, is provided annually to a full-time undergraduate student in the School of Architecture in the Faculty of Engineering who is participating in the Rome program in their fall 4A term. Candidates must be in good academic standing and have a demonstrated financial need as determined by UW. To be considered, students must complete the general UW International Experience Award application by July 15th.

*Method of Financing: endowment*

**The HEM History Scholarship for Academic Achievement and Community Service**

A scholarship, valued at a minimum of $1,000, is provided annually to a full-time undergraduate student enrolled in Year Three or Four in the Department of History in the Faculty of Arts on the basis of academic excellence (minimum 80%) and commitment to university or community service. Interested students should submit an application by February 15. The HEM History Scholarship is named in honor of retired professors Patrick Harrigan, John English and Wendy Mitchinson. Their commitment to the History program at UWaterloo has influenced generations of students who sought the honorees’ expertise, advice, and guidance during undergraduate or graduate studies in History.

*Method of Financing: endowment*
**Paul D. Imrie Scholarship**
A scholarship, valued at $2,500, is awarded annually to a full-time undergraduate student enrolled in Year Two, Three or Four in the Department of Political Science in the Faculty of Arts on the basis of academic excellence (minimum 80%). This fund is made possible by a donation from Paul D. Imrie, BA ’81, majoring in political science.

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

**Richter Accounting Scholarship**
Two scholarships, valued at $2,500 each, are provided annually to full-time undergraduate students enrolled in Year Two, Three or Four of the Accounting and Financial Management program in the School of Accounting and Finance. Selections will be based on academic excellence (minimum 80%), extracurricular involvement and leadership potential with a preference for students engaged in entrepreneurial activities. Interested students should submit an application by October 1st. This fund is made possible by a donation from Richter LLP, a 500-person team of strategic accountants, financial advisors and business consultants offering a professional work environment that supports learning and career objective of motivated, dynamic and assertive individuals.

*Method of Financing: annual donation (on-going pledge)*

**Systems Design Engineering Perseverance Award**
An award, valued at $1,000, is provided annually to a full-time undergraduate student who has successfully completed Year Two of Systems Design Engineering, after encountering academic difficulties during the 2A term. Selection will be based on the degree of perseverance and academic success in 2B in the face of significant academic challenges, which may include having failed a previous academic term, failing multiple courses, a “may-not-proceed” status, failure to find work term employment, or other personal challenges. This fund is made possible by a donation from Robert Adriaanse and Monika Torok, graduates of the Systems Design Engineering program at Waterloo to recognize hard work and perseverance.

*Method of Financing: annual donation (ongoing, with the intention of eventually converting to an endowment)*

**Drs. Wensveen and Smith Award in Binocular Vision and Perception**
An award, valued at $1,000, is presented annually to a full-time undergraduate student entering Year Three in the School of Optometry & Vision Science in the Faculty of Science who has demonstrated a particular interest and aptitude in the area of binocular vision and perception. Candidates must have demonstrated academic achievement in related courses (minimum 70%). Interested students should apply by submitting a one-page essay at the completion of Year Two by June 30 of each year. This fund is made possible by a donation from Dr. Janice Wensveen (OD ’83, University of Waterloo) and Dr. Earl L. Smith, III (OD ’72, University of Houston). They are both professors from the University of Houston School of Optometry who are grateful for the careers that they have as a result of their optometry education and want to help support the next generation of optometrists.

*Method of Financing: endowment*
ATHLETIC AWARDS:

Robin Banks Athletic Excellence Award
An award, valued at $1,500, is provided annually to a full-time undergraduate student who is a member of the Waterloo Football team. This award recognizes athletic talent, contribution to Warrior Athletics, and contribution to the team and school. This fund is made possible by a donation from Peter Banks in loving memory of his father, Robin Banks, former Dean of Arts and long standing supporter of the Warrior Men’s Football Team.

Method of Financing: annual donation (ongoing)

HockeyTech Hockey Excellence Award
Four awards, valued at $4,500 each, are given to two members of the Women’s and two members of the Men’s Varsity Hockey teams. These awards recognize athletic talent and contribution to Warrior Athletics, the team, and school. This fund is supported by the Stu and Jill Siegel Charitable Foundation. Stu is the CEO and Founder of HockeyTech, a company that provides hockey-related technologies, analytics and information services.

Method of Financing: annual donation plus matching Athletic funds (four-year pledge)
FOR INFORMATION

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A. APPOINTMENTS/REAPPOINTMENTS

Adjunct Appointment
Graduate Supervision

CARSON, Valerie, Assistant Professor, School of Public Health and Health Systems, October 15, 2015 – August 31, 2016.

Postdoctoral Fellows appointed as Research
VALAITIS, Renata, Department of Kinesiology, October 1, 2015 – September 30, 2016.

B. RETIREMENT

MYERS, Anita, Professor Emerita, School of Public Health and Health Systems, January 1, 2016.

James W.E. Rush, Dean
Faculty of Applied Health Sciences
UNIVERSITY OF WATERLOO
REPORT OF THE DEAN OF THE FACULTY OF ARTS TO SENATE
December 21, 2015

FOR INFORMATION

A. APPOINTMENTS

Tenure
SZEMAN, Imre, Professor, Departments of Drama & Speech Communication and English Language & Literature. Professor Szeman received his BA (1990) with first class honours in philosophy from Queen’s University and his MA (1993) in theory and criticism at the University of Western Ontario. He then went on to complete a PhD (1998) in literature at Duke University. Professor Szeman started his teaching career as assistant professor of English and Cultural Studies in the Department of English at McMaster University in 1999 and was promoted to associate professor in 2003 and to full professor in 2008. During his career at McMaster, he was an associate member of the Department of Sociology and held positions of associate director followed by director for the Institute on Globalization and the Human Condition, Senator William McMaster Chair in Globalization and Cultural Studies and Director of the MA programme in Cultural Studies and Critical Theory. In 2009, Professor Szeman accepted the position of Canada Research Chair in Cultural Studies and Professor of English, Film Studies and Sociology at the University of Alberta. He conducts research on and teaches in the areas of energy and environmental studies, social and cultural theory, globalization and nationalism, and Canadian studies. Professor Szeman is the recipient of the John Polanyi Prize in Literature (2000), the Petro-Canada Young Innovator Award (2003), an Alexander von Humboldt Fellowship (2005-7), and a Killam Annual Professorship (2013) among other awards. He is the founder of the Canadian Association of Cultural Studies and a founding member of the US Cultural Studies Association as well as founding editor of Reviews in Cultural Theory and a member of the editorial collective of the journal Mediations. Current projects include: a book on the cultural politics of oil; an introductory text on cultural theory and an anthology of contemporary Marxist theory. Colleagues note that “his teaching and research abilities are impressive; his publications are of extremely high quality; and his leadership skills and dedicated efforts helped build the foundations of cultural studies in Canada”. It is evident from references received that Professor Szeman is respected by his peers for his intellectual, social and political diversity both in an academic setting and beyond.

Probationary Term Appointments - Change in Dates
KELLY, Allison, Assistant Professor, Department of Psychology, from November 1, 2012 to June 30, 2016 to November 1, 2012 to June 30, 2017.

Continuing Lecturer Appointments
HADFIELD, Dorothy, (BA 1988 University of Waterloo, MA 1991 University of Guelph, PhD 1999 University of Western Ontario), Department of English Language and Literature, July 1, 2015. Dr. Hadfield teaches courses both online and on campus and serves as the Department’s Extended Learning Coordinator, a role she has pioneered. In this role, Dr. Hadfield guides course authors and works with the Centre for Extended Learning as she oversees the creation of new online courses and the updating of existing ones. She also engages in pedagogical and other research relevant to her teaching activity.

Definite Term Appointments
SPELTZ, Andrea, (BA 2004 McGill University; MA 2007 Mannheim University; PhD 2012 Queen’s University), Assistant Professor, Department of Germanic & Slavic Studies, January 1, 2016 to December 31, 2018. Dr. Speltz is a scholar of the Enlightenment and a literary historian, and an excellent teacher who previously received a teaching award. She will teach a broad range of courses in Germanic and Slavic Studies, from ab initio German language to German culture, literature, film and gender studies, including on-campus as well as online courses.
Visiting Appointment
ALBAN, Mathieu, Visiting Researcher, Department of Political Science, January 4, 2016 to June 30, 2016.

LIU, Shuang, Visiting Scholar, Department of Political Science, August 1, 2016 to July 31, 2017.

TADAKORO, Masayuki, Visiting Scholar, Department of Political Science, March 12, 2016 to March 31, 2017.

Cross Appointment
HOMER-DIXON, Thomas, Professor, Faculty of Environment, to the Department of Political Science, November 1, 2015 to August 31, 2018.

Adjunct Appointments – Graduate Supervision
CARRIERE, Jonathan, Assistant Professor, Department of Psychology, September 1, 2015 to August 31, 2017.

Adjunct Reappointments – Instruction
MCGEE, C. Edward, Professor (Professor Emeritus), Department of English Language and Literature, September 1, 2015 to December 31, 2015.

Adjunct Reappointments – Miscellaneous (research, consultations, etc.)
SADLER, Pamela, Associate Professor, Department of Psychology, September 1, 2015 to August 31, 2016.

B. ADMINISTRATIVE APPOINTMENTS

Administrative Appointments
WALKER, Jim, Associate Chair, Graduate Studies, Department of History, November 1, 2015 to October 31, 2016.

Administrative Appointment – Change in Dates
BOEHRINGER, Michael, Associate Chair, Graduate Studies, Department of Germanic and Slavic from December 1, 2014 to June 30, 2016 to December 1, 2014 to December 31, 2015.

C. LEAVE of ABSENCE

MAINWARING, Cetta, Assistant Professor, Department of Sociology & Legal Studies, March 1, 2016 to March 31, 2016.
A. **APPOINTMENTS**

**Probationary-Term Appointments**

**HICKEY, Jean-Pierre**, Assistant Professor, Department of Mechanical & Mechatronics Engineering, January 1, 2016 – June 30, 2019. PhD Royal Military College of Canada 2012; MSc Technische Universität Darmstadt, Germany 2007; B.Ing École Polytechnique de Montréal 2004. Dr. Jean-Pierre Hickey’s research interests are in the area of numerical simulations of rocket propulsion and thermosensible cavitation modelling in cryogenic turbopumps. He received his PhD from Royal Military College, Canada, after which he held a NASA Postdoctoral Research Fellowship at Stanford University, and is currently a Research Scientist in the Spacecraft Department at the German Aerospace Centre (DLR) in Goettingen, Germany. He joins the Fluid Mechanics research group in the MME department, and strengthens our numerical modelling expertise in computational fluid dynamics.

**Probationary Term Reappointments**


**Visiting Appointments**


**BAEK, Ji-Yoo**, Scholar (part-time), Department of Chemical Engineering, November 5, 2015 – March 31, 2016.

**BURBAUM Stefanos**, Scholar, Department of Mechanical & Mechatronics Engineering, April 1, 2016 – July 31, 2016.

**CHEN, Si**, Scholar, Department of Mechanical & Mechatronics Engineering, January 1, 2016 – June 30, 2016.


**LI, Liang**, Scholar, Department of Mechanical & Mechatronics Engineering, October 19, 2015 – October 18, 2016.
MALIK, Monu, Scholar, Department of Chemical Engineering, November 1, 2015 – October 31, 2016.

PANCHAL, Satyam, Scholar, Department of Chemical Engineering, November 1, 2015 – October 31, 2017.

WANG, Wei, Scholar, Department of Civil & Environmental Engineering, November 15, 2015 – February 15, 2016.

WANG, Wenyi, Associate Professor, Department of Chemical Engineering, December 15, 2015 – June 15, 2016.

WANG, Zhaohui, Scholar, Department of Mechanical & Mechatronics Engineering, March 20, 2016 – September 19, 2016.

XUE, Bing, Scholar, Department of Chemical Engineering, March 1, 2016 – February 28, 2017.

YU, Qingjie, Scholar, Department of Chemical Engineering, December 9, 2015 – December 8, 2016.

YUN, Yeboon, Scholar, Department of Systems Design Engineering, October 1, 2015 – August 31, 2016.

ZHAI, Huihui, Scholar, Department of Mechanical & Mechatronics Engineering, October 28, 2015 – October 27, 2016.

ZHAI, Xin, Scholar, Department of Management Sciences, March 15, 2016 – March 14, 2017.


Visiting Reappointments

GHAJAR, Mohammad, Scholar, Department of Systems Design Engineering, January 16, 2016 – April 15, 2016.

YOUNG, Zachary, Scholar, Department of Chemical Engineering, September 7, 2015 – December 31, 2015.

Special Appointments

Undergraduate Instruction

BALOMENOS, Georgios, Lecturer, Department of Civil & Environmental Engineering, January 1, 2016 – April 30, 2016.

BAYLEY, Tiffany, Lecturer, Department of Management Sciences, January 1, 2016 – April 30, 2016.

FGAIER, Hedia, Lecturer, Department of Management Sciences, January 1, 2016 – April 30, 2016.

HOSSAIN, Kamal, Lecturer, Department of Civil & Environmental Engineering, January 1, 2016 – April 30, 2016.
LIAO, Lihua (Melody), Lecturer, Department of Mechanical & Mechatronics Engineering, January 1, 2016 – April 30, 2016.

PICKFIELD, Peter, Lecturer, Department of Civil & Environmental Engineering, January 1, 2016 – April 30, 2016.

RASHEDI, Roozbeh, Lecturer, Department of Civil & Environmental Engineering, January 1, 2016 – April 30, 2016.

SAIF, Ahmed, Lecturer, Department of Management Sciences, January 1, 2016 – April 30, 2016.

Graduate Instruction

LOVE, Jim, Lecturer, Conrad Business Entrepreneurship & Technology Centre, January 1, 2016 – April 30, 2016.

Special Reappointments

Undergraduate Instruction

BLAKE, Clifford, Lecturer, Department of Management Sciences, January 1, 2016 – April 30, 2016.

Graduate Instruction

ALLARAKHIA, Minnia, Lecturer, Department of Management Sciences, January 1, 2016 – April 30, 2016.

FADER, Christina, Lecturer, Department of Management Sciences, January 1, 2016 – April 30, 2016.


Adjunct Appointments

Graduate Instruction, Graduate Supervision and Research

ALI, M. Shirook, Associate Professor, Department of Electrical & Computer Engineering, November 1, 2015 – October 31, 2017.

Graduate Supervision and Research

KHAN, Mohammad (Ibraheem), Assistant Professor, Department of Mechanical & Mechatronics Engineering, September 1, 2015 – August 31, 2018.

SINGH, Ajit, Associate Professor, Department of Electrical & Computer Engineering, September 1, 2015 – August 31, 2018.

WASYLYSHYN, Dwayne, Assistant Professor, Department of Chemical Engineering, November 11, 2015 – October 31, 2018.

ZIELINSKI, PRZEMYSŁAW (Andy), Professor, Department of Systems Design Engineering, November 1, 2015 – October 31, 2018.
**Adjunct Reappointments**
Graduate Supervision

**AYDEMIR, Nusret**, Associate Professor, Department of Mechanical & Mechatronics Engineering, January 1, 2016 – December 31, 2018.

Graduate Instruction

**IBRAHIM, Walid**, Assistant Professor, Department of Electrical & Computer Engineering, January 1, 2016 – December 31, 2019.

Graduate Instruction & Research

**MCNAUGHTON, Rod**, Professor, Department of Management Sciences, January 1, 2016 – December 31, 2019.

Graduate Supervision & Research

**ENTCHEV, Evgeniy**, Professor, Department of Chemical Engineering, September 1, 2015 – August 31, 2018.

**KONTOGIANNIS, Kostas**, Associate Professor, Department of Electrical & Computer Engineering, October 1, 2015 – September 30, 2016.

**Cross Appointments**

**FUKASAWA, Ricardo**, Associate Professor, Combinatorics & Optimization, Faculty of Mathematics to Chemical Engineering, November 1, 2015 – October 31, 2018.

**Changes in Appointments**

**WECKMAN, David**, Sabbatical Leave, Professor, Department of Mechanical & Mechatronics Engineering, was January 1, 2016 – June 30, 2016, six months at 100% salary, now May 1, 2016 – October 31, 2016, six months at 100% salary.

**WECKMAN, Elizabeth**, Sabbatical Leave, Professor, Department of Mechanical & Mechatronics Engineering, was January 1, 2016 – June 30, 2016, six months at 100% salary, now May 1, 2016 – October 31, 2016, six months at 100% salary.

**B. ADMINISTRATIVE APPOINTMENTS**

**EMELKO, Monica**, Associate Chair, Undergraduate Studies, Department of Civil & Environmental Engineering, January 1, 2016 – December 31, 2016.

**ADMINISTRATIVE REAPPOINTMENTS**

**MELEK, William**, Director of Mechatronics Engineering Program, Department of Mechanical & Mechatronics Engineering January 1, 2016 – December 31, 2018.

**C. RETIREMENTS**

**SINGH, Ajit**, Associate Professor, Department of Electrical & Computer Engineering, August 31, 2015.
D. SABBATICAL LEAVES
For Approval by the Board of Governors

FOWLER, Michael, Professor, Department of Chemical Engineering, July 1, 2016 – December 31, 2016, six months at 85% salary and July 1, 2017 – December 31, 2017, six months at 85% salary.

NAIRN, David, Associate Professor, Department of Electrical & Computer Engineering, September 1, 2016 – August 31, 2017, twelve months at 100% salary.

VAN PELT, Robert Jan, Professor, School of Architecture, July 1, 2016 – December 31, 2016, six months at 85% salary.

Wayne Parker
Acting Dean
Faculty of Engineering
REPORT OF THE DEAN OF ENVIRONMENT TO SENATE
December 21, 2015

FOR INFORMATION

A. APPOINTMENTS

Probationary Term Re-appointments

McLEVEY, John, Assistant Professor, Department of Knowledge Integration, July 1, 2016 to June 30, 2019: PhD, McMaster University, 2013; MA, McMaster University, 2009; BA, Memorial University, 2008.

SCHWEIZER, Vanessa, Assistant Professor, Department of Knowledge Integration, July 1, 2016 to June 30, 2019: PhD, Carnegie Mellon University, 2010; MES, The Evergreen State College, 2007; BSc, University of Nevada, 2001.

Adjunct Appointments

Graduate Supervision

LATTA, Alex, Associate Professor, Department of Environment and Resource Studies, October 1, 2015 to December 31, 2016.

ROW, Jeffrey, Assistant Professor, Department of Environment and Resource Studies, October 1, 2015 to December 31, 2018.

WILSON-FORSBERG, Stacey, Assistant Professor, Department of Environment and Resource Studies, October 1, 2015 to December 31, 2016.

Graduate Supervision and Research

COWAN, Don, Professor, Department of Environment and Resource Studies, January 1, 2016 to December 31, 2018.

KEVAN, Peter, Professor, Department of Environment and Resource Studies, January 1, 2016 to December 31, 2019.

Instruction and Research

YATES, Colin, Assistant Professor, Department of Environment and Resource Studies, November 15, 2015 to December 31, 2018.

Research

DUBÉ, Monique, Department of Environment and Resource Studies, October 1, 2015 to December 31, 2018.

Special Appointments

Instruction

FRIESEN, Milton, Lecturer, School of Planning, January 1, 2016 to April 30, 2016.

JACKSON, John, Lecturer, Department of Environment and Resource Studies, January 1, 2016 to April 30, 2016.

KNAFELC, Paul, Lecturer, School of Environment, Enterprise and Development, September 1, 2015 to December 31, 2015.
SCHULER, Peter, Lecturer, Department of Environment and Resource Studies, January 1, 2016 to April 30, 2016.

TUCCI, Michael, Lecturer, School of Planning, January 1, 2016 to April 30, 2016.

Cross Appointments

CLARKE, Amelia, Associate Professor, School of Environment, Enterprise and Development to the Department of Environment and Resource Studies, November 1, 2015 to December 31, 2019.

LYNES MURRAY, Jennifer, Associate Professor, School of Environment, Enterprise and Development to the Department of Environment and Resource Studies, November 1, 2015 to December 31, 2019.

SCOTT, Steffanie, Associate Professor, Department of Geography and Environmental Management to the Department of Environment and Resource Studies, January 1, 2016 to December 31, 2019.

YOUNG, Steven, Associate Professor, School of Environment, Enterprise and Development to the Department of Environment and Resource Studies, January 1, 2016 to December 31, 2019.

Graduate Student Appointed as Part-Time Lecturer

ORDONEZ, Eduardo, School of Environment, Enterprise and Development, January 1, 2016 to April 30, 2016.

B. SABBATICAL LEAVE

For Approval by the Board of Governors

WEBER, Olaf, Associate Professor, School of Environment, Enterprise and Development, September 1, 2016 to August 31, 2017, at 89.2% salary.
FOR INFORMATION

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

Probationary-Term Reappointments
HAN, Peisong, Assistant Professor, Dept. of Statistics and Actuarial Science, July 1, 2016 – June 30, 2019.

LI, Bin, Assistant Professor, Dept. of Statistics and Actuarial Science, July 1, 2016 – June 30, 2019.

Definite Term - Reappointments
AKASH, Mukto, Lecturer, Office of the Dean, April 29, 2016 – April 28, 2017.

KATSURAGAWA, Keiko, Research Assistant Professor, David R. Cheriton School of Computer Science, November 1, 2015 – October 31, 2016.


Visiting Appointments
XIA, Chengyi (Tianjin University of Technology), Scholar, Dept. of Applied Mathematics, December 1, 2015 – February 28, 2016.

ZHAO, Xiaomei (Central China Normal University), Assistant Professor, Dept. of Pure Mathematics, February 1, 2016 – May 31, 2016.

Adjunct Appointments
Research

TAYLOR, David, Professor Emeritus, David R. Cheriton School of Computer Science, January 1, 2016 – December 31, 2018.

Grad Committee
HOLMES, Reid (University of British Columbia), Associate Professor, David R. Cheriton School of Computer Science, November 1, 2015 – October 31, 2018.

Adjunct Reappointments
Instructor
HENDERSON, Robert, Lecturer, Office of the Dean, January 1, 2016 – April 30, 2016.

KARABINA, Burcu, Lecturer, Office of the Dean, January 1, 2016 – April 30, 2016.


WOODY, Owen, Lecturer, Office of the Dean, January 1, 2016 – April 30, 2016.
Research


Cross Reappointments
MOSCA, Michele (Professor, Dept. of Combinatorics and Optimization), in the David R. Cheriton School of Computer Science, July 1, 2015 – June 30, 2018.

Graduate Students appointed as Part-time Lecturers
KOTHARI, Nishad, Dept. of Combinatorics & Optimization, January 1, 2016 – April 30, 2016.

Graduate Students reappointed as Part-time Lecturers
GAUTHIER-SHALOM, Gabriel, Dept. of Combinatorics and Optimization, January 1, 2016 – April 30, 2016.

SZESTOPALOW, Michael, Dept. of Combinatorics and Optimization, January 1, 2016 – April 30, 2016.

Postdoctoral Fellows appointed as Part-time Lecturers

Postdoctoral Fellow reappointed as part-time Lecturers


B. ADMINISTRATIVE APPOINTMENTS

C. RESIGNATIONS
GEORGIOU, Konstantinos, Assistant Professor, Dept. of Combinatorics and Optimization, effective August 30, 2015.

HOLMES, Reid, Associate Professor, David R. Cheriton School of Computer Science, effective October 31, 2015.

WEI, Xu, Visiting Associate Professor, Dept. of Combinatorics and Optimization, effective December 31, 2015.
D.  SABBATICALS (for approval by the Board of Governors)
WILLMOT, Gordon, Professor, Dept. of Statistics and Actuarial Science, July 1, 2016 – June 30, 2017, with 100% salary.

E.  SPECIAL LEAVE
TERRY, Michael, Associate Professor, David R. Cheriton School of Computer Science, December 14, 2015 – December 13, 2016. This is an unpaid leave.

[Signature]

Stephen M. Watt
Dean
For information:

A. APPOINTMENTS

Adjunct Appointments
Graduate Supervision

LIMA, Ana T., Assistant Professor, Department of Earth and Environmental Sciences, October 1, 2015 to September 30, 2018.

Research
SPENCER, James, Professor, Department of Chemistry, January 1, 2015 to August 31, 2018.

Other
OAKLEY, Richard T. (Professor Emeritus), Professor, Department of Chemistry, February 1, 2016 to August 31, 2019.

Graduate Supervision and Other
FAST, M., Associate Professor, Department of Biology, October 1, 2015 to September 30, 2018.

RENNIE, Michael, Associate Professor, Department of Biology, September 1, 2015 to August 31, 2018.

Graduate Supervision and Research
GU, Zhengcheng, Assistant Professor, Department of Physics and Astronomy, October 1, 2015 to September 30, 2020.

Adjunct Reappointments
Graduate Supervision and Other

OAKES, Ken, Assistant Professor, Department of Biology, January 1, 2016 to December 31, 2018.

Graduate Supervision and Research
DEMPSON, J. Brian, Assistant Professor, Department of Biology, January 1, 2016 to December 31, 2018.

Cross Appointment
GIRELLI, Florian, Assistant Professor, Department of Applied Mathematics cross appointed to Department of Physics and Astronomy, September 1, 2015 to August 31, 2018.
Special Appointment
Undergraduate Instruction
FARAMARZI, Shamsolzaman (Homeira), Lecturer, Department of Physics and Astronomy, February 29, 2016 to April 25, 2016.

FLATT, Heide, Lecturer, Department of Chemistry, January 1, 2016 to April 30, 2016.

Staff Appointed as Part-time Lecturer
LAVERY, Stacey, Lecturer, Department of Chemistry, January 1, 2016 to April 30, 2016.

Special Reappointment
Undergraduate Instruction
HENDERSON, Robert D.E., Lecturer, Department of Physics and Astronomy, April 19, 2016 to June 11, 2016.

JOHNSON, Ron, Lecturer, School of Optometry and Vision Science, September 1, 2015 to December 31, 2015.

B. ADMINISTRATIVE APPOINTMENTS

BEAZELY, Michael, Associate Director, Curriculum, School of Pharmacy, July 1, 2015 to June 30, 2018.

WETTIG, Shawn, Associate Director, Research and Graduate Studies, School of Pharmacy, September 1, 2015 to August 31, 2018.

C. RESIGNATION

YACOBY, Amir, Visiting Professor, Department of Physics and Astronomy, effective January 1, 2016.

RESIGNATION WITHDRAWN

PROUZET, Eric, Associate Professor, Department of Chemistry, effective November 1, 2015.

D. RETIREMENT

OAKLEY, Richard, Professor, Department of Chemistry, effective February 1, 2016.

R.P. Lemieux
Dean of Science
University of Waterloo  
SENATE  
Minutes of the Monday 16 November 2015 Meeting


Guests: Stephen Amirikah, Matthew Bondy, Aldo Caputo, Jana Carson, Rocco Fondacaro, Stéphane Hamade, Bob Hicks, Heather Keller, Jennifer Kieffer, Derek Madge, Nick Manning, Ron McCarville, Flora Ng, Chris Read, Ellen Réthoré, Daniela Seskar-Hencic, Allan Starr, Brandon Sweet, Mat Thijssen, Marilyn Thompson

Secretariat & Office of General Counsel: Logan Atkinson, Karen Jack, Emily Schroeder


*regrets

Organization of Meeting: Feridun Hamdullahpur, chair of Senate, took the chair, and Logan Atkinson, secretary of Senate, acted as secretary. Atkinson advised that due notice of the meeting had been given, a quorum was present, and the meeting was properly constituted. Hamdullahpur welcomed senators to the first meeting of Senate in the university’s new board and senate meeting room. He also welcomed the chair of the Board of Governors, William Watson, and acting dean of engineering, Wayne Parker, to the meeting.

OPEN SESSION

1. DECLARATIONS OF CONFLICT OF INTEREST  
   Senators were asked to declare any interests they may have in relation to the items on the agenda in open session. No conflicts were declared.

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

Porreca and Busch.

2. MINUTES OF THE 19 OCTOBER 2015 MEETING  
Senate approved the minutes of the meeting.

3. REPORTS FROM COMMITTEES AND COUNCILS  
   Executive Committee. Senate received the report for information.

   Graduate & Research Council. Senate received the report for information.
Undergraduate Council

- **Faculty of Mathematics, Mathematical Economics.** Senate approved amendments to the special major average from 75% to 70% as presented in the report.

Senate received the remaining items in the report for information.

4. **REPORT OF THE PRESIDENT**

**Recognition and Commendation.** Senate received the report for information.

5. **REPORTS FROM THE FACULTIES**

Senate received the reports for information.

6. **COMMITTEE AND COUNCIL APPOINTMENTS/REAPPOINTMENTS** [report at senators’ places]

Senate approved the following appointments:

- **Distinguished Teacher Award Committee:**
  - Tiffany Bradley (BA ’00), alumni representative, term to 31 December 2016
  - Firas Mansour (physics and astronomy), faculty representative, term to 31 December 2017
  - Sepehr Mohaddes (mechanical and mechatronics engineering) and Chris Pugh (physics and astronomy), graduate representatives, terms to 31 December 2016
  - Natasha Crasto (political science), Sean Harrap (computer science), and Bailey Jacobs (environment and resource studies) undergraduate representatives, terms to 31 December 2016

- **Amit and Meena Chakma Awards for Exceptional Teaching by a Student Committee:**
  - Rohan Jayasundera (physics and astronomy), faculty representative, term to 31 December 2016
  - Savio D’Silva (electrical and computer engineering) and Charis Enns (global governance), graduate representatives, terms to 31 December 2016
  - Akriti Agrawal (pharmacy), Niru Gidla (chemistry) and Junghee Seo (biomedical sciences), undergraduate representatives, terms to 31 December 2016

Typographical errors were corrected in the report of Undergraduate Council related to the “Curricular Modifications” section of the report. The first sentence of that section of the report is modified to read: “Course inactivations were approved for the Faculty of Mathematics (work reports) effective 1 September 2014.” The second sentence of that section of the report is modified to read: “Changes to regulations were approved for the Faculty of Mathematics (mathematics averages regulation) effective 1 September 2016.”

The question was called, and the motion carried.

**Regular Agenda**

7. **BUSINESS ARISING FROM THE MINUTES**

a. **Degrees, Diplomas and Certificates Award at 23-24 October 2015 Convocation.**

   Hamdullahpur confirmed that no changes had been made to the list approved at Senate in October 2015.

b. **Fall Term Break – Implications for Spring Term Exams**

   **Motion:** Senate heard a motion to request that the Registrar’s Office investigate and report back to Senate on the achievability of scheduling Spring term exams by April each year, starting in 2016.
Tolson and Wray.

Senate considered why the motion was limited to the scheduling of spring term exams, and is not applicable to exam scheduling for other terms. It was explained that the inquiry could be made for spring term exams and then extended to other terms if appropriate. It was pointed out that the challenge of teaching in back-to-back terms could be more acute at other times. However, the motion was motivated in part at least by the introduction of the fall term break.

Senate heard a motion to amend the principal motion to widen its applicability to examination scheduling for all terms.

Richter and Koo.

Senate was reminded that the principal relevant issue with the new fall term break is the scheduling of vacations at the end of August, prior to the start of the fall term. The observation was made that it is difficult to put together an exam schedule prior to the date on which all students have been identified. The registrar confirmed the commitment to investigate this more fully and bring back the results of that investigation to Senate, and pointed out that there is only one other university in Ontario preparing the exam schedule in the way that the motion proposes.

Students are looking for more flexibility in their scheduling, and an early exam schedule would introduce additional flexibility.

The question was called on the motion to amend, and it was defeated.

The question was called on the principal motion, and it carried.

8. RESEARCH PRESENTATION

**DR. HEATHER KELLER, SCHLEGEL RESEARCH CHAIR ON NUTRITION & AGING**

Dixon introduced Dr. Heather Keller, Schlegel Research Chair on Nutrition & Aging.

As a nutritional epidemiologist and dietitian, Dr. Keller conducts research and translates this knowledge to support the food and fluid intake and nutritional care of older adults. Vulnerable older adults who are frail or who have dementia are a special focus.

Her presentation, “Food, Glorious Food”, introduced the new research kitchen at the RIA/Village at University Gates, located on the north campus of the university. She explained why novel food products and technologies are required to meet the health and quality of life needs of older adults. She also presented key areas of work that will be the initial focus of this unique research space, and why this research space is so important.


9. REPORTS FROM COMMITTEES AND COUNCILS

**University Appointments Review Committee.**

Flora Ng, chair of the committee, presented the committee’s report on faculty hiring during the last cycle. She expressed special thanks to Associate University Secretary & Senior Legal Counsel Sian Williams, and to Legal Assistant & Tribunal and Committee Clerk Terri Rau, both of the Secretariat & Office of General Counsel, for assistance in the work of the committee and in preparing the report.
She also expressed thanks to chairs and deans in supporting the work of the committee, and to faculty members serving on the committee and their diligence in their work.

Slides used in the presentation may be seen at: https://uwaterloo.ca/secretariat-general-counsel/sites/ca.secretariat-general-counsel/files/uploads/files/item_9a_uarc_report_to_senate_nov_16_2015.pptx

In response to a question, Ng confirmed that the final graph is combined for all positions. UARC does keep track of gender balance in different appointment categories. There is a higher percentage of female appointments in lecturer positions than in other categories. Further data on this question is to be brought forward to an early Senate meeting.

**Joint Report – Graduate & Research and Undergraduate Councils.**

**Motion:** Senate heard a motion to approve the 2016-17 calendar dates and the guidelines for determining academic calendar of dates as presented in that version of the report distributed to Senate on 13 November 2015.

The dates in the report lay out major academic milestones throughout the year and are required to provide guidance to units throughout the campus community to conduct academic planning within their respective areas. Amendments to sections 2 and 6 and new sections 17 and 18 in the guidelines reflect the three-year pilot Fall Study Break starting in 2016.

It was noted that this matter is brought to Senate in the regular agenda for the first time this year. The matter was delayed slightly to allow for the debate on the fall term break. It was also noted that both Senate Undergraduate Council and Senate Graduate & Research Council had approved the calendar dates in a new procedure for this year.

Darling and Coniglio. Carried.

**Graduate & Research Council.**

**Motion:** Senate heard a motion to approve plan changes and the addition of a full-time option to the Master of Catholic Thought plan as presented in Attachment 1 and effective 1 May 2016.

Frank and Kline.

It was observed that the addition of a full-time option would prove attractive to potential students from across Canada. Six faculty members teach in the program.

The question was called, and the motion carried.

**Undergraduate Council.**

- **Faculty of Applied Health Sciences, Kinesiology**
  
  Senate heard a motion to approve a rehabilitation sciences minor as presented in the report.

  Coniglio and Rush. Carried.

- **Faculty of Engineering, Chemical Engineering**
  
  Senate heard a motion to approve new specializations in 1) energy and environmental systems and processes, 2) materials and manufacturing processes, and 3) chemical process modelling, optimization and control as presented in the report.

  Coniglio and Parker. Carried.
• Faculty of Mathematics, Computer Science/Mathematics [Combined motions 3 and 4]
  Senate heard a consolidated motion to approve a computational fine arts option for Bachelor of Computer Science and Bachelor of Mathematics (Computer Science) students as presented in the report, and to approve a human-computer interaction option for Bachelor of Computer Science and Bachelor of Mathematics (Computer Science) students as presented in the report.

  Coniglio and Richter. Carried.

• Faculty of Applied Health Sciences, Kinesiology [Combined motions 5 and 6]
  Senate heard a motion to amend the title and degree requirements of the ergonomics specialization as presented in the report.

  Senate heard a motion to amend the human nutrition minor as presented in the report.

  Coniglio and Rush. Carried.

• Faculty of Applied Health Sciences, Recreation and Leisure Studies
  Senate heard a motion to amend the degree requirements for general recreation and leisure studies as presented in the report.

  Coniglio and Rush. Carried.

• Faculty of Applied Health Sciences, School of Public Health and Health Systems
  Senate heard a motion to amend the degree requirements for the Bachelor of Public Health plan as presented in the report.

  Coniglio and Rush.

  Senate considered why the proposed amendments eliminates many of the 400-level course requirements in an honours program. The requirements are being reduced from seven 400-level course requirements to perhaps only three or four. Ron McCarville, associate dean, undergraduate studies in Applied Health Sciences, advised that the new plan introduces greater flexibility with fewer required courses as a consequence of the external reviewer’s recommendation. Coniglio advised that we ought not to presuppose that there is a difference between 300 and 400-level courses, and there are other programs where a similar number of 400-level courses are required.

  The question was called, and the motion carried.

  Senate heard a motion to amend the degree requirements for the Bachelor of Science, Health Studies plan as presented in the report.

  Coniglio and Rush. Carried.

• Academic Regulations Related to Assignments, Tests and Final Exams
  Senate heard a motion to approve the Academic Regulations Related to Assignments, Tests and Final Exams as presented in Attachment 1. It was noted that the word “should” in the second line of the last paragraph on page 5 of Attachment 1 is to be replaced by the word “must.”

  Coniglio and Henderson.
Rationale: This new section of the undergraduate calendar will likely be placed following the “Admissions” section in the calendar and is broadly intended to provide transparency to instructors, students and proctors regarding expectations and conduct for graded course elements while also clarifying expectations and procedures. Similar content existed within the calendar in the past and the core content of these regulations have, to date, resided within non-calendar resources; the content is now being reintroduced to provide substantial policy guidance for easy reference on these issues in a central location.

Senators engaged in a lengthy debate on this motion, addressing the following matters: the advisability of special arrangements for nutrition breaks as a response to the prohibition of food in the examination room; the impact of the fourth full paragraph on page 5 of attachment 1, and whether this language restricts professors in managing details on course assessment and raises false expectations in the student; is the language in attachment 1 too restrictive, reducing the flexibility of both students and faculty in managing course delivery, or does it represent good practice in support of students without unnecessarily impeding flexibility for faculty; decision-making relative to issues addressed in attachment 1 properly reside with course instructors, who ought to make decisions based on the context of each individual course; attachment 1 may cause confusion by commingling “regulations” (understood to be prescriptive), and “guidelines” (understood to be instructive), such that some clarity ought to be provided prior to including the item in the calendar; the right to search and seize students’ belongings in the examination room seems to go too far, although this power already resides in the current regulation; the content of attachment 1 is intended to assist faculty in delivering their courses; faculty members ought to be empowered to make decisions on the execution of certain of their responsibilities, and this must be clear despite the language of “recommendations.”

The question was called, and the motion carried.

Coniglio and Frank were asked to consider whether a document such as this ought to be considered by both Senate Undergraduate Council and Senate Graduate & Research Council before coming to Senate, and they agreed to consider the matter.

10. REPORT OF THE PRESIDENT
Hamdullahpur presented a short report on recent activities at the university, including confirmation that all of our students on exchange in France are safe following the terrorist attacks of Friday 13 November; the exciting groundbreaking for the new building to be known as Engineering 7; optimism with the appointment of the new federal cabinet, changes in certain of the ministries, and content of certain of the mandate letters; further support and funding for co-op and entrepreneurship at this university is to be anticipated; review of funding formula at provincial level continues, and we anticipate that differentiation will be an important feature of the new formula.

Strategic Plan 2013-2018: 2014-15 Progress and Outcomes, Fall Update
The progress report on the strategic plan was distributed to senators in advance of the meeting. Hamdullahpur thanked those involved in strategic plan implementation and the successes achieved to date.

University of Waterloo 2014 Environmental Sustainability Report
Mat Thijssen, sustainability coordinator, presented a summary of aspects of the Sustainability Report.

Thijssen responded to a number of questions from senators, including: encouragement for further focus on biodiversity, landscape management, vehicle fleets, assessment of student transportation and movement, social and economic sustainability, and more focus on energy consumption, in particular gas consumption; confirmation that LEED silver is the standard for all new buildings going forward;
the new Science building adjacent to Needles Hall, and the Needles Hall extension, were designed to
this standard, and meet the standard although not certified as such; the consumption of energy in our
labs is one of the largest consumers of energy on campus; the impact of thinking on sustainable
transportation, including hybrid technology and electric cars; our strengths and weaknesses relative to
other universities, and our growing ability to measure in comparison to others; satellite campuses
were considered in the preparation of the report; research and student participation in courses related
to questions of sustainability is a real strength of our university, as is improvement in the efficiency of
our use of water; recent award for storm water management acknowledged.

Slides used in the presentation may be seen here: https://uwaterloo.ca/secretariat-general-

11. Q&A PERIOD WITH THE PRESIDENT
Porreca observed that the return of long form census by the new federal government is a good
outcome from the recent election. He also reminded Senate of the annual Hagey Lecture, occurring
the evening of 17 November.

Hamdullahpur was asked about the outcomes in the vibrant student experience section of the strategic
plan update. Certain indicators are dropping, and this is disappointing. The president advised that
work continues on these challenges, and progress has been made already since the report was
published. He suggested that senators visit the strategic plan implementation web site, where
additional detail is provided to help us understand this better. Senate was also reminded that the
strategic plan implementation update is not simply designed to tell a good news story; it is also to
highlight areas where additional work is needed.

Following the town hall meetings, we heard many issues from students on space utilization that
overlapped with other themes. A special group was formed to study the issue, and the university is
investing funds to improve space devoted to student activity and teaching and learning. We also
discovered that there were overlapping concerns related to the student experience in research – this
question emerged in a number of town halls. This is why these items are highlighted in the update
package.

Hamdullahpur and Orchard responded to a question about the percentage of courses taught by non-
tenured and non-tenure track faculty. The question is a complicated one. The classification of
different categories is not as easy as it appears, and clear distinctions are difficult to establish. We are
in a very good position, and we will be able to report with more confidence soon because the province
is pushing for data. The data we do have is assembled from reports generated by the deans, and those
numbers are not dissimilar to the numbers generated by the faculty association in a separate study.
Orchard confirmed that there is no budgetary pressure at this university to hire sessional lecturers as
opposed to regular faculty.

12. REPORT OF THE VICE-PRESIDENT, ACADEMIC & PROVOST
1 November 2015 Count Date. Jennifer Kieffer of Institutional Analysis & Planning, and Frank,
presented information on graduate enrolments. We are in the process of evaluating how much it is
costing the university given that we are not meeting our targets. We have not yet had an opportunity
to assess the numbers for any particular faculty to determine causes for missing targets.

Slides used in the presentation may be seen here: https://uwaterloo.ca/secretariat-general-
counsel/sites/ca.secretariat-general-counsel/files/uploads/files/item_12b_enrolment_update.pptx
Darling presented information on undergraduate enrolments.

Students taking a second undergraduate degree represent a very small number of the total. We do a very good job at retention, and a good job at graduation rates as well. Our admission numbers can be broken down by gender to determine if we are improving in attracting women applicants.

With respect to the question of grade inflation in the high schools, one would expect that the number of students eligible for admission would be growing, meaning there shouldn’t be a challenge in identifying students qualified according to our admissions standards. However, from year to year, there really isn’t much change, and our Faculties look at many things other than grades during the admissions process.

What can we really do to improve our numbers? How do we make decisions on our recruitment strategy? The current approach involves decision-making and input by the provost and the deans, and targets are continually adjusted as more data becomes available during the cycle. Support was expressed for keeping our entrance average high in Arts so as to maintain our brand as a high quality institution.

13. REPORT OF THE VICE-PRESIDENT, UNIVERSITY RESEARCH
Senate received the report for information.

14. OTHER BUSINESS
There was no other business.

Senate convened in confidential session.

17 November 2015
Logan Atkinson
University Secretary & General Counsel
Secretary to Senate
Senate Graduate & Research Council met on 9 November 2015 and 7 December 2015, and agreed to forward the following items to Senate for approval and information. These items are recommended for inclusion in the consent agenda.

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

FOR APPROVAL

ACADEMIC REGULATIONS

1. **Motion:** To approve changes to course drop/add dates as presented in Attachment #1.

   **Rationale:** This change allows students a reasonable amount of time to adjust their courses while facilitating course planning and resource allocation in departments. Students seeking to add/drop after the fourth week will be able to petition for their request.

FOR INFORMATION

RENEWAL OF CENTRES AND INSTITUTES

**Institute for Computer Research**

Under the current direction of Vic DiCiccio, the institute was formed in 1982 and today has more than 150 members (98 of which are faculty members), either as individual members or as part of one of the 15 federated groups within the institute. The current total research funding to members and groups within the institute exceeds $9 million annually. The institute promotes cooperation among researchers and takes the initiative to sponsor seminars, short courses for industry, and to provide post-graduate scholarships.

In view of the success of the institute to date and its strong future prospects, on behalf of Senate council approved its renewal for a five-year term ending December 2020.

**Waterloo Institute for Social Innovation and Resilience**

Under the current direction of Dan McCarthy, the institute grew out of the Social Innovation Generation project of 2007 and is committed to generating trans- and inter-disciplinary knowledge about social innovations and the social innovation process. The institute’s approach is to pursue collaborative research and projects that bridge faculties and departments, involving researchers from around the world, and engaging individuals and groups beyond academia. The centre has 55 members (including faculty, McConnell Fellows in Social Innovation, and associate professional practitioners) who seek to mobilize this knowledge through a range of new curriculum offerings and training opportunities and research projects, both within and outside of a university setting.

In view of the achievements of the institute and plans for future activity in its areas of strength, on behalf of Senate council approved its renewal for a five-year term ending December 2020.
CURRICULAR MODIFICATIONS
On behalf of Senate, council reviewed and approved new courses, courses changes, faculty awards, minor plan changes and calendar text changes for the Faculty of Applied Health Sciences (public health and health systems; social work), for the Faculty of Arts (economics; global governance), the Faculty of Engineering (civil and environmental engineering), the Faculty of Environment (environment and resource studies; geography and environmental management; local economic development; master of climate change; planning), the Faculty of Mathematics (actuarial science) and Renison University College (English for multilingual speakers).

Jim Frank
Associate Provost, Graduate Studies

George Dixon
Vice President, University Research
November 4, 2015

TO: Mike Grivicic, Assistant University Secretary, Senate Graduate and Research Council

FROM: Sarah Hildebrandt, Director, Graduate Academic Services

RE: Graduate Studies Academic Calendar – Course Drop/Add date

Background:

This is a proposal to change the drop/add date for graduate courses from the sixth week of the term to the fourth week of the term, as outlined in the attached Calendar copy.

While continuing to provide graduate students with a reasonable amount of time to add or drop courses, this earlier deadline will aid departments in course planning and resource assignments. It also prevents students from potentially missing a large number of classes before joining a course. Students will continue to be able to petition to add or drop a course after four weeks.

The changes were approved by Graduate Operations Committee July 7, 2015.

Effective date: Winter 2016.

Calendar copy:

Course Drop/Add Date

During the first four six weeks of term, students must drop or add graduate courses using Quest, the University of Waterloo's online student information system. For courses with enrolment restrictions, students must obtain permission through their Department Graduate Assistant.

Graduate students who wish to enrol in an undergraduate course may petition using a Drop/Add form, obtainable through their Department or the Graduate Studies Office. Signature of the instructor, supervisor and Department Graduate Officer are required.

After the first four six weeks of term, students may not drop or add a course except by petition using the Drop/Add form, and only under exceptional circumstances with the signature of the instructor, supervisor, Department Graduate Officer and the Associate Dean (Graduate Studies) of their home Faculty.

These are Graduate Studies Office deadlines. Individual Faculties may have earlier deadlines. (Please check with your Associate Dean’s Office.)

Courses may not be dropped or added, nor course status changed, after the examination period begins.
Senate Undergraduate Council met on 10 November 2015 and 8 December 2015, and on behalf of Senate approved new courses, course changes, minor changes to academic plans, faculty promotion rules and course changes. Council agreed to forward the following items to Senate for approval and for information. As well, Senate Graduate & Research Council met on 9 November and jointly with Senate Undergraduate Council recommends approval of item 1 of this report. Council recommends that these items be included in the consent agenda.

Further details are available at: uwaterloo.ca/secretariat/committees-and-councils/senate-undergraduate-council

FOR APPROVAL

CHANGES TO STANDARD LANGUAGE ON COURSE SYLLABI

1. **Motion:** To approve changes to the standard language utilized in course syllabi as presented in Attachment #1.

   **Rationale:** This aims to increase awareness of Turnitin’s capabilities and to appropriately reframe it as an educational tool rather than a punitive one. The initiative to clarify the purpose and interpretation of originality reports has grown to revising the guidelines on the use of this software.

UNDERGRADUATE ADMISSION REQUIREMENTS

2. **Motion:** Council recommends approval of the undergraduate admission requirements for 2016 as detailed in Attachment #2.

APPROVAL OF ACADEMIC PROGRAM REVIEW REPORTS

3. **Motion:** To approve the Final Assessment Report for aviation plans (Attachment #3).

4. **Motion:** To approve the Two-Year Report for cognitive science (Attachment #4).

5. **Motion:** To approve the Two-Year Report for medieval studies plans (Attachment #5).

6. **Motion:** To approve the Two-Year Report for peace and conflict studies (Attachment #6).

   **Rationale for motions 3-6:** Senate Undergraduate Council has reviewed each report and is satisfied with the assessment and future directions outlined in them.

FOR INFORMATION

CURRICULAR MODIFICATIONS

Course changes were approved for the Faculty of Engineering (professional development; systems design engineering) and Renison University College (English for multilingual speakers) effective 1 September 2016.

Mario Coniglio

Associate Vice-President, Academic
Amendment to Standard Language Included on Course Syllabi

Motion: To recommend that Senate amend the standard language included in course syllabi as presented.

Demonstrating amendments to current language
(note: strikethrough = deleted text, underline = new text)

**Turnitin.com:** Plagiarism detection software. Text matching software (Turnitin®) will be used to screen assignments in this course. This is being done to verify that use of all material and sources in assignments is documented. In the first week of the term, details will be provided about the arrangements for the use of Turnitin in this course.

Note: students must be given a reasonable option if they do not want to have their assignment screened by Turnitin.

See: [http://uwaterloo.ca/academicintegrity/Turnitin/index.html](http://uwaterloo.ca/academicintegrity/Turnitin/index.html) [https://uwaterloo.ca/academic-integrity/guidelines-instructors](https://uwaterloo.ca/academic-integrity/guidelines-instructors) for more information.

New language incorporating amendments

**Turnitin.com:** Text matching software (Turnitin®) will be used to screen assignments in this course. This is being done to verify that use of all material and sources in assignments is documented. In the first week of the term, details will be provided about the arrangements for the use of Turnitin in this course.

Note: students must be given a reasonable option if they do not want to have their assignment screened by Turnitin.

See: [https://uwaterloo.ca/academic-integrity/guidelines-instructors](https://uwaterloo.ca/academic-integrity/guidelines-instructors) for more information.

Rationale: This amendment will continue to increase awareness of Turnitin’s capabilities, and rebrand it as an educational tool rather than a punitive one. The initiative to better educate people on how to interpret originality reports in Turnitin has grown to revising our current guidelines on this software as well as creating student guidelines (which previously did not exist).

The working group has created guidelines and quick guides for both students and instructors and these documents have been developed with input from key stakeholders (FEDS, GSA, CTE, IST). The guidelines are attached to this submission for information.
Guidelines for Students on How to Use Turnitin®

What is Turnitin®?
Turnitin® is a text matching tool that works by comparing your written assignment with a database of web pages, academic books and articles, as well as other students’ papers. After comparing your assignment to the database, Turnitin® generates a similarity index and an originality report for your submission. The similarity index indicates how much of your writing matches writing from previously existing sources. The originality report highlights all phrases that match the text in an existing source and provides links to those sources.

How Turnitin® Is Used in Courses at UWaterloo
If your instructor is using Turnitin®, they must include the following statement on your course outline:

Turnitin.com: Text matching software (Turnitin®) will be used to screen assignments in this course. This is being done to verify that use of all materials and sources in assignments is documented. Students will be given an option if they do not want to have their assignment screened by Turnitin®. In the first week of the term, details will be provided about arrangements and alternatives for the use of Turnitin® in this course.

Note: students must be given a reasonable option if they do not want to have their assignment screened by Turnitin. See: https://uwaterloo.ca/academic-integrity/guidelines-instructors for more information.

Submitted files are housed on the Turnitin® server based in California, and these files are subject to the USA PATRIOT ACT, 2001. Therefore, if you have concerns about your privacy and or security, you may opt out of using this software and choose another alternative with your instructor. If you do not wish to use this software, please contact your instructor as soon as possible, and discuss an alternative within the first week of the term.

In addition to residing on the U.S. server, files are kept on our UWaterloo server, and your submissions are added to a pool of UWaterloo documents, but they are not accessible to others as part the general Turnitin® database.

According to Turnitin®, "The TURNITIN system makes a ‘fingerprint’ of the work. This is merely a digital code that relays the fact that certain pre-defined content is present in the work. The ‘fingerprint’ does not include any of the work’s actual contents, and is therefore neither a copy nor a true derivative of the original text." (Canadian Legal PDF, 2015, pg. 1) Therefore, it is not possible for another party to print and profit from your intellectual property. Visit the Turnitin® website for more information on its Canadian legal policies.

Prepared by the Office of Academic Integrity, in collaboration with UWaterloo’s Centre for Teaching Excellence (CTE), and Centre for Extended Learning (CEL), August, 2015.
Turnitin® dropboxes can be configured so that only the instructor views the analysis of the submission (i.e., the originality report – see below) or it can be configured so that you can submit and see the analysis (i.e., the originality report) of your work.

**Turnitin® as a Text Matching Tool**
Your instructor can use Turnitin® in order to look at whether or not the work that you submit matches the work of others. Your instructor will evaluate the originality report in order to assess whether the work is original. Any instances of suspected plagiarism are sent to the Associate Dean, Undergraduate or Graduate Studies for review.

**Turnitin® as an Educational Tool**
Your instructor can also use Turnitin® as an educational tool to help you understand the proper conventions for referencing work that is not your own. If your instructor is using Turnitin® as an educational tool, he or she will provide you with an opportunity to view the Turnitin® originality report for your draft and then correct any problems before you submit your final version for grading.

**How to submit to the Turnitin® Dropbox**
From the Assessment tab on the course navigation bar, click the link to the dropbox. Select the Turnitin® dropbox. Click the “Add a File” button in order to submit your draft, then click “Upload” to browse and select the draft that you are submitting. Once you see your file name in the window select “Add”. You will receive an email confirmation receipt if your submission was successful. Keep all email confirmation receipts until the course is over, as proof of submission.

Once you submit your draft to the dropbox it might take some time (i.e., usually minutes, but, in some cases, a day or more) to receive the Turnitin® originality report. You’ll need to give yourself time to interpret the report and then make any necessary adjustments before submitting your final paper for grading.

Once you upload your assignment to the Turnitin® dropbox, you will see a note at the bottom of that page directing you to the Submission History page to view the originality report.

Click on the “View History” button to go to the Submission History page.

Prepared by the Office of Academic Integrity, in collaboration with UWaterloo's Centre for Teaching Excellence (CTE), and Centre for Extended Learning (CEL), August, 2015.
Please note:

- The Turnitin® dropbox will allow you to submit one draft only.
- The dropbox is to be used only for your submission of the draft of the assignment in question (i.e., no other assignment).
- The originality report for your draft assignment will not be reviewed by your instructor or TA: it is for your use only. Unless your instructor tells you otherwise, the draft that you submit to the Turnitin® dropbox will not be graded.
- Only content related to the course may be submitted to the Turnitin® dropbox. Materials for use in other courses are not to be submitted. Unauthorized submissions will be treated as a breach of academic integrity.

Interpreting the Turnitin® Similarity Index and Originality Report

**Similarity Index**

Once your submission has been scanned and compared to the Turnitin® databases, a similarity index will appear in the dropbox. Click on the coloured square beside the percentage to access the originality report.

![Lab Report.docx (734.2 KB) 20 %](image)

The similarity index is a measure of the similarity between your work and work found on websites, electronic journals and others’ work that has been stored on the UWaterloo’s Turnitin® database. In other words, the similarity index shows how much of the submission was not original. The similarity index percentage represents the number of phrases that the program finds in common with database content and divides that number by the total number of words in the file. If, for example, the overall similarity index for a submission is 10%, then 10% of the document can be matched to sequences of phrases in the database. These words may be in one passage or may be in several, separate passages.

A lower percentage rating indicates that most of the content is original and a higher percentage rating indicates that much or all of the content matches content found in other sources and requires further investigation. The percentage ranges are associated with colours, as follows:

- Blue: >= 0 and < 20%
- Green: >= 20 and < 40%
- Yellow: >= 40 and < 60%
- Orange: >= 60 and < 80%
- Red: >= 80 and <= 100%

Prepared by the Office of Academic Integrity, in collaboration with UWaterloo's Centre for Teaching Excellence (CTE), and Centre for Extended Learning (CEL), August, 2015.
Note that there is no “safe” colour or percentage: no percentage or colour in the originality report can fully evaluate whether text has been plagiarized.

For example, Turnitin® will identify direct quotations as matched text and this will be reflected in the similarity index score. However, as long as those quotations are properly cited, plagiarism has not occurred. Rather than focusing solely on the percentage, go through your paper and look at the highlighted sections. Those are where some revisions may need to be done. When evaluating your draft, check to see if the matched text in an assignment is the result of phrases or terms that are commonly used. Also, look at how you have paraphrased others’ works, and check to make sure that you cite your sources in the body of your assignment. Along with the identification of matched text, Turnitin® provides a link to the original source of that matched text as well as the option to view the original source in full. This enables instructors to evaluate the quality of your sources.

The Originality Report
The Turnitin® originality report highlights and colour-codes unoriginal content in your paper. The originality report can help you identify where you might have unintentionally used poor paraphrasing when summarizing information from another source.

You can view the originality report from the Folder Submissions page. Click the coloured section beside the percentage rating to view the associated originality report. After taking a close look at the highlighted sections, you can make a decision about which parts need to be re-written and which parts are referenced accurately.
This is an example of an originality report (click on the image below to open an instructional video).

How can Turnitin® help me?
Turnitin® can help promote scholarly writing which requires appropriate referencing, so that others can determine which ideas are your own, and which ideas were originally created by others. Appropriate referencing is also important as it allows your reader to know where your sources came from and to be able to find them.

In many cases of academic misconduct, students have unintentionally plagiarized due to lack of knowledge or skill in appropriate writing and referencing for scholarly assignments. Writing is a challenging skill that needs to be practiced. If you are unsure of your skills, additional help is available from your instructor, TA, academic advisor, the Student Success Office, or The Writing Centre.

For More Information
If you need help interpreting the originality report you can refer to these resources:


Prepared by the Office of Academic Integrity, in collaboration with UWaterloo's Centre for Teaching Excellence (CTE), and Centre for Extended Learning (CEL), August, 2015.
If you need help with paraphrasing or other writing skills, you can seek help from the Writing Centre [https://uwaterloo.ca/writing-centre](https://uwaterloo.ca/writing-centre)

- [https://owl.english.purdue.edu/owl/resource/563/02/](https://owl.english.purdue.edu/owl/resource/563/02/)
- [http://isites.harvard.edu/icb/icb.do?keyword=k70847&pageid=icb.page350378](http://isites.harvard.edu/icb/icb.do?keyword=k70847&pageid=icb.page350378)
- [http://www.uc.utoronto.ca/paraphrase](http://www.uc.utoronto.ca/paraphrase)

References

- University of Waterloo Turnitin® Pilot Results (2008) unpublished.
Turnitin® Guidelines for Instructors

**What is Turnitin® and how does it work?**

Turnitin® is a text matching tool that is commonly used to detect plagiarism, but it can also be integrated into course activities as an educational tool to help students understand the proper use of quotation marks, how to cite sources properly, and how to paraphrase.

When students submit their assignment to the Turnitin® dropbox in LEARN, the text in each student’s submission is compared to a large database of other students’ submissions that have been collected through Turnitin® from many institutions and to textual material located on the web (for example, websites, electronic documents, and ejournals).

These files are housed on the Turnitin® server based in California and on our local LEARN server. Students’ submissions are added to a private pool of UWaterloo documents, therefore they are not accessible to others for comparison as part of the general Turnitin® database.

After comparing the submission to the database, Turnitin® generates a **similarity index** and an **originality report**. The similarity index indicates how much of the writing matches writing from previously existing sources. The originality report highlights all phrases that match the text in an existing source and provides links to those sources. The originality report can be used to help instructors evaluate the students’ use of unoriginal content and they can be used to help students understand the proper use of quotation marks, how to cite sources properly, and how to paraphrase.

As scholars in our own disciplines, we know that we need to acknowledge the ideas we build on from others; this is an important scholarly activity. It is important for instructors to recognize that not all students have received appropriate training or adequate practice in scholarly writing skills and that there are some discipline specific differences in scholarly writing conventions (e.g., the use of quotations).

**Using Turnitin® in your course**

On the course outline, you must inform students that Turnitin® will be used in the course. You should also state how Turnitin® is being used in your course (i.e., as an educational tool and/or to uncover plagiarism).

You must also provide students with an alternative to Turnitin®. Because students’ submissions are stored on a U.S. server they are subject to the **USA PATRIOT ACT, 2001**; therefore, you must give students an alternative (e.g., scaffolded assignment or annotated bibliography) in order to protect their privacy and security. *Please be aware that your name as a course instructor, if it is included in a submission, will also be retained on the server and subject to U.S. law.

Prepared by the [Office of Academic Integrity](#), in collaboration with UWaterloo’s [Centre for Teaching Excellence (CTE)](#) and [Centre for Extended Learning (CEL)](#), August, 2015.
In addition, the following statement must appear in your course outline if you are using Turnitin® in your course:

**Turnitin.com:** Text matching software (Turnitin®) will be used to screen assignments in this course. This is being done to verify that use of all materials and sources in assignments is documented. Students will be given an option if they do not want to have their assignment screened by Turnitin®. In the first week of the term, details will be provided about arrangements and alternatives for the use of Turnitin® in this course.

*Note: students must be given a reasonable option if they do not want to have their assignment screened by Turnitin. See: [https://uwaterloo.ca/academic-integrity/guidelines-instructors](https://uwaterloo.ca/academic-integrity/guidelines-instructors) for more information.*

Ensure that your teaching assistants (TA) review these guidelines and understand the use of Turnitin® in your course. Teaching assistants may bring issues of concern to the course instructor and Associate Dean, Undergraduate Studies; however, an incidence of plagiarism should be determined by the Associate Dean and not the TA.

**To use Turnitin® as a text matching tool**
To use the Turnitin® originality report to help uncover plagiarism, you must contact the LEARN support team to have Turnitin® dropboxes added to your course. The team will adjust your course settings to make these dropboxes available.

**To use Turnitin® as a text matching tool and as an educational tool**
To use Turnitin® as a text matching tool as well as an educational tool, you must contact the LEARN support team to have Turnitin® dropboxes added to your course. The LEARN team will set up a dropbox for the assignment. Students will be able to see the Turnitin® originality report for their draft through the dropbox then make changes before submitting their final version to the dropbox.

The following practices are recommended for using Turnitin® as an educational tool:

- For each assignment, limit students to one draft submission and one final submission.

- Advise students to submit their draft early so that they have time to interpret the originality report and make the necessary changes to their draft before the assignment is due.

Prepared by the Office of Academic Integrity, in collaboration with UWaterloo’s Centre for Teaching Excellence (CTE), and Centre for Extended Learning (CEL), August, 2015.
• The Turnitin® dropbox is to be used only for their submission of their draft of that assignment (i.e., no other assignment).

• The draft assignment will not be graded.

• The originality report for the draft assignment will not be reviewed by the instructor or TA: it is for the student’s use only.

• Only content related to the course may be submitted to the Turnitin® dropbox. Materials for use in other courses are not to be submitted. Unauthorized submissions will be treated as a breach of academic integrity.

For further information on interpreting the originality report refer to the instructor’s training: http://turnitin.com/en_us/training/instructor-training/viewing-originality-reports

To ensure that students are taught how to interpret the originality report refer them to the student training video: http://turnitin.com/en_us/training/student-training/viewing-originality-reports and have a discussion about how to review the results.

Preparing Students for Turnitin®

Provide a rationale for the use of the tool in both the course outline and the assignment instructions (https://uwaterloo.ca/academic-integrity/integrity-waterloo-faculty/how-help-your-students; Ledwith & Risquez, 2008).

Make students aware of the citation conventions that exist in your discipline (Sutherland-Smith & Carr, 2005). Your Liaison Librarian can help you incorporate resources which will help students learn to use citations appropriately.

Discuss the concept of original thought with your students, remembering that scholarly papers are built on the scholarship of others. If you are asking students to be highly original, then you may have higher incidence of plagiarism because students may be reluctant to cite their sources properly (Johnson & Clerehan, 2005).

To help avoid misconduct, clearly define plagiarism within the context of your discipline and how it relates to the assignment that is being submitted, and explain the extent to which students are allowed to work as a group (Goddard & Rudzki, 2005; Johnson & Clerehan, 2005).

Remember that mastering the skill of scholarly writing takes time and that students are bound to make errors along the way.

Prepared by the Office of Academic Integrity, in collaboration with UWaterloo’s Centre for Teaching Excellence (CTE), and Centre for Extended Learning (CEL), August, 2015.
Taking time in class at the beginning of term to discuss academic integrity and providing resources for students who may not fully understand plagiarism can reduce unintentional plagiarism (Ledwith & Risquez, 2008). Contact your Centre for Teaching Excellence (CTE) Liaison to add learning activities such as “The Evils of Plagiarism”. These activities can be implemented as a requirement to gain access to course content.

Scaffolded assignments where students hand in a series of documents that illustrate the construction and evolution of major papers for instructor feedback can help to document the development of the ideas in a paper and may deter students from plagiarism (Emerson, Rees, MacKay, 2005). Ask your Centre for Teaching Excellence (CTE) Liaison or your Centre for Extended Learning (CEL) representative for details about designing these sorts of assignments.

Recognize that the use of Turnitin® may control plagiarism through the threat of detection rather than by instilling academic values in students (Ledwith & Risquez, 2008).

**Interpreting Turnitin® Reports**

When the originality report is ready, you will first see the *similarity index* which indicates how much of the submission was not original. The similarity index is a percentage that represents the number of words that the program finds in common with database content and divides that number by the total number of words in the file. If, for example, the overall similarity index for a submission is 10%, then 10% of the total words in the document can be matched to sequences of words in the database. These words may be in one passage or may be in several, separate passages. The following is an example of a similarity index.

![Lab Report.docx (734.2 KB)](image)

A lower percentage rating indicates that most of the content is original; a higher percentage rating indicates that much, or all, of the content matches content found in other sources. The percentage ranges are associated with colours, as follows:

- Blue: \( \geq 0 \) and \( < 20\% \)
- Green: \( \geq 20 \) and \( < 40\% \)
- Yellow: \( \geq 40 \) and \( < 60\% \)
- Orange: \( \geq 60 \) and \( < 80\% \)
- Red: \( \geq 80 \) and \( \leq 100\% \)

Prepared by the Office of Academic Integrity, in collaboration with UWaterloo's Centre for Teaching Excellence (CTE), and Centre for Extended Learning (CEL), August, 2015.
The percentage itself only tells you how much of the paper is the same as other sources (i.e., how much of your content is not original).

Turnitin®’s originality report highlights and colour-codes the phrases and series of words that match text that exists in the Turnitin® database or on the web. These highlighted areas can help you identify where students have used direct quotes and where students might have intentionally or unintentionally used poor paraphrasing when summarizing information from another source.

**Note that there is no “safe” colour or percentage: no percentage or colour in the originality report can fully evaluate whether text has been plagiarized.**

For example, Turnitin® will identify direct quotations as matched text and this will be reflected in the similarity index score. However, as long as those quotations are properly cited, plagiarism has not occurred. Rather than focusing solely on the percentage, go through the paper and look at the highlighted sections. Along with the identification of matched text, Turnitin® provides a link to the original source of that matched text as well as the option to view the original source in full. This enables instructors to evaluate the quality of students’ sources.

If Turnitin® is being used as a text matching tool to detect plagiarism, it is important to check each paper to judge whether the overall similarity index that has been calculated is due to chance matches, matches to common terms or phrases used for an assignment (e.g., the title of a key document, process, legislation, etc.) or intentional copying from a source that has not been cited.

There are options to generate reports that exclude text in quotations marks and in bibliographies. Originality reports need to be interpreted on a case-by-case basis and any determinations of plagiarism require human judgement. Depending on the number of students in a course and the length of their papers, this process can be time consuming. However, the evaluation time will likely be reduced as the reader becomes more familiar with, and adept at, using the originality report.
This is an example of an originality report (click on the image below to open an instructional video).

![Match Overview](image)

**Material and Methods:**

Experiments were conducted as outlined in the *Biology 331 Advanced Cell Biology lab manual*, written by the Department of Biology and Published in 2014 (UW Biology, 2014). Experiments can be found on pages 10-29 of the manual. The first three experiments were conducted as outlined in the manual. Two deviations were made to the fourth experiment, however, these included not heating the standard run on the polyacrylamide gel and completing the stain and de-stain processes in the lab on the same day the gel was run, rather then in a follow up period.

**Results:**

Table 1: Summary of samples collected through differential velocity and density gradient centrifugation

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**Practical considerations and Limitations of Turnitin®**

Turnitin® measures originality but it does not verify authorship.

In a pilot study of Turnitin® use at UWaterloo, it was reported by faculty member(s) that Turnitin® may not be helpful for the review of graphs, images, or tables of numbers because it focuses on text. Turnitin® will not fact check numbers or statistics in a document.

Using Turnitin® may result in more time required to mark assignments, and you may want to factor in the reading of the Turnitin® report into the time allotted for marking by you or your teaching assistants (Sutherland-Smith & Carr, 2005; Waterloo Turnitin® School of Accounting and Finance Pilot Results, 2008).

Recognize that a greater incidence of reported plagiarism could occur with the use of Turnitin® and that University of Waterloo faculty member(s) and teaching assistants are required to report any incidents of academic misconduct as outlined in Policy 71.

Prepared by the Office of Academic Integrity, in collaboration with UWaterloo’s Centre for Teaching Excellence (CTE), and Centre for Extended Learning (CEL), August, 2015.
Make sure to document your actions and evidence when bringing a suspected case of plagiarism to your Associate Dean Undergraduate or Graduate Studies.

Check out the Centre for Teaching Excellence (CTE) tip sheet Encouraging Academic Integrity in Your Course for more ways to encourage academic integrity.

**Resources**

*Turnitin® Guidelines for Instructors* (course outlines, informing students of Turnitin® usage, alternatives, etc.).

*Frequently asked questions about Turnitin® at UWaterloo*

*Training videos* to help you use the correct settings to generate “originality reports” for the outcomes that are relevant to your course.


**References**

- University of Waterloo Turnitin® Pilot Results (2008) unpublished.

Prepared by the Office of Academic Integrity, in collaboration with UWaterloo’s Centre for Teaching Excellence (CTE), and Centre for Extended Learning (CEL), August, 2015.
Memo

To: Senate Undergraduate Council (For approval)

From: André Jardin, Associate Registrar, Admissions

Date: October 13, 2015

Re: Undergraduate Admission Requirements for 2016

For your consideration and approval, the 2017 admission requirements:

1. Planning
   - Replace ‘Mathematics’ as recommended course with ‘12 U Mathematics of Data Management’.

   Rationale
   Successful completion of Mathematics of Data Management will better prepare students for ENVS 178 (Introduction to Environmental Research Methods) and ENVS 278 (Advanced Environmental Research Methods).

2. Accounting and Financial Management
   - Remove the word ‘normally’ from the following Admission Requirements statement: “A final grade of at least 75% is normally required in each of the math courses listed above”.

   Rationale
   The proposed wording will accurately reflect our existing practice.

At this time there are no additional requirement changes recommended.

If you have any questions, please do not hesitate to contact me at ext. 32265 or at acjardin@uwaterloo.ca.
Ontario Secondary School Applicants presenting the Ontario High School Curriculum

Ontario secondary school (OSS) students who will be completing the Ontario high school curriculum must present the Ontario Secondary School Diploma (OSSD) including a minimum of six grade 12 U or M courses. These courses must include all required courses as specified for each program.

An overall average of 80% on the best six grade 12 courses including the required courses is normally the minimum for consideration. Higher averages are required for admission to programs in which the demand for places by qualified applicants exceeds the number of places available. The actual minimum averages required for these programs are determined each year on the basis of the number and qualifications of applicants and the number of available spaces.

In some programs, applicants may be considered for early conditional admission based on factors that include their grade 11 academic record, their grade 12 record to date, and other factors noted under "Other Documentation" in the chart.

The University reserves the right to withdraw conditional offers of admission if the applicant fails to meet the requirements specified above or any specific conditions stated on the offer of admission.
## Admission Requirements and Recommendations for Year One Programs 2017

<table>
<thead>
<tr>
<th>Faculty/Program</th>
<th>Requirements</th>
<th>Recommendations</th>
<th>Other Documentation</th>
<th>Notes</th>
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<tbody>
<tr>
<td><strong>Undergraduate first-year entry programs</strong>: All required courses are OSS Grade 12 U courses unless otherwise specified and must be included in the required set of 6. Required courses are included in the calculation of the admission average. <strong>Programs requiring prior university studies</strong>: Requirements are as listed.</td>
<td>Undergraduate first-year entry programs: Courses listed are OSS Grade 12 U courses unless otherwise specified and are not required for admission but are recommended because students may find this preparation useful during their university studies. Programs requiring prior university studies: Recommendations are as listed.</td>
<td>Information which is used in addition to course requirements is detailed below when applicable. The appropriate information will be requested when an application is acknowledged.</td>
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### Arts (Continued)

**Accounting and Financial Management Co-op**
- Any Grade 12 U English. A final grade of at least 75% is required.
- Advanced Functions
- Calculus and Vectors
  A final grade of at least 75% is normally required in each of the math courses listed above.
- Three other U or M courses

**Admission Information and Requirements**:
- Grade 12 M Principles of Financial Accounting
- Grade 12 U Mathematics of Data Management

**Admission Information Form (AIF)** is required.
**Accounting and Financial Management Admissions Assessment (AFMAA)** is required.

**Admission is based on secondary school or any post-secondary school achievement, the results of the AFMAA, and the Admission Information Form.**

### Arts and Mathematics

**Computing and Financial Management Co-op**
- Advanced Functions
- Calculus and Vectors
- Any Grade 12 U English. A final grade of at least 75% is required.
- One other Grade 12 U course
- Two other U or M courses

**Admission Information and Requirements**:
- Grade 11 U Introduction to Computer Science
- Grade 12 M Principles of Financial Accounting

**Admission Information Form (AIF)**, which includes a teacher reference, is strongly recommended. All applicants are encouraged to write the Euclid Mathematics Contest. Applicants not currently attending an Ontario Secondary School are strongly advised to write the Euclid contest to demonstrate that they have sufficient mathematical background.

The Canadian Computing Competition is recommended.

In addition to a strong academic background, other factors considered in the admission process include performance in contests such as the Euclid Mathematics Contest and the Canadian Computing Competition, the number and variety of courses taken, involvement in extracurricular activities in the school and/or the community, and teacher recommendations.

Those not offered admission to Computing and Financial Management may be considered for alternative programs in the Faculty of Mathematics.
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<tr>
<th>Faculty/Program</th>
<th>Requirements</th>
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<th>Other Documentation</th>
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<tr>
<td><strong>International Development</strong></td>
<td>• Any Grade 12 U English. A final grade of at least 70% is normally required.</td>
<td>• At least one Grade 12 U Science or Mathematics course</td>
<td>Admission Information Form (AIF) is required.</td>
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<td><strong>Regular</strong></td>
<td>• Any Grade 12 U English. A final grade of at least 70% is normally required.</td>
<td>• At least one Grade 12 U course in a second language</td>
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<td>• Five other U or M courses</td>
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<td><strong>Knowledge Integration</strong></td>
<td>• Any Grade 12 U English. A final grade of at least 75% is normally required.</td>
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<td>Admission Information Form (AIF) is required.</td>
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<tr>
<td><strong>Regular</strong></td>
<td>• Any Grade 12 U Science. A final grade of at least 75% is normally required.</td>
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<td>• Any Grade 12 U Mathematics. A final grade of at least 75% normally required.</td>
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<td>• Three other U or M courses</td>
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<tr>
<td><strong>Planning Co-op</strong></td>
<td>• Any Grade 12 U English. A final grade of at least 75% is required.</td>
<td>Grade 12 U or M courses from the following:</td>
<td>Admission Information Form (AIF)</td>
<td>The first co-op work term begins in Year Two.</td>
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<td>• Five other U or M courses</td>
<td>• Canadian and World Studies</td>
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<td>• Mathematics</td>
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<td>• 12 U Mathematics of Data Management</td>
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<td>• Science, preferably Biology or Earth and Space Science</td>
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Final Assessment Report
Geography and Aviation (BES)
Science and Aviation (BSc)

September 2015

Introduction
In accordance with Waterloo’s Institutional Quality Assurance Process (IQAP), this final assessment report provides a summary and synthesis of (i) the external review of Waterloo’s aviation program, (ii) the program response to the external review, and (iii) an implementation plan for improvements that list specific actions, timelines, required resources and responsibility.

The Bachelor of Environmental Studies (BES) and Bachelor of Science (BSc) programs commenced at the University of Waterloo in September 2007. The BES Geography and Aviation (Honours) is located in the Department of Geography and Environmental Management (GEM) within the Faculty of Environment. In the BSc program, students have a further choice of specializing in either Earth Sciences or Physics or remaining in the broadly based unspecialized program. In the Faculty of Science, Aviation Plans are administered from the Dean’s Office as an interdisciplinary program that requires core science courses from Earth and Environmental Sciences, Physics and Astronomy, Chemistry and Biology. Students in the BES and BSc programs automatically receive a Geomatics Option.

The aviation component of both programs provides advanced flight training leading to a Commercial Pilot Licence. Through a partnership with the Waterloo-Wellington Flight Centre (WWFC), (founded in 1932), students receive at least 200 hours of flight experience at one of Canada’s largest and most experienced flight training centres. With a location at the Waterloo Regional International Airport, this affords students experience in controlled airspace (Toronto) as well as short access to training areas. The WWFC instructs and prepares students to be examined by Transport Canada, the civil aviation authority responsible for pilot licences in Canada. WWFC flight training programs are regulated under Transport Canada and registered as a private career college (ID # 105919) under the Private Career Colleges Act, 2005 with the Ministry of Training, Colleges & Universities in Ontario.

This is the first review of Waterloo’s aviation program.
Self-Study Process and Site Visit
The self-study was prepared by the Director of the program, assisted by the Associate Director of Aviation as well as individuals in the Science Undergraduate Office and the Geography Department. The report was submitted to the Office of the Associate Vice President, Academic on July 29, 2014. The self-study closely followed the standard template based on Waterloo’s IQAP and also included informal exit discussions with members of the first and second classes as well as surveys of current students and alumni. Program mapping of Undergraduate Degree Learning Expectations was done with the WWFC Aviation courses, involving flight staff and administration. The Center for Teaching Excellence coordinated the mapping. The Undergraduate Degree Learning Expectations of academic programs involved (Geography, Earth Sciences, Physics and Honours Science) were established separately from this program review.

The site visit was conducted on November 6-7, 2014. The external members of the review team were Dr. Susanne Kearns, Associate Professor in the DAN Program in Management and Organizational Studies, University of Western Ontario (London, Ontario) and Dr. Leon Cygman, Associate Professor in the Aviation, General Management, Human Resources Department of Mount Royal University (Calgary, Alberta). The internal member was Dr. Duane Cronin, Professor, Department of Mechanical and Mechatronics Engineering. During the site visit, the review team met with administrators, faculty, staff and aviation students from both Faculties and the Associate Vice-President, Academic. The review team also travelled to the Waterloo Wellington Flight Centre to meet with administrators and flight instructors.

The external reviewers’ report was received on November 20, 2014 and the program’s response and implementation strategy, with timelines, responsibilities and resource needs assessment, were received on June 18, 2015. Endorsement of the plan was received on June 19, 2015 from the Dean of Environment and on September 5, 2015 from the Dean of Science.

This final assessment report is based on information extracted, verbatim in many cases, from the self-study, the reviewers’ report and the program response.

About the program
The Aviation program is an interdisciplinary undergraduate program offered as a regular (i.e. non-co-operative) 4-year degree program. Aviation students complete an academic 1A term (September to December) in their first term on campus. Students grades are reviewed by the Director in late December to determine eligibility to begin flight training in the first week of January, 1B. A successful student would have a minimum Geography major average of 70% and an minimum overall average of 65%. In Science, a successful student would have a minimum faculty average of 65% and a minimum overall average of 65%. As the flight training has transfer credits, aviation students will normally have a course load of four academic lecture units. The aviation programs have had four graduating classes to date of 55 students. About 80% of students who enroll in the aviation program graduate with a UW degree but the retention rate is only about 30-40% (within the aviation component). For an aviation program, this retention rate is fairly typical, likely the result of high financial costs combined with the academic workload and the rigors of flight training.
The program is administered by a Director and assisted by an Associate Director and an Undergraduate Program Advisor. The Director reports to the Chair of the Geography and Environmental Management Department and the Associate Deans (Undergraduate Studies) in the Faculty of Environment and Faculty of Science. Curriculum matters approved by the Faculty of Environment Undergraduate Committee and the Faculty of Science Undergraduate Studies Committee receive further discussion at their respective Faculty Councils. Faculty in Geography and Science teach core courses in the aviation program. The Aviation program does not have separate full time faculty, although there is a sessional instructor hired to teach a human factors course and another; new Adjunct Professor available to provide guest lectures in aviation. Retired Canadian astronaut, Chris Hadfield, is also connected to the program via his adjunct professorial appointment at the University of Waterloo, and he is expected to participate in instruction in the future.

Strengths (as reported in the self-study)
- The program attracts dedicated, high quality students.
- The program is administered by dedicated individuals at Waterloo.
- The program has 5.0 credit relief for student flight training, which is a notable achievement within a Canadian university.
- The aviation partnership is with a top-ranking aviation school that is thoroughly engaged with the program.
- Undergraduate students have access to research courses as electives in AVIA 474 and 475 to explore specific topics in Aviation.
- The WWFC fleet consists of 22 aircraft and is one of the largest instructional fleets in Canada.
- Averaging over seven years, females represent 20% (Geography) and 17% (Science) of the students, which is substantially above aviation industry average of about 8%.
- Alumni survey data indicate that 24 students, (92% of respondents) are working in an area closely related to aviation (n=20) or somewhat related (n=4) to their degree. Two alumni are not working in an area related to the degree.

Challenges/Weaknesses (as indicated in the self-study)
- Currently lacking is a core team for aviation-related research to stimulate undergraduate and future graduate topics in aviation research.
- The program is not available in the co-operative system of study due to logistical reasons (ongoing and consistent flight training would be interrupted.)
- Access to the program is controlled in part by financial factors - the cost for the aviation portion of the program is substantial - $58,000.00 to $63,000 over a period of three calendar years in addition to academic tuition costs. The flight portion is not covered under the Ontario Student Awards Program (OSAP). This largely explains the seven year average of 11.5% and 7.1% in converting ‘total’ applicants to actual registrants in Geography and Science, respectively.
- Although over 80% of students in the first 4 graduating cohorts, classes 2007-2010 who started with Aviation plans obtained Waterloo degrees, less than 40% received a Waterloo Science and Aviation or Geography and Aviation degree.
• Challenges remain for students travelling to and from the Waterloo Wellington Flight Centre.

External Reviewers’ Assessment

The reviewers noted Waterloo has shown leadership along a much needed path to produce academically trained pilots with a BSc or a BES. Despite the growing need for aviation professionals, there are only a small number of universities in Canada that offer degrees associated with aviation besides Waterloo – University of Western Ontario, University of Windsor, Mount Allison University, Mount Royal University, University of the Fraser Valley and Trinity Western University. The reviewers saw the program as being innovative and consistent with the institution’s mission and academic plans. They noted further that program objectives were appropriate and well aligned with the institution’s mission. Admission requirements for aviation students were noted to be the same as for non-aviation students in their respective Faculties, thus facilitating completion of another academic program at Waterloo that is not associated with aviation.

The external reviewers were very impressed with the passion and drive exhibited by the Program Director. The program was considered to be appropriately resourced with highly competent professors and qualified flight instructors in their respective disciplines. It was noted, however, that Waterloo lacked academic staff with an area of specialization in aviation. As the program evolves to add more aviation theory, there may be a need for aviation-specific labs on the Waterloo campus.

With respect to curriculum, the reviewers noted the Science and Geography curricula reflect the current state of those respective disciplines. However, input from current students suggested students may not be developing sufficient communications skills that are regarded as vital to becoming a successful pilot. The reviewers commented further on two aspects of the aviation portion of the curriculum: (1) the flight training component taught by the WWFC and (2) the academic aviation core taught at the university. With regards to the WWFC, they commented that most components of the program meet or exceed flight training standards, noting further that in the future, the program could incorporate some more training in glass cockpit avionics and crew coordination training. The second point is considered below in the reviewers’ recommendations.

The reviewers were very favourably impressed with the program’s students, who excelled in both their academic and flight training. Students were clearly receiving education-related job placement. Several graduates have been accepted by the military, which is a huge testament to the quality of the pilots produced by the program.

The reviewers provided a series of recommendations for improvement of the aviation program, and categorized them into short-term (0-3 years) and long-term (3-5+ years) opportunities:

Program Response and Implementation Plan

The following is the response and implementation plan provided by the Director and Associate Director of Aviation on behalf of the Science and Aviation plan and Geography and Aviation plan
based on the external reviewers’ recommendations. Below Aviation indicates how they will respond to the various issues identified.

1. **Reviewer Comments: Is the degree nomenclature appropriate?**
   The degree name could be misleading. “Bachelor of Science and Aviation” or “Bachelor of Geography and Aviation” could lead a recruiter to the mistaken opinion that the graduate has more theoretical background in Aviation. In fact, the graduates have no more background in Aviation than a graduate of an airport-based flight school. Something like “Bachelor of Science (Professional Pilot)” may be more appropriate unless the academic curriculum is enhanced with core aviation courses.

   **Response:** We disagree. The degree names stated by the reviewer are incorrect. The actual name of the degrees are Bachelor of Science (Science and Aviation) and Bachelor of Environmental Studies (Geography and Aviation). We believe that the current degree nomenclature is appropriate for distinguishing Aviation as a separate/individual degree program at Waterloo. It is in line with the intention of identifying Aviation as an academic discipline in its own right, rather than solely as an add-on/option to existing traditional degree programs. This also encourages more growth, expansion, and resources.

2. **Reviewer Comments: Car Share or Bus Service**
   Transportation and parking seem to be a major ongoing problem for flight students. It was recognized that both the Director of Aviation and the General Manager of WWFC have invested time and energy into finding a resolution.

   **Response:** The reviewers are correct that since the program began, we have conducted an extensive search for transportation options. Students have developed creative ways to manage their transportation needs such as: carpooling with students with flights at the same time; sharing rides with other students across various years; and, most recently, using the Student Care Share program. Recently parking fees have become enforced by the Airport, leading to an additional expense.

   **Work plan:** The most practical solution for students without a car is public transportation because they can obtain student-rate bus passes. The new Fairway Road N. bridge across the Grand River, the 2017 Ion rail link to Fairway Mall, and growth of public transportation in the Breslau area are expected to improve travel options by 2017-18.

   **Responsibility:** The Director in conjunction with the Associate Director.

3. **Reviewer Comments: Internship Opportunities**
   The program is encouraged to continue identifying relationships with industry and leveraging the co-op and internship resources on the University of Waterloo campus for 3rd and/or 4th year aviation students.

   **Response:** We agree. There are no traditional co-op opportunities in aviation because flight training occurs in all terms until 4th year. An opportunity for experiential learning in the spirit of
Waterloo is welcomed. We continue to investigate 3 to 6 week opportunities for paid internships with airlines, flight operations, and aviation-related companies. We envisage this as a 4th year elective course for students.

Work plan: For fourth year ‘internships’ to be accommodated, students would need to have all their flight training complete by 4A. The goal is that limited availability of such internships be created by the 4B Winter 2017 term. The plan is to initially limit this opportunity to 6 positions, based on academic merit and course completion. Students who complete a Flight Instructor Rating in 4B as a flight option may be unavailable to pursue an internship experience. A reflection piece will be required from the student after the placement. Consultation with CTE and Faculty teaching fellows will occur in creating guidelines for these reflections.

Responsibility: Director and Associate Director for securing intern positions in Industry. Undergraduate Advisor for Geography and Aviation to co-ordinate placements and monitor. This is considered an incremental work load for the staff advisor.

4. Reviewer Comments: Creating 2 new 0.5 courses on aviation topics (a total of 1.0 credits)

Suggestions include a 1st year class to introduce students to aviation - a survey course exploring aspects of the 'aviation core' topics suggested by Aviation Accreditation Board International (AABI) and a 4th year course that is run by a course manager but with lectures presented by different professors each week from across Waterloo campus (whose work relate to aviation such as robotics, systems design engineering, computer science, etc.).

Response: We agree. Adding more aviation-focused academic courses to the plan would be popular with students; however, more staffing resources are required.

Work Plan: In the short term, 2 years, aviation-focused courses can be mounted to replace electives. Over the next 3 to 4 years, academic plans will be updated to include the new aviation courses as core courses.

We are currently developing an Unmanned Aerial Systems (UAS) course AVIA 374, with the first offering in January 2016 (starting as a team-taught course). This course will be open to all students in the university with interests in: applications, aerial survey data collection, analysis, regulations and flight control, geomatics, and robotics. The Associate Director of Aviation will run this course. The Geography and Environmental Management (GEM) department Chair has consented, but this will mean an unfilled course teaching assignment in Geography. A solution could be to replace the vacant geomatics faculty line in 2016.

Responsibility: The Director and Associate Director will be responsible for the academic components of AVIA 374. The Chair of GEM and the Director of Aviation will be responsible for addressing teaching resources in Aviation in the
short term (2016) and in Geomatics for the AVIA 374 UAS course. In the long term (2 to 3 years), the Director will address the teaching resources in Aviation with the Deans in the Faculty of Environment and Faculty of Science, in conjunction with the Associate Dean of Science.

5. Reviewer Comments: Add a significant culminating upper year experience in aviation. For example, a capstone course, internship, or special project related to aviation that is a required part of the degree.

Response: We are considering this suggestion. The opportunity for an internship is being considered for 2017 as an elective. A special research project course is already available (AVIA 475: Independent Studies of Selected Topics). Flexibility is required in year 4 to meet various degree requirements. A capstone course for all Aviation students in Science and Geography would be difficult to add into the program. Students are working to complete academic specializations, or minors in year four. These credentials, among others, can include Physics, Earth Sciences, Biology, Chemistry and Geomatics.

Work plan: The potential of introducing a 4th year AVIA elective will be explored in the next 10 months. There will be implications for staffing and resources to this recommendation as well.

Responsibility: Director and Associate Director. Staffing and resources: Deans.

6. Reviewer Comments: We also recommend incorporating some mandatory flight training in 4th year to avoid flight skills becoming ‘rusty’ during that time (not necessarily more flight hours, but a redistribution of training so that it extends into 4th year).

Response: We understand this suggestion; however, but raise the following points. Some students already obtain flight training in fourth year because they complete extra credentials in aviation (e.g., 30% of students pursue an Instructor Rating or Float Rating). The Waterloo Aviation program already has flight training in 8 terms (1B to 3C; including 3 Spring terms). Students on campus during a Spring term may work part time (80% of year 3 students), or take extra courses in order to graduate early or reduce their load in other terms (20% of year 3, 40% of year 2, and 30% of year 1 students).

We have already discussed the incorporation of the new two-person crew ALSIM flight simulator as an additional training option.


Responsibility: Director and Associate Director in conjunction with WWFC
7. **Reviewer Comments:** Incorporate crew-coordination training into flight curriculum. Not necessarily additional hours of training, but a restructuring of a few existing flight lessons to target crew-coordination skills through Line-Oriented Flight Training (LOFT) and/or scenario-based simulator flights.

**Response:** We agree. This idea is already being considered with WWFC, using the new ALSIM simulator in year 4. This is further discussed under item 16 below (the writing portion of the Airline Transport Pilot Licence).

**Work Plan:** Implementation late 2016.

**Responsibility:** Director in conjunction with WWFC

8. **Reviewer Comments:** Incorporate more student involvement in flight training. Consider training students in elementary maintenance. Involve students in regular safety meetings.

**Response:** We believe there is limited potential for this suggestion. Basic maintenance information is possible, but WWFC considers that, only the Aircraft Maintenance Engineer has responsibility to work on any aircraft.

WWFC has an active Safety Management Systems (SMS) and a flight officer responsible for WWFC activities. SMS help companies identify safety risks before they become bigger problems. Transport Canada regulations require the aviation industry to put safety management systems in place as an extra layer of protection to help save lives.

**Work Plan:** Encourage student participation in safety meetings. Appoint a student safety representative responsible for reporting to aviation students in Fall 2015.

**Responsibility:** WWFC, Director and Associate Director

9. **Reviewer Comments:** Explore a specialization in Unmanned Aerial Vehicles/Systems (UAVs/UASs). With the aviation program located within Geography and Science it seems logical for the aviation program to explore opportunities within the UAV/UAS sector. This is a segment of the aviation industry that is growing rapidly yet there is little academic guidance to support best practice. With an academic specialization in UAV/UASs Waterloo graduates would be likely to see a more direct link between the academic courses they complete at the University and how that knowledge can help them contribute to industry (and find employment).

**Response:** We agree and have been exploring the UAV/UAS opportunity. As indicated in item #4 above, we will offer a new UAS course as AVIA 374 in Winter 2016. The WWFC has launched a new flight course in UAV [http://www.wwfc.ca/courses-and-rates/uav-training/](http://www.wwfc.ca/courses-and-rates/uav-training/). We are reviewing training courses (in Canada and in the USA).
Work plan: After the initial offering of AVIA 374 in Winter 2016, we will assess interest and student feedback on further UAS courses. Our current plan is to offer a new UAV/UAS Option. This Option would be open to all Waterloo students. It would combine UAV/UAS, theory, applications and flight training courses taught at Waterloo with flight training taught at WWFC. This would be the first of its kind in Canada – i.e., a University UAV/UAS flight combined Option. Flight training would use the existing AVIA course framework AVIA 101, 102, 203 (Professional Flight Training I – III). These three courses would provide students with a Private Pilot’s Licence and a Night Rating. This qualifies them to fly a small plane day or night. It also assures that skilled pilots are also in control of UAVs, a growth industry globally. It is important that professional UAS operators in the same airspace with airplanes should be well-trained pilots.

The initial UAS course, modeled after AVIA 374, can be offered in Fall 2017 and focus on 4 modules: (a) robotics, (b) remote sensing and image interpretation, (c) GIS and data management, and (d) flight and operations.

Responsibility: Director and Associate Director and support from GEM and Geomatics

10. Reviewer Comments: Collaboration with Western’s and Windsor’s aviation program. With a similar structure and the close geographic proximity it seems logical for Waterloo, Western, and Windsor to collaborate. Possibilities include notifying each other of guest speakers, tours, shared student chapters (99’s, Women in Aviation, IAAE, etc.), student social events (such as ski trips), etc. Also, sharing faculty resources by allowing Waterloo students to complete other University aviation courses and vice versa is an opportunity worth exploring.

Response: We agree but as a lower priority goal. Collaboration between university programs would be appropriate, especially Western because of its proximity. Opportunities could include invitations to lectures with guest speakers and collaborative research opportunities related to the aviation industry. Social events can be organized by students such as ‘fly-ins’. Meetings could be arranged at the home airport of one institution, with student pilots from the other flight programs, arriving by plane.

It should be noted that students already can take courses elsewhere on a Letter of Permission. Developing additional Waterloo AVIA courses with Waterloo faculty will be a higher priority than arranging inter-institutional collaborations.

Work plan: Encourage links with Windsor and especially Western because of its proximity to promote Aviation as a discipline and provide connections
for aviation students.

Continue to review AVIA courses and industry and institutional trends for new course opportunities. Waterloo has an opportunity to take a leadership role in UAS systems for airborne remote sensing. Build on existing resources at Waterloo in Aviation and Geomatics by creating new directions in teaching and research. This would require reallocation of existing Geomatics teaching resources to cover AVIA 374 on a regular basis.

Responsibility: Deans, Department Chair of Geography and Environmental Management, under which Geography and Aviation and Geomatics are housed, and the Director of Aviation

**11. Reviewer Comments:** Join the University Aviation Association (UAA), Aviation Accreditation Board International (AABI), and Women in Aviation.

**Response:** We agree. Resources for membership fees and travel resources are required. We would need to work toward an AABI accreditation with curriculum revision and additional staff/faculty resources. Only two Canadian institutions are accredited: Mount Royal University and Seneca College Flight Training Program.

**Work Plan:** Accreditation of a professional program is important. It will take time, staff, faculty and resources to meet the requirements. This target is considered possible within a 4 to 5-year time line. A shorter 1-year time line is reasonable to obtain university membership in the University Aviation Association (UAA). There are over 500 individual members and 96 college and university institutional members. Western is a member of UAA. Fees are $550 US per year. UAA provides opportunities for student scholarships and networking. Annual student memberships of $30 US provides access to student competitions, job postings, networking and UAA educational resources. Similar opportunities exist for Women in Aviation for an annual Institutional membership of $400.

Responsibility: Director in association with Deans to support Waterloo presence in international and national organizations and support to AABI accreditation.

**12. Reviewer Comments:** Create a University of Waterloo Flight Standards Committee for Quality Assurance Purposes and hire or contract a qualified flight standards pilot.

**Response:** We disagree. At the present time oversight of flight training is with WWFC. Students are prepared for the various flight credentials. Examinations and licensing of credentials is the responsibility of the Department of Transport, Civil Aviation. Although appropriate for
accreditation by AABI, university resources are more appropriately directed to Waterloo Aviation faculty. Currently the Aviation Director and Associate Director sit on the Conestoga College Program Advisory Committee with members from the Aviation Industry and Airlines. We both utilize WWFC as the flight training school (Conestoga College for 18 years). In the spirit of regional co-operation, this committee serves the needs of both institutions.

Work plan: Re-examine in 3 to 5 years.
Responsibility: Director of Aviation in conjunction with WWFC

13. Reviewer Comments: Create a tenure-track faculty position (that includes a research component) with an aviation focus.

Response: We agree. This is one of the key components going forward with the Aviation programs in Science and Environment. The University of Waterloo program is unique and the first in Canada to offer a BES or a BSc degree in Aviation. Graduates from the program have the recognized Waterloo branding. In Geography and Aviation, a Geomatics Specialization with a Commercial Pilot Licence, Multi-Engine Rating and Instrument Flight Rating is possible. In Science and Aviation, a BSc academic credential is possible with an Earth Sciences Specialization, a Physics Specialization, or no specialization plan that is often associated with a Biology or Chemistry Minor. Additional options include: Commercial Pilot Licence, Multi-Engine Rating, and Multi-Instrument Flight Rating. Graduates are ready for placement in many areas in the Aviation Industry, but most importantly, as pilots. In the first four graduating classes (2011 to 2014), Waterloo graduates are working across Canada from Newfoundland Labrador to British Columbia to Inuvik. Our graduates are also working as pilots with:

- the Canadian Military (search and rescue and training for fighter squadrons);
- international airlines such as Cathay Pacific (2nd officers);
- cargo and passenger operation in Canada’s north for resource industries and isolated communities;
- Medivac work from Europe; and
- corporate aircraft within North America.

Graduates also train some of our new pilots as flight instructors.

At this time, there are no full-time aviation faculty members at Waterloo. The first seven years of the program and the review, acknowledge success of this new program, as a small but important part of Canadian Aviation. The Aviation flight and ground school instruction components have been delivered by the Waterloo Wellington Flight Centre (WWFC), which has been in operation for over 80 years. The Waterloo Aviation academic component has been given by a sessional who is a Waterloo Alumni and an Air Canada captain. The sessional is respected by students as an experienced frontline pilot. We also have as an adjunct Aviation Professor and former astronaut. We have the nucleus for innovation and research but the program needs to grow with faculty who hold regular appointments to achieve this.

Work plan: Continue to build on the innovation of this unique program at Waterloo. To develop courses and an option with a Waterloo focus on technology.
such as Unmanned Aerial Systems (UAS). Incrementally, build a faculty component for teaching and research in Aviation at Waterloo. The first academic appointment by 2016 and a second by end of 2017, prior to the UAS/UAV Option start in Sept 2018.

Responsibility: Director of Aviation in conjunction with Deans and University administration to grow the Aviation program at Waterloo.

14. Reviewer Comments: Add 1.0-2.0 university credits (in addition to the 1.0 courses suggested in short-term opportunities, above) in aviation-related academic topics to target all of the Aviation Accreditation Board International (AABI) ‘aviation core’ subject areas over 3 to 5 years.

Response: We agree but note resource limitations. To add 1.0 to 2.0 additional aviation units will require curriculum adjustment to potential core course requirements. The ‘Science and Aviation’ and ‘Geography and Aviation’ degrees meet the discipline focus of the degrees. With additional faculty and resources, the aviation focus of the degree can be further emphasized and still meet the rigor of the BSc and BES degrees. Some of the existing core courses can be replaced by some of the AABI recommended courses. It is important to build an academic aviation component.

Work plan: Continue to build more focussed, enriched, academic aviation components for students. This will involve curriculum adjustment, additional faculty, and resources. This will further attract opportunities for innovation and research at Waterloo. The building on the core disciplines of Science and Geography, with teaching and research resources in Aviation, exposes students to opportunities in industry beyond flight operations. We continue to review the aviation curriculum for the opportunity to improve our program. We will revisit our status on AABI accreditation in fall 2017.

Responsibility: Director and Associate Director in conjunction with Deans and Associate Deans.

15. Reviewer Comments: Create a non-flight stream allowing students to complete academic courses (with the added aviation credits) to earn an aviation degree without the flying component.

Response: We disagree. At this stage of the program, Waterloo Aviation is currently known for its strength as a BSc or BES degree with flight training program. We are not considering a non-flight option degree. We are considering new UAV/UAS, AVIA courses that would include some non-flying components and flying components that could lead to an Aviation UAS Option. It is expected that within a few years Transport Canada will have regulations in place for ‘Beyond Line of Sight operations’. This will likely require an Instrument Flight Rating (IFR) capable, remote pilot. There will be an emerging role for UAV specialists in a wide range of applications that can include: extracting resources and monitoring pipelines, sea and lake ice, whales, hydro
installations, environmental issues/ pollution and disasters. UAV specialists — pilot/crews will be required to manage UAV use and data collection.

Work plan: The first Aviation UAS course will be offered in Winter 2016 (AVIA 374). The course will be open to all Waterloo students. Student interest and feedback will be reviewed in May 2016 to consider course and plan directions. An Aviation Option (3.5 units), coupled with Pilot and UAV training, existing expertise in Geomatics and aerial data, will be developed for consideration for an academic sub-plan. This will be an option that non-aviation students would be eligible to take. A target for the Option would be fall 2018. AVIA 101,102 and 203 are available for this option as part of the core already. Once the additional 4 AVIA courses are in place to service the UAS Option it can be delivered.

Responsibility: Director and Associate Director with WWFC.

16. Reviewer Comments: Consider adding a ‘Frozen’ ATPL option for flight students.

Response: We agree. An integrated Airline Transportation Licence (ATPL) allows the captain or pilot to be in command of a multi-crew airplane. The ATPL for aviation students would include a Commercial Pilot Licence (CPL) Instrument Rating (IR) and the ATPL theory subjects complete. The written portion of the licence requirement is considered complete or ‘frozen’. However, the Licence requirements are not complete until the pilot accumulates 1,500 total hours with a minimum of 250 hours as pilot in command. A pilot has 5 years to complete the flight requirements of the ATPL. Upon graduation from our program students will have about 200-205 total hours. Students will finish their in-airplane training as usual in Spring of third year. In year 4, the simulation training would continue, culminating in the written ATPL.

Work plan: WWFC is currently working towards certification of an ‘Integrated Airline Transport Pilot’ (IATP) program in time for the 2016 incoming class with delivery in Winter 2017. This would entail some additional simulation time, but the total amount of flying is essentially unchanged.

Responsibility: WWFC with the help of the Director and Associate Director of Aviation

17. Reviewer Comments: Build an alumni network

Response: We agree. This work is ongoing, both at Waterloo and WWFC, to link grads to social media for networking and career advancement.

Work plan: Continue to work with Alumni Affairs and WWFC to track graduates.
Responsibility: Director and Associate Director
Two-Year Progress Report for the  
the Cognitive Science Program (Minor)  
October 2015

Review Process
The Cognitive Science Program was reviewed in 2012, and a final assessment report was submitted in July 2013. This progress report describes progress in the two years since the final assessment report. It quotes the conclusions and implementation plans of the 2013 report and describes successful implementations and ongoing plans.

It will be useful to begin with some contextual information. In 2013-14, the Faculty of Arts undertook a process of finding departmental homes, for administrative purposes, for the various interdisciplinary programs in Arts---many of which, like Cognitive Science, had been moved into Arts and out of the purview of the Provost’s office only five or so years earlier. This was done, at least in part, in response to feedback received during the Arts Strategic Planning consultations in 2011-12. There was a widespread perception that these programs did not have an appropriate voice in decision-making at the Faculty level, and that while in general the oversight by whatever ad hoc arrangements were put in place when a particular program was created was adequate, they were not universally well run. Furthermore, in cases where they were well-run they were often dependent on a single champion, or a small group of champions, for their continuing wellbeing. Providing such programs with departmental homes assured that there would be Chairs or Directors (in the sense of someone selected under Policy 40 as a head of a genuine academic unit, rather than someone called “director” but with no defined role under university policy) with a commitment to their well-being, because the success of the programs then is part of the success of the department. It also provides departmental committees and other resources that will continue to exist long term to provide appropriate academic oversight for the programs, and so makes them less dependent on the presence of individual champions. (Of course, the corresponding challenge was to ensure that the programs maintained a suitably interdisciplinary character after they moved into a department.)

Around the same time, as part of its effort towards “plan standardization”, the Faculty of Arts decided that the vast array of “options” should disappear (or certainly be drastically reduced), with the options either disappearing or being converted into more robust minors.

As a result, there were important changes to the organization of the Cognitive Science program. As of January 1, 2015, the Cognitive Science Minor (and Graduate Diploma in Cognitive Science) are administrated by the Philosophy Department. The Cognitive Science Board has been dissolved. There is no longer a Director of the Program, but the Philosophy Department appoints a Cognitive Science Advisor, a role that involves many of the organizational and advising duties of the former Director. Paul Thagard, the Director for 20 years, is currently in the Advisor role. Also, in accord with the other Faculty of Arts decision, the old Cognitive Science option has been replaced by a minor.
Program Response
The Program response focused on the six questions raised by the review team, which relate in varying degrees to their nine recommendations.

1. Strengthening the Cognitive Science Minor

➔ **Implementation:** The Director will engage student groups as required, beginning in fall 2013. This will be ongoing.

➔ **Response:** In 2013-2014, Paul Thagard met with undergraduate student groups in interested departments, including Philosophy, Systems Design Engineering, Electrical and Computer Engineering, and Software Engineering. The Cognitive Science Advisor will continue to meet annually with interested undergraduate groups.

➔ **Result:** For unidentifiable reasons, 2013 and 2014 had the largest groups of students signing up for the option or minor since it began in 1995. 2013 had 14 new students, and 2014 had 17.

**Other initiatives:** The newly invigorated Undergraduate Philosophy Society will be encouraged to involve interested Cognitive Science students in their activities when it makes sense, helping to develop a place where CogSci students can build a sense of community. If the project of launching a CogSci major is successful, the Department will support the development of an undergraduate Cognitive Science Society.

➔ **Implementation:** The Director will submit a revision of the Minor requirements to UGAG in fall 2013.

➔ **Response:** A substantial revision to the Minor requirements was submitted in December, 2013.

➔ **Result:** The revisions were approved by the University and began operation Sept. 1, 2015.

➔ **Implementation:** In Fall, 2013, the Director will discuss the feasibility of a new course [on human and machine intelligence] with the Cognitive Science Advisory Board and relevant department chairs.

➔ **Response:** A new course, COGSCI 300, Intelligence in Machines, Humans, and Other Animals, was submitted along with the Minor revisions and approved, effective Sept. 1, 2015.

➔ **Result:** COGSCI 300 will be taught for the first time in Winter 2016. A trial run was done as a Philosophy topics course in Winter 2015, and drew more than 30 students. COGSCI 300 will also receive a PHIL cross-listing to increase the pool of interested students.

➔ **Implementation:** Director will initiate discussion with the Dean of Arts and/or Provost in fall 2013 [concerning funding for 2 cognitive science speakers per year].

➔ **Response:** This plan was not implemented as described because of the move into the Philosophy Department. When it was a “homeless” program, Cognitive Science had no budget for visiting speakers. The Department of Philosophy has a visiting speaker budget from the Faculty of Arts each year, so the budget for Cognitive Science talks is automatically part of the annual discussion between the Chair of Philosophy and the Dean’s Office about the Philosophy budget. The Department also has some endowed
funds that it uses to bring in visiting speakers, and these have recently often been used to bring in speakers of interest to faculty and students involved in Cognitive Science.

2. Additional resources for the Cognitive Science program

Implementation: The Director will initiate discussion with the Dean of Arts and/or Provost in fall 2013 (concerning a faculty position in cognitive science).

Response: This plan was not implemented as described because of the move of Cognitive Science into the Philosophy Department. At that point the job of advocating for new tenure lines was taken out of the hands of the erstwhile Cognitive Science Director. That job now falls on the Philosophy Department, and in particular on the Chair. The long term health of Cognitive Science obviously depends on Philosophy continuing to have relevant expertise among its faculty. To date advocacy for new positions in Cognitive Science has not been successful, at least in the sense that it has not been deemed a top priority for the Faculty of Arts where there are many important initiatives that would benefit greatly from additional positions.

3. Introduction of a course in machine intelligence accessible to non-technical students

Implementation: In Fall, 2013, the Director will discuss the feasibility of this new course [on intelligence in people, animals, and computers] with the Cognitive Science Advisory Board and relevant department chairs.

Response: A new course, COGSCI 300, Intelligence in Machines, Humans, and Other Animals, was submitted along with the Minor revisions and approved, effective Sept. 1, 2015.

Result: COGSCI 300 will be taught for the first time in Winter 2016. A trial run was done as a Philosophy topics course in Winter 2015 and drew more than 30 students.

4. Connection with Knowledge Integration Program

There are clear overlaps between Knowledge Integration’s ambitions and the interdisciplinary field of cognitive science.

Implementation: The Directors of the two programs will meet in fall 2013 to discuss possible cooperation between the programs.

Response: Paul Thagard met with Ed Jernigan, then director of KI, in 2013.

Result: As part of the revision for the Cognitive Science Minor, two knowledge integration courses were added to the requirements for the Minor.

Further initiatives: There are close relations between the Philosophy Department and the Knowledge Integration Department, including cross-appointed faculty members, many students doing combined majors, and so on. This close relationship will make future co-operation between KI and all the programs now (or soon to be) housed in Philosophy, including CogSci and Women’s Studies, much more likely.
5. **Creation of a task force to discuss establishment of a Cognitive Science degree program**

**Implementation:** The program director will spend the next two years focusing on increasing enrollment in the Minor. Once this occurs, he will strike a task force concerned with establishing a major.

**Response:** This, too, is not a recommendation that can be implemented as described. However, the spirit of the recommendation is being implemented---the design and approval of a major in Cognitive Science is a key goal for the Philosophy Undergraduate Committee for the coming year. The process is being jointly led by the Philosophy Associate Chair (Undergraduate), Mathieu Doucet and the Cognitive Science Advisor, Paul Thagard.

**Result:** A first draft of a curriculum has been produced, one expanding on the current Cognitive Science Minor but has been broadened in ways that ensure that it maps well onto the UDLES. It will go to the Philosophy Department on December 4, 2015, to seek approval in principle from the Department to make the long-term commitment of effort and resources to sustain the new program. Provided that approval is received, Doucet and Thagard will take the proposal to the Arts Associate Dean (Undergraduate Programs) for advice about process and, ideally, endorsement. At that stage, working out the more detailed program proposal will begin, a process that will involve among other things consultation with other departments---a good chance for Thagard to ensure that his substantial connections around campus are shared with others in Philosophy who will henceforth share responsibility for the health of the program.

6. **Long term management of the Cognitive Science Program (Recommendation 2)**

**Implementation:** The Cognitive Science Program Advisory Board will start the selection process [for a new Director] in September, 2014.

**Response:** This recommendation has also been overtaken by events, in the sense that the decision has been taken out of the hands of the Cognitive Science Board (which no longer exists) and placed in the hands of the Philosophy Department. Currently Professor Thagard continues as the Cognitive Science Advisor. He is ensuring that the knowledge he has acquired over 20 years as director is not merely in his head, but is written down so that when the role of Cognitive Science Advisor is passed to another member of the Philosophy Department the learning curve will not be too steep. Professor Thagard has also committed to helping other members of the department Undergraduate Committee establish appropriate connections to the key contributors to the Cognitive Science program from other departments, so that the program can be kept appropriately interdisciplinary and appropriately up-to-date in all the various contributing fields even when Professor Thagard is no longer part of the program.
Medieval Studies Undergraduate Program – 2-year progress report to Senate
16 September 2015

The Medieval Studies program underwent its assessment in 2010-11, with the final report in response to the external assessors’ recommendations being submitted to Senate in May 2013. This progress report examines the work we have undertaken since that time to respond to the twelve recommendations submitted to us by the external assessors.

The program has been largely dependent on sessional instructors for teaching in the past 3 years since the two co-Directors have spent this time seconded to their respective Faculty Association presidencies. The terms of both presidencies end June 30.

**Recommendation 1.** That the list of courses available for the program be pruned to remove courses that have not been offered for several years or no longer have sufficient medieval content.

**Status:** Done

**Details:** We have pruned the list to remove courses that are no longer offered, and modified the program to align with Faculty of Arts plan standardization. The revised program documents are in queue for approval at the June 2015 meeting of the Arts Undergraduate Affairs Group.

**Recommendation 2.** That a required capstone course at the 400-level be developed.

**Status:** Done

**Details:** As a result of the History plan standardization initiative that has recently been completed, the HIST 402A/B courses have been eliminated and replaced by a 1.5-credit HIST 450 project-based course. The co-Directors plan to submit a request to UGAG this Fall to require that all Medieval Studies Honours and 4-year General majors take HIST 450 on a Medieval topic.

**Recommendation 3.** That "Topics in Medieval Studies" at the various levels (MEDVL 29X, MEDVL 39X, and MEDVL 49X) be created.

**Status:** Under discussion

**Details:** The Co-Directors are presently exploring whether it is desirable, as the reviewers suggested, to create “Topics in Medieval Studies” courses at the various levels, or whether there may be pre-existing course codes available in the faculty of Arts that might serve the same purpose. Discussions are currently under way and the Co-Directors plan to implement a recommendation by the end of 2015 – 2016.

**Recommendation 4.** That both co-directors be given some course release, commensurate with the administrative work this program involves, e.g. the remission of a course every third year.

**Status:** Done

**Details:** At UW, course remission is not available to the co-Director, however he receives annually a research expense account equivalent to 1/3 of a course release. At SJU, Article 26.5 of the Collective Agreement requires that the co-Director receive, per three-year term of appointment, one course release plus one half sessional stipend.
**Recommendation 5.** That Medieval Studies be provided with two or three sessional stipends annually for program courses.

**Status:** Done

**Details:** The SJU co-Director receives in his annual program budget two sessional stipends. He hires two sessional instructors per academic year to teach in the program.

**Recommendation 6.** That a space be assigned for the use of Medieval Studies students at St. Jerome's University.

**Status:** Under construction

**Details:** The site redevelopment plan at SJU is well underway and the skeletons for all new buildings are now erected. Medieval Studies students will benefit from dedicated space in the newly extended academic buildings.

**Recommendation 7.** That Medieval Studies be assigned administrative support at St. Jerome's University.

**Status:** Done

**Details:** Administrative support on UW campus is handled ably by the administrative assistant in Classical Studies. At SJU, Article 27 of the Collective Agreement requires that dedicated administrative assistance is available to all academic programs. In addition, the SJU Vice-President Academic and Dean (VPAD) is currently hiring a new faculty-dedicated administrative assistant to work with programs such as Medieval Studies.

**Recommendation 8.** That the student data management system be amended so that Medieval Studies students can be tracked.

**Status:** Not done

**Details:** What the reviewers were attempting to capture with this recommendations is that it is impossible for MEDVL students to search the schedule of classes for courses from the Medieval Studies list that are offered in any given term. Currently, the co-Directors must comb the registrar’s office database manually to compile and distribute a list to students each term.

**Recommendation 9.** That the broader expertise within the University in web design be tapped to work with the co-directors to redevelop the website.

**Status:** Done

**Details:** The Medieval Studies website is kept up-to-date in terms of program requirement information by the Administrative Assistant in Classical Studies.
**Recommendation 10.** That efforts be made by the Faculty of Arts and St. Jerome's to enhance scholarships and awards available to students in Medieval Studies through the respective Advancement offices.

**Status:** Not viable under current financial conditions

**Details:** At SJU, the restructuring of the Advancement Office and the accompanying launch of a major capital campaign to support Site Redevelopment have limited opportunities to develop targeted scholarships outside of that framework. At UW, in Classical Studies, the departmental Travel Bursary for students has been eliminated.

**Recommendation 11.** That a Medieval Studies Advisory Committee be formed, made up of members of relevant departments (e.g., Classics, History, English, Philosophy, Études Françaises) with a strong interest in medieval studies.

**Status:** In discussion

**Details:** In light of the restructuring of Women’s Studies, SJU and UW are in discussion to consider advanced best governance structures for small interdisciplinary programs. The co-Directors hope to have a revised governance framework, possibly involving an Advisory Board in place by the end of the 2015-16 academic year.

**Recommendation 12.** That the Medieval Studies program have a seat on the St. Jerome's University Academic Committee.

**Status:** Not done

**Details:** Despite having responsibility for a full honours program, dedicated majors, a large departmental budget, and all the administrative oversight of a small department (e.g., responsibility for program reviews, plan modifications, development of new courses and programs, coordination of an international student exchange program, etc.), the SJU co-Director is not a member of the SJU Academic Committee since he is not a Chair.

Respectfully submitted,

-Steven Bednarski and David Porreca
co-Directors, Medieval Studies Undergraduate Program
Two Year Progress Report
Peace and Conflict Studies (BA)
November 2015

Overview of Peace and Conflict Studies

The PACS program at Waterloo has always been intentionally interdisciplinary and aims to teach a uniquely holistic vision of peace that is in relationship with the broader university community.

What we have been seeing in recent years is that PACS undergraduate enrollment remains strong despite the drop in the number of students in the Arts Faculty, with PACS courses having 1,223 enrollments in the 2014-15 academic year. Classroom based PACS 100 to 300-level courses ran at approximately 93% capacity in 2014-15 and over the past six year period PACS courses have had an average enrollment of 1,216. This past year, there were 198 students enrolled in the following academic plans.

- Honours Peace and Conflict Studies – 30
- Honours Arts and Business & Peace and Conflict Studies – 31
- Joint Honours Peace and Conflict Studies & another discipline – 29
- Four-Year General Peace and Conflict Studies – 38
- Three-Year General Peace and Conflict Studies – 10
- Minor in Peace and Conflict Studies – 60

Over the years PACS has set a table that is welcoming to a widely diverse set of students and interests. In this way PACS truly represents the notion that multiple disciplines contribute to understanding peace even if they are not enrolled in a formal academic plan. PACS aims to cultivate an environment where this interdependency and connection is prominent and celebrated within our academic program. PACS began this way, and will continue to nurture relationships between faculties and build strong connections between diverse subject matter and peace. Through this approach, we hope to continue increasing visibility and promoting the idea, now more than ever, that peace is everybody’s business.
Progress Report and Response to Recommendations

The External Reviewers’ Report of the Undergraduate Program in Peace and Conflict Studies at the University of Waterloo was submitted in January of 2013. The Report contained a high degree of affirmation for the PACS program, and made 10 recommendations. In the progress report that follows, these 10 recommendations will be addressed and the progress that has been achieved on each will be described.

**Recommendation 1: Introduce a PACS core course in the first year of the university curriculum.**

The PACS External Review in 2013 pointed out that there were no PACS core courses offered at the first year level, and recommended that PACS add a first year course to the curriculum. In response to this recommendation, in Winter 2015, PACS 101 “Peace is Everybody’s Business” was offered for the first time. The course ran with 48 students (in a course capped at 50), and most of these students were not PACS students nor were they first year students. The course was added to the curriculum after the course-selection process was completed for first year students, which we believe explains the lack of uptake from first year students.

What we are seeing now in Fall 2015 for PACS 101 is that there are 49 students enrolled and the majority of these are first year students. It is also noteworthy that in the pre-enrollment demand, there were 64 students requesting the course. Although still early in the course’s history, this suggests that the idea that a 100-level course would increase exposure of PACS to first year students is starting to bear fruit. The PACS 101 course will also now be advertised to students during recruitment and in their first year when they are selecting courses up front, so we expect first year enrollment to grow in response to this visibility. It remains to be seen how many of these students will pursue a PACS Major or Minor in the future, but we will continue to monitor these trends in the coming years as these students move through their studies at Waterloo.

**Recommendation 2: Re-organize 200-level and 300-level courses to provide more deliberate sequencing of material, meaningful prerequisites, and required content at the 300-level.**

The PACS program seriously considered this issue in developing the revised program requirements for the new standardized plans and has developed streams to facilitate meaningful sequencing of students within PACS courses. At the 200-level, the three existing PACS courses are logically organized sequentially and hence PACS did not feel that any change was needed to respond to the Reviewers recommendation. PACS 201, “Roots of Conflict, Violence and Peace”, helps students understand the nature of conflict, its origin, and provides an analysis of a framework of how to grow peace within the context of conflict and violence. PACS 202, “Conflict Resolution”, provides an overview of the core values on which conflict resolution systems are built, comparing five different methods of conflict management, resolution and transformation. PACS 203, “History of Peace Movements”, completes this sequence through the study of historical examples where visionary leaders have fostered successful nonviolent movements addressing root causes of conflict and violence, resulting in positive social change.
At the 300-level, PACS agrees that the wide diversity of courses offered can lead to an impression that program coherence is lacking. To respond to this concern, PACS has modified academic plans to now require that each student pursing a Major complete at least three of a group of 12 PACS 300-level courses that collectively are at the core of our Peace Studies program. These dozen courses best represent the vision, mission, values, and central identity of the program. This requirement helps ensure that all graduates have a more consistent educational experience, and solidifies the “branding” of PACS while maintaining flexibility. Students must now complete any three of the following core seminar courses.

- PACS 311 “Doing Development: Issues of Justice and Peace”
- PACS 313 “Community Conflict Resolution”
- PACS 316 “Violence, Nonviolence and War”
- PACS 318 “Peacebuilding, Human Rights and Civil Society”
- PACS 321 “Gender in War and Peace”
- PACS 323 “Negotiation in Theory and Practice”
- PACS 324 “Human Rights, Peace and Business”
- PACS 326 “Religion and Peacebuilding”
- PACS 327 “Cultural Approaches to Conflict Resolution”
- PACS 329 “Restorative Justice”
- PACS 331 “Trauma, Healing and Conflict Resolution”
- PACS 332 “Ethics of Peacebuilding”

Secondly, to emphasize program coherence and to assist students in developing a deeper understanding of a particular peace focus within their studies, PACS has organized 20 of our 300-level courses into four informal “streams” within the program in a way that assists students to better understand how these courses reinforce key themes and key strengths in the program. For example, students who are interested in human rights and peace, or conflict resolution, can easily identify which collection of courses reinforce their interest. This will assist students in more easily seeing the connections between the various diverse PACS courses. Because this is not a formally instituted categorization, the listing can be changed from time-to-time as our courses change, and topical emphases is modified.

The courses identified below were chosen because firstly, they have had consistent enrollment, demonstrating that PACS students are interested in these topics and see them as valuable to their studies. Second, they cover key material in the field of peace and conflict studies. Additionally, they strongly represent many (if not all) categories in the University of Waterloo’s undergraduate degree-level expectations (UDLEs). And finally, these changes would help to address the questions about a consistency in our graduates and the “branding” of PACS and what we teach while maintaining flexibility.

All 12 of the 300-level courses identified above are included in the categorization below as we see them anchoring the program streams. Encouraging students to emphasize courses from these streams will increase the sequencing of our program, and promote a more focused course of study. The streams of study within PACS are as follows.
Lastly, PACS was initially conceptualized as an interdisciplinary program, an approach that remains at its organizational core. This perspective recognizes that all faculties have a perspective that can meaningfully contribute to peace. Peace is everyone’s responsibility and business and we therefore highly value the interaction with students from each of the University of Waterloo’s six faculties. Our courses are structured so that each can be a stand-alone course, complementing other courses offered, but not required to be completed sequentially. Imposing prerequisites at the 300-level would essentially preclude students from faculties that offer few electives from enrolling in PACS courses, and we think this absence of interdisciplinarity would harm the overall approach from which PACS is taught. We also are not aware of any pedagogical harm caused to PACS by the absence of prerequisites at the 300-level. Adding the requirement noted above that all Majors must complete a grouping of three courses from among our most central core courses, adequately addresses the concerns we understood the reviewers to have.

**Recommendation 3: Add student representation to the program governance structures.**

The PACS External Review commented that it is a common practice in Canada for students to participate in program governance structures, but PACS does not do so. The PACS program has since taken steps to bring in a student representative to the PACS Administrative Group (PACS AG). A proposal for this representative has been agreed on by PACS AG and now the proposal is going through the governance structures of Conrad Grebel University College. It is expected that this student representative will be on PACS AG in the near future, once all appropriate approvals have been obtained.
Recommendation 4: Immediately hire at least one additional faculty member to reduce the number of courses taught by sessional instructors.

In April 2015, after a lengthy and thorough search process, the Conrad Grebel Board of Governors announced that Dr. Jennifer Ball would join the PACS Faculty. Ball comes with significant experience in the field with research in Africa and has worked in rural Ontario dealing with municipal dispute resolution on conflicts pertaining to natural resource management, such as land use, water quality and wind turbine installations. She is also a trainer in Peacemaking Circle Processes within the Certificate Program in Conflict Management at Conrad Grebel, and is a prominent member of the Restorative Justice Circles in Waterloo Region. Jennifer Ball has expressed her enthusiasm for working with the PACS department in a faculty position saying “After over 20 years of affiliation with Grebel - as a student, an alumna, a sessional instructor, and Certificate workshop facilitator - I am thrilled to now join the PACS faculty. This is an incredibly dynamic community to be a part of and I look forward to becoming even more involved and to contributing more significantly to bridging the intersection of peace and conflict with other disciplines at the university and sectors in society at large.” In the Fall 2015 she is teaching two undergraduate courses, and in Winter 2016 will teach an undergraduate course as well as a graduate course for the Master of Peace and Conflict Studies program.

Recommendation 5: Consideration should be given to encouraging more students to complete the field studies course, as well as to identifying and either recommending or requiring a set of Approved courses that foster skills (in addition to conflict resolution) that typically are valued in the workplace.

The PACS Reviewers found that students were also looking to develop the skills to obtain and succeed at employment, and recommended that we more strongly encourage students to complete the Field Study course and either identify, recommend or require a set of courses that foster skills that are valued in the workplace. PACS has responded to these recommendations in a number of ways.

First, PACS has a full-time staff person who has coordination of the undergraduate Field Study program as part of their role. This staff person oversees the entire process for a student interested in a Field Study from first indication of interest, through to their return from a placement. Promotion of this option is a priority for the PACS department as increasing travel and experiential learning is a key aspect of recruitment of new students and for UWaterloo as a whole. Promotion of this option to students has increased as the Field Study Coordinator has prioritized going to international experience events at UWaterloo, as well as visiting PACS classes to talk about Field Studies. There has been consistent interest and participation in the PACS Field Study with over 200 students completing this option, including 7 last year (2014-15) and 10 so far this year (2015-16).

Furthermore, any student in a PACS plan can now receive academic credit through PACS 391-001 (0.25 units) and PACS 391-002 (0.25 units) for completing workshops within the Certificate Program in Conflict Management that is offered by Conrad Grebel. These are professional skills training workshops that run for 2-4 days on topics such as “Facilitation Skills”, “Organizational Approaches to Conflict” and “Mediating Groups in Dispute”. The workshops have been offered since 1999, however it wasn’t until December 2011 that they were approved for undergraduate academic credit. Due to the timeline of approval, this addition to the PACS curriculum likely was not recognized by students participating in the review, nor by the reviewers, which is why we feel it relevant to mention here. Since PACS 391 was first brought in, it has grown in popularity and is now a highly developed option for students wishing to build
and practice these conflict management skills. There is also financial support in place for students wishing to pursue this option and more easily facilitate their participation.

**Recommendation 6: Structure PACS as a department.**

The External Review Team noted the current capacity of the PACS Faculty Committee seemed to be lacking, and encouraged this to be strengthened. It was also recommended that PACS should move to structure itself as a department, while maintaining interdisciplinary ties. Currently PACS sees much value in the PACS Faculty Committee structuring because of the emphasis on interdisciplinary studies and the involvement of other departments. PACS also draws heavily on Approved courses from other departments and their involvement in the governance of PACS is key to maintaining a successful program.

The PACS program has looked at the option of structuring as a department, but such a move is much more complicated than commonly perceived and with wide reaching implications. One such layer of complexity is the PACS program’s status as a unit which offers a major and minor based primary at an affiliated college of the university. Even in the case of the Music department housed at Conrad Grebel, which is thought of as a full department in Arts, full parity with other Arts faculty departments is not realized. In practical terms, PACS functions as a department and is thought of as a department both at Grebel and UWaterloo, and it is uncertain that the energy and resources needed to change the formal designation would accomplish the review team’s goals given these institutional complexities. There have been many internal conversations about this over the years, but it is uncertain as to how this will progress, if at all. This is an area that needs continued thought and reflection within the PACS program.

**Recommendation 7: Offer additional 400-level courses.**

The recommendation to add more 400-level courses to PACS plans is based on the assertion that PACS students are disadvantaged when applying to some graduate programs. We are currently not aware of any student who was disadvantaged because of this. Additionally, there are currently 18 courses on the list of PACS Approved courses that are at the 400-level, which provide students with many opportunities to pursue this level of study within their requirements.

**Recommendation 8: Include a research methods requirement for the 4-year BA plans.**

The recommendation to add a research methods course to PACS plans is based on the assertion that PACS students are disadvantaged when applying to graduate programs. We are currently not aware of any student who was disadvantaged because of this. Currently, PACS 401, “Senior Research Seminar” covers research methods content. In this course students are exposed to some relevant research methods for the field as they work through their projects and through the seminar. Students with particular interest in a 400-level research based course are also able to enrol in PACS 402, “Senior Research Seminar” to build on research from PACS 401 and enhance their research and writing abilities. Additionally, there are many research methods courses available to students at UWaterloo if they saw this as a requirement for a future program of interest.
**Recommendation 9: Include more content on peace and justice issues related to Indigenous peoples in Canada.**

In response to the review, in Fall 2013 PACS offered a Special Topics course on “Aboriginal and State Relations” which enrolled 23 students. This is considered average to fairly low enrollment for a PACS 300-level course. The course was also considered to be unsuccessful for a number of other reasons. As such, PACS is reluctant to develop content again on this subject without having someone specific in mind to develop and teach the course in an effective and authentic way.

Additionally, there are currently 4 courses on the list of PACS Approved courses that give attention to peace and justice issues related to indigenous groups. There are approximately an additional 8 courses at UWaterloo that address topics related to indigenous peoples in Canada. This means that there are already at least 12 courses on these issues that students could choose from if they wanted to study this topic. To facilitate this, there is a petition process within the program for students to petition courses not already on our list to be counted towards their PACS requirements. Students are aware of this option and could conceivably petition any of these 12 other courses to be counted if they had a desire to.

It is also noteworthy that PACS faculty members are collectively working to integrate indigenous issues and related content into all of their courses. Faculty saw this recommendation as not just about teaching indigenous-focused courses, but also about ‘de-colonizing’ their teaching through discussions in seminars and course content.

**Recommendation 10: Consider developing a course that focuses specifically on intra-personal conflict and peace.**

While the External Review Team suggested that the PACS program consider developing a course on intra-personal conflict, there is ongoing discussion within the program about what this would look like and how it would fit into the PACS mission and vision. The PACS program has intentionally focused on interpersonal, intergroup, and international conflict, as well as international development and sees this as its focus and mandate. Elements of the intrapersonal level of peace is often integrated within other courses by many of the PACS faculty members. One way that this is often incorporated is through the concept of being a reflective practitioner which is part of the intrapersonal level of practice. PACS sees this integrative approach more important than stand-alone courses on this subject.
Recognition and Commendation

Bessma Momani, a professor in the Department of Political Science, was awarded one of five 2015 Trudeau Foundation Fellowships. Addressing issues emerging at the intersection of international economics, finance, and global politics, Professor Momani has published and spoken extensively on topics such as the International Monetary Fund, the World Bank, Middle East politics and political economy, and the global politics of the Arab Spring. She has produced eight authored and co-authored books, published 53 peer-reviewed articles and chapters, and made more than 90 presentations in both academic and policy-oriented settings. In addition to her appointment in Political Science and the Balsillie School of International Affairs, Professor Momani is a senior fellow at Waterloo’s Centre for International Governance Innovation (CIGI). She has also been a non-resident senior fellow at the Brookings Institute in Washington DC, a Fulbright scholar at Georgetown University’s Mortara Researcher Center, and a visiting scholar at the Amman Institute. (Waterloo News, Political Science, 15 September 2015)

Zhou Wang, a professor of electrical and computer engineering at Waterloo, has won an Engineering Emmy® Award for developing computational models that accurately and consistently predict how people view image and video quality. The Television Academy, based in Los Angeles, California announced the award earlier this month. Professor Wang, along with co-creators Eero Simoncelli, a professor at New York University, Alan Bovik, a professor at the University of Texas at Austin and Hamid Sheikh, a director at Samsung’s Mobile Processor Innovation Lab, will receive the award for outstanding achievement in engineering performance on 28 October 2015, at a ceremony held in Los Angeles, California. The Engineering Emmy recognizes the team for its creation of Structural Similarity, a mathematical formula and computer algorithm that is now widely used throughout the television industry. Professor Wang was recently named to the Royal Society of Canada’s College of New Scholars, Artists and Scientists, and was also the recipient of an E.W.R Steacie Memorial Fellowship in 2014 – the prestigious award from the Natural Sciences and Engineering Research Council of Canada (NSERC) – for his work in understanding how people view the quality of images and videos. (Daily Bulletin, 14 October 2015)

The Governor General of Canada has honoured a Waterloo history professor for her “remarkable contributions” to the understanding of First Nations’ history. History Professor Susan Roy was awarded a joint Governor General’s History Award along with her collaborators for a multi-site exhibition in Vancouver called cəsnaʔəm, the city before the city. “Given this year’s report from the Truth and Reconciliation Commission, I’m particularly proud to see this recognition of Susan Roy’s research highlighting Aboriginal history,” says Dean of Arts Doug Peers. “It’s incumbent on the academic community to contribute to redressing such a critical national issue.” (Waterloo Stories, 19 October 2015)

Voltera V-One, a custom circuit board printer developed by University of Waterloo engineering students, has taken top prize in the International James Dyson Award competition - beating out a record 710 entries from 20 countries. Voltera is the first Canadian team to capture the prestigious award that comes with a prize of about $60,000 (CAD) for the team and $10,000 for the University’s Faculty of Engineering. “The Voltera V-One team is made up of four impressive young graduates. Their solution makes prototyping electronics easier and more accessible – particularly to students and small businesses. But it also has the potential to inspire many more budding engineers,” said James Dyson, a renowned British inventor whose foundation sponsors the award. The printer was created by Alroy Almeida, Katarina Ilic, James
Pickard, and Jesús Zozaya as their Engineering Capstone Design project. It enables circuit boards to be prototyped within minutes, eliminating the frustrations with traditional fabrication processes and drastically reducing hardware development time. (Waterloo Stories, 10 November 2015)

Research into entangled photons and arctic governance at the University of Waterloo was recognized recently as two promising graduate students received prestigious Vanier Canada Graduate Scholarships to help them pursue and complete doctoral degrees. Jean-Philippe MacLean, a Physics and Astronomy PhD candidate in the Faculty of Science and the Institute for Quantum Computing, received a Natural Sciences and Engineering Research Council (NSERC) Vanier Scholarship. His research focuses on developing a room-temperature diamond interface for storing and manipulating photon with the Quantum Optics and Quantum Information group. This research is a step towards building the necessary components of quantum communication technologies enabling optical applications for quantum information. Tahnee Prior, a global governance PhD student at the Balsillie School of International Affairs, will use her Social Sciences and Humanities Research Council (SSHRC) award to define a new governance framework to address the emerging and complex issues caused by climate change, resource extraction, migration and potential inter-state conflict in the Arctic. Vanier scholarships are valued at $50,000 per year over the course of three years. (Waterloo News, 13 November 2015)

Members of the Waterloo Black Association of Computing Machinery International Collegiate Programming Contest team are headed to Phuket, Thailand this coming May for the contest world finals thanks to a stunning performance at November’s East Central North America Regional Programming Contest which took place at the University of Windsor. Out of 130 teams from 55 universities and colleges, Waterloo's four teams, Waterloo Black, Gold, White and Red finished 1st, 2nd, 3rd, and 9th, respectively. Other universities in the top ten were Ohio State (4th), Toronto (6th), and Carnegie Mellon (5th, 7th, 8th, and 10th). Waterloo's Black team was the only team to solve all nine problems, finishing the five-hour contest in four hours and thirty minutes. Waterloo's Gold team also solved more problems (7) than any other university. The members of Waterloo's teams were: Waterloo Black (1st place): Andy Huang, Antonio Molina Lovett, Jacob Jackson; Waterloo Gold (2nd place): David Choi, Felix Bauckholt, Ted Ying; Waterloo White (3rd place): Sean Purcell, Renato Ferreira, Yang Gao; Waterloo Red (9th place): Jim Zhang, Ben Zhang, Charles Zinn. (Daily Bulletin, 5 November 2015)
Tenure and Promotion of Faculty Members
The 2014-15 tenure and promotion cycle carried out under Policy 77 has resulted in the following individuals being awarded tenure and/or promoted, effective 1 July 2015.

**Awarded Tenure and Promoted to Associate Professor**
Niayesh Afshordi, Physics & Astronomy
Janice Aurini, Sociology & Legal Studies
Michael A. Beazely, School of Pharmacy
Amelia Clarke, School of Environment Enterprise & Development
Beth Coleman, English Language & Literature
Cecilia Cotton, Statistics & Actuarial Science
Bo Cui, Electrical & Computer Eng.
Michael Drescher, School of Planning
Mathieu Doucet, Philosophy
Baris Fidan, Mechanical & Mechatronics Eng.
Fatma Gzara, Management Sciences
Reid Holmes, David R. Cheriton School of Computer Science
Roxane Itier, Psychology
Soo Jeon, Mechanical & Mechatronics Eng.
Svetlana Kaminskaia, French Studies
Hyock Ju Kwon, Mechanical & Mechatronics Eng.
Vivek Maheshwari, Chemistry
Binyamin Mantin, Management Sciences
Steven Mock, Recreation & Leisure Studies
Praveen P Nekkar Rao, School of Pharmacy
Alain-Désiré Nimubona, Economics
Selcuk Onay, Management Sciences
Hiren Patel, Electrical & Computer Eng.
Sean Peterson, Mechanical & Mechatronics Eng.
Emmanuelle Piérard, Economics
Bruce Reed, Biology
Armaghan Salehian, Mechanical & Mechatronics Eng.
Abigail Scholer, Psychology
Jennifer Schuleenberg, Sociology & Legal Studies
Stacey Scott, Systems Design Eng.
Roderick A E Slavec, School of Pharmacy
James Thompson, Accounting & Finance
John Turri, Philosophy
Steven Waslander, Mechanical & Mechatronics Eng.

**Awarded Tenure**
George Heckman, Public Health & Health Systems
Thomas Jennewein, Physics & Astronomy
Yuning Li, Chemical Eng.

**Awarded Tenure and Promoted to Professor**
William Wong, Electrical & Computer Engineering

**Promoted to Professor**
Katherine Acheson, English Language & Literature
Sheila Ager, Classical Studies
Therese Biedl, David R. Cheriton School of Computer Science
Douglas Brown, Psychology
Barbara Csima, Pure Mathematics
Kaan Erkorkmaz, Mechanical & Mechatronics Eng.
Myra Fernandes, Psychology
Bertrand Guenin, Combinatorics & Optimization
Kevin Hare, Pure Mathematics
Behrad Khamesee, Mechanical & Mechatronics Eng.
Debbie Leung, Combinatorics & Optimization
Grit Liebscher, Germanic & Slavic Studies
Hamed Majedi, Electrical & Computer Eng.
Stephen Mann, David R. Cheriton School of Computer Science
Christine McWebb, French Studies
Rahim Moosa, Pure Mathematics
Richard Petrone, Geography & Environmental Management
Carolyn Ren, Mechanical & Mechatronics Eng.
Michael Rubinstein, Pure Mathematics
Mathias Schulze, Germanic & Slavic Studies
Marek Stastna, Applied Mathematics
Nicolaas Spronk, Pure Mathematics
Zhongchao Tan, Mechanical & Mechatronics Eng.
Zhou Wang, Electrical & Computer Eng.
A. APPOINTMENTS/REAPPOINTMENTS

Adjunct Appointments

Graduate Supervision

ASHCROFT, Rachelle, Assistant Professor, School of Public Health and Health Systems, January 1, 2016 – December 31, 2017.

CADELL, Susan, Professor, School of Public Health and Health Systems, January 1, 2016 – December 31, 2017.

COSTELLO, Mary Jean, Assistant Professor, School of Public Health and Health Systems, January 1, 2016 – December 31, 2016.

DAVIES, Hugh, Associate Professor, School of Public Health and Health Systems, February 1, 2016 – January 31, 2017.

JUTAN, Norma, Assistant Professor, School of Public Health and Health Systems, January 1, 2016 – December 31, 2016.

RAY, Sumantra, Professor, School of Public Health and Health Systems, December 1, 2015 – December 31, 2017.

SELISKE, Patrick, Associate Professor, School of Public Health and Health Systems, January 1, 2016 – June 30, 2016.

Graduate Supervision and Research

KRUGER, Judy, Associate Professor, School of Public Health and Health Systems, December 1, 2015 – December 31, 2017.

Special Appointments

VALTCHANOV, Bronwen, Lecturer, Department of Recreation and Leisure Studies, January 1, 2016 – April 30, 2016.

Postdoctoral Fellows appointed as Research

MILICIC, Sandra, School of Public Health and Health Systems, January 1, 2016 – December 31, 2016.


Cross Appointments

MOCK, Steven, Associate Professor, Faculty of Applied Health Sciences, Department of Recreation and Leisure Studies to School of Public Health and Health Systems, January 1, 2016 – December 31, 2020.
FOR INFORMATION

A. APPOINTMENTS

Definite Term Appointments

HEBBINCKUYYS, Nicolas (PhD 2015 Université de Moncton), Lecturer, Department of French Studies, January 1, 2016 to December 31, 2017. Nicolas Hebbinckuyys comes to the Department of French Studies with broad experience teaching French as a Second Language. He has taught a wide variety of French language courses at all levels (beginner French, intermediate, advanced) at different Canadian universities, and also French conversation, drama (creative writing and stage direction), video production, and techniques of news reporting. The Department will benefit from his expertise in new technologies, multimedia, and educational video production.

Definite Term Reappointments

HARRIGAN, Kevin, Research Associate Professor, Department of Drama & Speech Communication, January 1, 2016 to May 31, 2016.

Adjunct Appointments – Instruction

CUBIZOLLES, Leslie, Lecturer, Department of French Studies, September 1, 2015 to December 31, 2015.

RUFFUDEEN, Zamal, Lecturer, School of Accounting and Finance, January 1, 2016 to April 30, 2016.

Adjunct Appointments – Miscellaneous (research, consultations, etc.)

KOWALCHUK, Lisa, Associate Professor, Department of Sociology and Legal Studies, November 1, 2015 to October 31, 2018.

Adjunct Reappointments – Instruction

ADAMS, Russell, Assistant Professor, Department of Anthropology, January 1, 2016 to April 30, 2016.

ALLEN, Wayne, Lecturer, Department of Religious Studies, January 1, 2016 to April 30, 2016.

ARNASON, Mark, Lecturer, School of Accounting and Finance, January 1, 2016 to April 30, 2016.

ATOCHE, Cristina, Lecturer, Department of Spanish and Latin American Studies, January 1, 2016 to April 30, 2016.

AYTENFISU, Million Tadesse, Lecturer, Department of Economics, January 1, 2016 to April 30, 2016.

BIRKE, Lisa, Lecturer, Faculty of Arts, Stratford Programmes, January 1, 2016 to April 30, 2016.

BOLT, Laura, Lecturer, Department of Anthropology, January 1, 2016 to April 30, 2016.

BRIGGS, Catherine, Assistant Professor, Department of History, January 1, 2016 to April 30, 2016.

CHÉKÉTÉ, Godrick, Lecturer, Department of French Studies, January 1, 2016 to April 30, 2016.

CHENIER, Allison, Lecturer, Department of Sociology and Legal Studies and Stratford Programmes, January 1, 2016 to April 30, 2016.
COOPER, Stephanie, Lecturer, Department of Germanic and Slavic Studies, January 1, 2016 to April 30, 2016.

CYR, Dylan, Lecturer, Department of History, January 1, 2016 to April 30, 2016.

DATARDINA, Malik, Lecturer, School of Accounting and Finance, January 1, 2016 to April 30, 2016.

DEMAN, J. Andrew, Lecturer, Department of English Language and Literature, January 1, 2016 to April 30, 2016.

DIGNAN, Paul, Lecturer, Department of Fine Arts, January 1, 2016 to April 30, 2016.

DUCHARME, Robert, Lecturer, School of Accounting and Finance, January 1, 2016 to April 30, 2016.

FAHMY, Hany, Lecturer, Department of Economics, January 1, 2016 to April 30, 2016.

FATIMA, Nafeez, Lecturer, Department of Economics, January 1, 2016 to April 30, 2016.

FLERAS, Augie, Professor, Department of Sociology and Legal Studies, January 1, 2016 to April 30, 2016.

GERNON, Mark, Lecturer, Department of Psychology, January 1, 2016 to April 30, 2016.

GRUBISIC, Vinko, Professor, (Professor Emeritus), Department of Germanic and Slavic Studies, November 1, 2015 to December 31, 2015.

HAYES, Nicole, Lecturer, Department of Anthropology, January 1, 2016 to April 30, 2016.

HE, Zhen, Lecturer, Department of Economics, January 1, 2016 to April 30, 2016.

HOLUKOFF, Kurt, Lecturer, Department of Philosophy, January 1, 2016 to April 30, 2016.

HUNTER, Natalie, Lecturer, Department of Fine Arts, January 1, 2016 to April 30, 2016.

HUTCHISON, Jesse, Lecturer, Department of English Language and Literature, January 1, 2016 to April 30, 2016.

JAIMES-DOMINGUEZ, Luis, Lecturer, Department of Spanish and Latin American Studies, January 1, 2016 to April 30, 2016.

KHOLODI, Amir-Shahram, Lecturer, Department of History, January 1, 2016 to April 30, 2016.

KROEKER, Ron, Assistant Professor, Department of Classical Studies, January 1, 2016 to April 30, 2016.

KUMASE, Wokia, Lecturer, Department of Economics, January 1, 2016 to April 30, 2016.

LIAQAT, Zara, Lecturer, Department of Economics, January 1, 2016 to April 30, 2016.

LIN, David, Lecturer, School of Accounting and Finance, January 1, 2016 to April 30, 2016.

LOBANA, Jodie, Lecturer, School of Accounting and Finance, January 1, 2016 to April 30, 2016.
LOVE, Craig, Lecturer, Department of English Language and Literature, January 1, 2016 to April 30, 2016.
MACDONALD, Christy, School of Accounting and Finance, January 1, 2016 to April 30, 2016.
MALAMET, Elliott, Lecturer, Department of Religious Studies, January 1, 2016 to April 30, 2016.
MCCAULEY, Eva, Lecturer, Department of Fine Arts, January 1, 2016 to April 30, 2016.
MORGAN, Derek, Lecturer, Department of Psychology, January 1, 2016 to April 30, 2016.
NABERT-CHUBB, Rebecca, Lecturer, Department of Political Science, January 1, 2016 to April 30, 2016.
PECKHAM, William, Lecturer, Department of Psychology, January 1, 2016 to April 30, 2016.
RAJSIC, Predrag, Lecturer, Department of Economics, January 1, 2016 to April 30, 2016.
RAY, Nicholas, Lecturer, Department of Philosophy, January 1, 2016 to April 30, 2016.
ROGOZYNSKI, Daniel, Lecturer, School of Accounting and Finance, January 1, 2016 to April 30, 2016.
ROSE, David, Lecturer, Department of Economics, January 1, 2016 to April 30, 2016.
ROZOTTO, David, Lecturer, Department of Spanish and Latin American Studies, January 1, 2016 to April 30, 2016.
SAMUELS, Boba, Lecturer, Department of English Language and Literature, January 1, 2016 to April 30, 2016.
SCHWEITZER, David, Lecturer, Department of History, January 1, 2016 to April 30, 2016.
SHAKESPEARE, Robert, Lecturer, Department of English Language and Literature, January 1, 2016 to April 30, 2016.
SLETHAUG, Gordon, Professor, Department of English Language and Literature, January 1, 2016 to April 30, 2016.
SMITHWICK, Neal, Lecturer, Department of Sociology and Legal Studies, January 1, 2016 to April 30, 2016.
STACEY, Jeffery, Lecturer, Department of Philosophy, January 1, 2016 to April 30, 2016.
STETTNER, Shannon, Lecturer, Women’s Studies, January 1, 2016 to April 30, 2016.
TELL, Edmond, Lecturer, Department of Drama and Speech Communication, January 1, 2016 to April 30, 2016.
VIOLA, Maria, Lecturer, Department of Economics, January 1, 2016 to April 30, 2016.
WYSE, Bruce, Lecturer, Department of English Language and Literature, January 1, 2016 to April 30, 2016.
ZHOU, Mark, Lecturer, Department of Economics, January 1, 2016 to April 30, 2016.
Graduate Students Appointed as Part-Time Lecturers

ABDULLA, Rosanne, Department of French Studies, January 1, 2016 to April 30, 2016.

ARULDASON, Shereena, Department of English Language and Literature, January 1, 2016 to April 30, 2016.

ATEGOMO YMELE, Martial, Department of French Studies, January 1, 2016 to April 30, 2016.

BEER, Lacey, Department of English Language and Literature, January 1, 2016 to April 30, 2016.

BRR, Lauren, Department of English Language and Literature, January 1, 2016 to April 30, 2016.

CARROLL, James, Department of Germanic and Slavic Studies, January 1, 2016 to April 30, 2016.

CRONIN, Keely, Department of English Language and Literature, January 1, 2016 to April 30, 2016.

DEFRAEYE, Julien, Department of French Studies, January 1, 2016 to April 30, 2016.

DEHGHANI, Morteza, Department of English Language and Literature, January 1, 2016 to April 30, 2016.

DES ENFFANS D’AVERNAS, Eric, Department of French Studies, January 1, 2016 to April 30, 2016.

DESHANE, Evelyn, Department of English Language and Literature, January 1, 2016 to April 30, 2016.

DOAN, Tiffany, Department of Psychology, January 1, 2016 to April 30, 2016.

EHRENTRAUT, Judy, Department of English Language and Literature, January 1, 2016 to April 30, 2016.

ENNS, Charis, Department of Political Science, January 1, 2016 to April 30, 2016.

FUNSTON-MILLS, Jesse, Department of French Studies, January 1, 2016 to April 30, 2016.

GASTER, Matthew, Department of English Language and Literature, January 1, 2016 to April 30, 2016.

HAIDER, Amna, Department of English Language and Literature, January 1, 2016 to April 30, 2016.

HILLIER, Cathiene, Department of Sociology and Legal Studies, January 1, 2016 to April 30, 2016.

HIRSTEIN, Mario, Department of Germanic and Slavic Studies, January 1, 2016 to April 30, 2016.

HLAING, Phyo, School of Accounting and Finance, January 1, 2016 to April 30, 2016.

JACKMAN, Misty, Department of Germanic and Slavic Studies, January 1, 2016 to April 30, 2016.

JORDAN, William, Department of Philosophy, January 1, 2016 to April 30, 2016.

KOLAHJOOEI ALVAR, Farzad, Department of English Language and Literature, January 1, 2016 to April 30, 2016.

KUNG, Franki, Department of Psychology, January 1, 2016 to April 30, 2016.
LAWRENCE, Christopher, Department of English Language and Literature, January 1, 2016 to April 30, 2016.

MEHRABIAN, Houman, Department of English Language and Literature, January 1, 2016 to April 30, 2016.

NANCEKIVELL, Shaylene, Department of Psychology, January 1, 2016 to April 30, 2016.

NEATH, Karly, Department of Psychology, January 1, 2016 to April 30, 2016.

NEUPANE, Dhruba, Department of English Language and Literature, January 1, 2016 to April 30, 2016.

NORTHCOTE, Graeme, Department of English Language and Literature, January 1, 2016 to April 30, 2016.

PIRIE, Nathan, Department of French Studies, January 1, 2016 to April 30, 2016.

SABZIAN, Saeed, Department of English Language and Literature, January 1, 2016 to April 30, 2016.

SCHLEIN, Friederike, Department of Germanic and Slavic Studies, January 1, 2016 to April 30, 2016.

TORBICA, Masa, Department of English Language and Literature, January 1, 2016 to April 30, 2016.

VIST, Mari Elise, Department of English Language and Literature, January 1, 2016 to April 30, 2016.

YESAYA, David, Department of French Studies, January 1, 2016 to April 30, 2016.

Staff Appointments to Faculty

CAMPBELL, Greg, Lecturer, Department of Drama and Speech Communication, January 1, 2016 to April 30, 2016.

GLOVER, Adam, Lecturer, Department of Fine Arts, January 1, 2016 to April 30, 2016.

HOLMES, Trevor, Lecturer, Women’s Studies, January 1, 2016 to April 30, 2016.

RAINVILLE, Janelle, Lecturer, Department of Drama and Speech Communications, January 1, 2016 to April 30, 2016.

SCHMIDLIN, Karin, Lecturer, Faculty of Arts, Stratford Programmes, January 1, 2016 to April 30, 2016.

B. ADMINISTRATIVE APPOINTMENTS

Administrative Appointment – Change in Dates

LIEBSCHER, Grit, Chair, Department of Germanic & Slavic Studies, from July 1, 2012 to June 30, 2016 to July 1, 2012 to December 31, 2015.

Administrative Appointments

SCHMENK, Barbara, Associate Chair, Graduate Studies, Department of Germanic and Slavic Studies, January 1, 2016 to December 31, 2017.
Administrative Reappointment
LIEBSCHER, Grit, Chair, Department of Germanic & Slavic Studies, July 1, 2016 to June 30, 2018.

SCOTT, Tom, Director, School of Accounting & Finance, July 1, 2016 to June 30, 2020.

Douglas M. Peers
Dean, Faculty of Arts
UNIVERSITY OF WATERLOO
REPORT OF THE DEAN OF ENGINEERING TO SENATE
January 18, 2016

FOR INFORMATION

A. APPOINTMENTS
   Visiting Appointments
   ESFAHANI NASR, Azam, Scholar, Department of Chemical Engineering, November 18, 2015 – November 17, 2016.

   Visiting Reappointments
   TOMESCU, Sebastian, Scholar, Department of Mechanical & Mechatronics Engineering, January 1, 2016 – December 31, 2016.


   Special Appointments
   Undergraduate Instruction
   MORELY, Mark, Lecturer, Department of Systems Design Engineering, January 1, 2016 – April 30, 2016.

   SHAMS, Shoelhe, Lecturer, Department of Civil & Environmental Engineering, January 1, 2016 – April 30, 2016.

   WEISS, Kevin, Lecturer, School of Architecture, September 1, 2015 – December 1, 2015.

   ZURELL, Cory, Lecturer, Department of Civil & Environmental Engineering, January 1, 2016 – April 30, 2016.

   Graduate Instruction

   RENKSIZBULUT, Metin, Lecturer, Department of Mechanical & Mechatronics Engineering, January 1, 2016 – April 30, 2016.

   ZAWAM, Mohamed, Lecturer, Department of Civil & Environmental Engineering, January 1, 2016 – April 30, 2016.

   Special Reappointments
   Undergraduate Instruction
   BALESHTA, James, Lecturer, Department of Mechanical & Mechatronics Engineering, January 1, 2016 – April 30, 2016.

   BLAKE, Clifford, Lecturer, Department of Management Sciences, January 1, 2016 – April 30, 2016.

   GRIFFITHS-FULTON, Karl, Lecturer, Department of Systems Design Engineering, January 1, 2016 – April 30, 2016.
MATHER, David, Lecturer, Department of Mechanical & Mechatronics Engineering, January 1, 2016 – April 30, 2016.

WANG, James (Jiaming), Lecturer, Department of Mechanical & Mechatronics Engineering, January 1, 2016 – April 30, 2016.

Graduate Instruction
ALLARAKHIA, Minnia, Lecturer, Department of Management Sciences, January 1, 2016 – April 30, 2016.

FADER, Christina, Lecturer, Department of Management Sciences, January 1, 2016 – April 30, 2016.


Adjunct Appointments
Graduate Supervision and Research
BLASCHKE, Alfred, Associate Professor, Department of Civil & Environmental Engineering, November 1, 2015 – October 30, 2017.

HASSANINZADEH, Majid, Professor, Department of Civil & Environmental Engineering, November 1, 2015 – October 31, 2017.

SCHIJVEN, Jack, Professor, Department of Civil & Environmental Engineering, November 1, 2015 – October 31, 2016.

Graduate Supervision
HO KWONG KWAN, Norman, Assistant Professor, Department of Mechanical & Mechatronics Engineering, November 1, 2015 – October 31, 2018.

SILINS, Uldis, Professor, Department of Civil & Environmental Engineering, December 1, 2015 – November 30, 2017.

Research
GUILD, Paul, Professor, Department of Management Sciences, January 1, 2016 – December 31, 2019.

Cross Appointments
BIZHEVA, Kostadinka, Associate Professor, Department of Physics & Astronomy, Faculty of Science to Department of Systems Design Engineering, June 1, 2014 – May 31, 2017.

Changes in Appointments

B. ADMINISTRATIVE APPOINTMENTS
LI, Yuning, Associate Chair, Graduate Studies, Department of Chemical Engineering, January 1, 2016 – December 31, 2017.

MACVICAR, Bruce, Director, Collaborative Water Program (Water Institute) Department of Civil & Environmental Engineering, January 1, 2016 – December 31, 2017.

TRIPUNITARA, Mahesh, Associate Director, Software Engineering Programming, Department of Electrical & Computer Engineering, September 1, 2015 – August 31, 2018.

ADMINISTRATIVE REAPPOINTMENTS
HASAN, Anwarul, Associate Dean, Research and External Partnerships, Department of Electrical & Computer Engineering, January 1, 2016 – December 31, 2017.

WEBER, Mark, Director, Conrad Business, Entrepreneurship & Technology Centre, July 1, 2016 – December 31, 2017.

ZELEK, John, Associate Chair, Graduate Studies, Department of Systems Design Engineering, January 1, 2016 – December 31, 2017.

C. RETIREMENTS
GUILD, Paul, Professor, Department of Management Sciences, December 31, 2015.

D. SABBATICAL LEAVES
For Approval by the Board of Governors
BASU, Nandita, Professor, Department of Civil & Environmental Engineering, May 1, 2016 – October 31, 2016, six months at 100% salary.

BURN, Donald, Professor, Department of Civil & Environmental Engineering, July 1, 2016 – December 31, 2016, six months at 86.4% salary.

ROSENBERG, Catherine, Professor, Department of Electrical & Computer Engineering, September 1, 2016 – February 28, 2017, six months at 85% salary.

SACHDEV, Manoj, Professor, Department of Electrical & Computer Engineering, January 1, 2017 - December 31, 2017, twelve months at 100% salary.

THOMSON, Neil, Professor, Department of Civil & Environmental Engineering, May 1, 2016 – April 30, 2017, twelve months at 100% salary.

Wayne Parker
Acting Dean
Faculty of Engineering

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FOR INFORMATION

A. APPOINTMENTS

Adjunct Appointments

Graduate Supervision

CHARLES, Anthony, Professor, School of Environment, Resources and Sustainability, October 1, 2015 to December 31, 2017.

DEVITO, Kevin, Professor, Faculty of Environment, November 1, 2015 to August 31, 2019.

HUANG, Lei, Assistant Professor, School of Environment, Enterprise and Development, January 1, 2016 to December 31, 2017.

MULRENNAN, Monica, Associate Professor, School of Environment, Resources and Sustainability, November 15, 2015 to December 31, 2017.

Research


Special Appointments

Instruction

BOROVILOS, George, Lecturer, School of Environment, Enterprise and Development, January 1, 2016 to April 30, 2016.

GUNN, Grant, Lecturer, Department of Geography and Environmental Management, January 1, 2016 to April 30, 2016.

HISTON, Jonathan, Lecturer, Department of Geography and Environmental Management, January 1, 2016 to April 30, 2016.

KHEYROLLAH POUR, Homa, Lecturer, Department of Geography and Environmental Management, January 1, 2016 to April 30, 2016.

RATCLIFFE, William, Lecturer, School of Environment, Enterprise and Development, May 1, 2016 to August 31, 2016.

Cross Appointment

HIPEL, Keith, University Professor, Department of Systems Design Engineering, Faculty of Engineering, to the Department of Geography and Environmental Management, January 1, 2016 to December 31, 2018.

Graduate Students Appointed as Part-Time Lecturers

GARCIA, Amanda, School of Environment, Enterprise and Development, January 1, 2016 to April 30, 2016.

MAY, Bradley, Department of Geography and Environmental Management, January 1, 2016 to April 30, 2016.
SAWH, Deitra, School of Environment, Enterprise and Development, January 1, 2016 to April 30, 2016.

**Postdoctoral Fellows Appointed as Part-Time Lecturers**
BISUNG, Elijah, Department of Geography and Environmental Management, January 1, 2016 to April 30, 2016.

RUTTY, Michelle, Department of Geography and Environmental Management, January 1, 2016 to April 30, 2016.

**B. SABBATICAL LEAVE**
For Approval by the Board of Governors
FRAYNE, Bruce, Associate Professor, School of Environment, Enterprise and Development, July 1, 2016 to December 31, 2016 at 100% salary.

Jean Andrey
Dean
A. **APPOINTMENTS** (for approval by the Board of Governors)

**Probationary-Term Reappointments**

SHEN, Yi, Assistant Professor, Dept. of Statistics and Actuarial Science, July 1, 2016 – June 30, 2019.

ZHU, Yeying, Assistant Professor, Dept. of Statistics and Actuarial Science, July 1, 2016 – June 30, 2019.

**Visiting Appointments**

DAROONEH, Amir Hossein (University of Zanhan), Scientist, Dept. of Applied Mathematics, January 1, 2016 – August 31, 2016.


**Adjunct Reappointments**

**Instructor**

ALIABARI, Shahla, Lecturer, Office of the Dean, January 1, 2016 – April 30, 2016.

ALWAN, Mohamad, Lecturer, Dept. of Applied Mathematics, January 1, 2016 – April 30, 2016.

ARNASON, Mark, Lecturer, Office of the Dean, January 1, 2016 – April 30, 2016.


McKINNON, Jennifer, Lecturer, Office of the Dean, January 1, 2016 – April 30, 2016.

SANTIN, Anita, Lecturer, Office of the Dean, January 1, 2016 – April 30, 2016.

**Research**

CHEN, Jiahua (University of British Columbia), Professor, Dept. of Statistics and Actuarial Science, January 1, 2016 – December 31, 2018.

KOTSIREAS, Ilias (Wilfrid Laurier University), Professor, July 1, 2015 – June 30, 2018.

MacKAY, Jock (Professor Emeritus), Professor, Dept. of Statistics and Actuarial Science, January 1, 2016 – December 31, 2018.

SHAH, Kirti (Professor Emeritus), Professor, Dept. of Statistics and Actuarial Science, January 1, 2016 – December 31, 2018.

ZIMA, Eugene (Wilfrid Laurier University), Associate Professor, David R. Cheriton School of Computer Science, July 1, 2015 – June 30, 2018.
Graduate Students reappointed as Part-time Lecturers

B. SPECIAL LEAVE (Already approved by the Board of Governors)
TERRY, Michael (Associate Professor, David R. Cheriton School of Computer Science), December 14, 2015 – December 13, 2016. This is an unpaid leave.

Stephen M. Watt
Dean
For information:

A. **APPOINTMENTS**

**Adjunct Appointments**

*Graduate Supervision and Graduate Instruction*

**NEWMAN, Amy**, Assistant Professor, School of Pharmacy, January 1, 2016 to December 31, 2019.

**Adjunct Reappointments**

*Graduate Supervision*

**PAKTUNC, Dogan**, Professor, Department of Earth and Environmental Sciences, November 1, 2015 to October 31, 2020.

*Graduate Supervision and Research*

**GILLIS, Patricia**, Associate Professor, Department of Biology, January 1, 2016 to December 31, 2018.

**Special Appointments**

*Undergraduate Instruction*

**WILSON, Graham C.**, Lecturer, Faculty of Science, March 14, 2016 to May 23, 2016.

**Special Reappointments**

*Undergraduate Instruction*

**PFISTERER, Steve**, Lecturer, Department of Physics and Astronomy, January 1, 2016 to April 30, 2016.

**WASFI, Olla**, Lecturer, School of Pharmacy, January 1, 2016 to April 30, 2016.

*Postdoctoral Fellow Reappointed as Part-time Lecturer*

**LEKIN, Kristina**, Lecturer, Department of Chemistry, January 1, 2016 to April 30, 2016.

*Research Associate Reappointed to Faculty*

**VARIKOOTY, Jalaiah**, Lecturer, School of Optometry and Vision Science, January 1, 2016 to April 30, 2016.
C. **RETIRED**

**PLOTKIN, Ann D.,** Clinical Professor, School of Optometry and Vision Science, effective January 1, 2016.

**FOR APPROVAL BY THE BOARD OF GOVERNORS**

D. **SABBATICAL**

**HILEETO, Denise,** Associate Clinical Professor, School of Optometry and Vision Science, special early sabbatical, July 1, 2016 to December 31, 2016, 100% salary arrangements.

R.P. Lemieux  
Dean of Science
FOR APPROVAL

Committee/Council Appointments

Motion: To approve the following appointments:

- **Graduate & Research Council:** Mike Stone (geography and environmental management) as a Faculty of Environment representative, term to 31 December 2016. (Dr. Stone is Interim Associate Dean, Research for one year.)

- **Undergraduate Council:** Veronica Austen (English language and literature) as a member of faculty from the federated university, term to 30 April 2016 to replace Toni Serafini.
The University of Waterloo Act, 1972 (the “Act”), paragraph 18(a), provides that the chair of the board of governors is a member of Senate ex officio. Paragraph 18(b)(1) of the Act provides for four additional members of the board to sit as senators, such members to be elected from the community-at-large members of the board. In the lead-in to paragraph 18(b), it says that elected members referred to in section 18 “shall be elected in such manner and in accordance with such procedures as are determined and established by the Senate.”

We have been advised by the University Secretary & General Counsel that the board may want to identify community-at-large members of the board to fill one or more of the seats referred to in paragraph 18(b)(1). We are unaware of any procedures determined and established by Senate to accomplish this.

Senate Bylaw #3 is the elections bylaw for Senate. It is proposed that Bylaw #3 be amended by adding the following as section 4.

“4. BOARD OF GOVERNORS REPRESENTATION

4.01 Each year the USGC shall request the Board of Governors to elect from among its community-at-large members as many as four individuals to serve as members of Senate pursuant to paragraph 18(b)(1) of The University of Waterloo Act, 1972. The USGC shall be informed of the results of such election promptly following its completion, and shall so inform Senate.”

If this proposed amendment to Bylaw #3 is ultimately passed by Senate at two readings in January and February 2016, then the Board of Governors will be so advised. Elections would be held at the Board of Governors meeting scheduled for 5 April 2016. It is therefore the request of Senate Executive Committee that the within proposed amendment to Senate Bylaw #3 be received by Senate for first reading at its meeting of 18 January 2016.

Please see proposed amended Bylaw #3 attached, with the added section highlighted in red.

Dr. Logan Atkinson
University Secretary & General Counsel
Secretary to the Senate Executive Committee
Senate Bylaw 3

A bylaw relating to the selection of members of Senate of the University of Waterloo.

BE IT ENACTED as a bylaw of Senate of the University of Waterloo as follows:

1. CHIEF RETURNING OFFICER

1.01 The university secretary & general counsel (USGC) or designate shall act as chief returning officer for the purpose of conducting the election of members of Senate. As chief returning officer, the USGC or designate has overall responsibility for the general conduct of such elections and by-elections, which shall be by secret ballot. Without restricting the generality of the foregoing, the chief returning officer shall:

a. Establish the timing of Senate elections and by-elections, subject to the provisions described in sections 2 and 4 below.

b. Call for nominations and when doing so inform the university community of the names of those members of Senate whose terms of office expire on 30 April of that year and whether such members are eligible for a further term of service.

c. Verify the eligibility of nominees and nominators.

d. For undergraduate student elections, provide nomination information to the Federation of Students Election Committee.

e. Distribute ballots and balloting information to eligible voters, allowing at least one week for the polling period.

f. Announce the results to the university community, and resolve ties, as necessary.

2. ELECTIONS

2.01 Elections

a. The election of faculty and student members to Senate shall be completed by the regular March meeting of Senate each year. Undergraduate student elections shall be held in conjunction with the annual elections conducted by the Federation of Students in February. Faculty and graduate student elections are conducted by the Secretariat & Office of General Counsel.

b. The nomination period for faculty constituencies and graduate students is at least twenty-one (21) days. For undergraduate student constituencies the nomination period is determined in consultation with the Federation of Students. The chief returning officer shall call for
nominations from those faculty and student constituencies that have members whose terms are expiring by placing a suitable notice in such places and ways as may be designated from time to time by Senate, with copies to the appropriate faculties and constituency presidents. Nomination forms shall be made available by the Secretariat & Office of General Counsel. Nominations shall be submitted in writing to the chief returning officer. Each nomination shall be signed by the required number of members of the constituency from which the member is to be elected and shall include a signed statement from the nominee agreeing to serve if elected. For faculty and graduate students, the required number of members is five; for undergraduate students elected from a single faculty, the required number is twenty-five; for undergraduate students elected at large, the required number is one hundred.

c. Undergraduate student nominees, or their representatives, shall attend an all candidates’ mandatory meeting held by the Federation of Students. The chief returning officer, or designate, shall also be present.

d. For faculty and graduate student elections, the chief returning officer shall publish the candidates’ statements in such places and ways as may be designated from time to time by Senate.

2.02 Campaigning/Voter Eligibility

a. Public campaigning shall not take place before the close of nominations. For faculty and graduate student elections, nominees are to provide a brief statement (100 words maximum) to appear with the ballot.

b. The Federation of Students election rules regulating campaigning for undergraduate student elections, except for spending limits, shall be followed. The Federation of Students Election Committee decisions may be appealed to the USGC, who shall act as chief returning officer, and whose decision is final.

c. The campaign spending limit for undergraduate students shall be: up to $100 for constituency seats and $200 for at-large seats, with all campaign costs to be borne by the candidate.

d. In a faculty constituency, all faculty members who hold a regular faculty appointment in that constituency are eligible to vote. In a graduate student constituency, all full-time and part-time graduate students registered in a degree program in that constituency are eligible to vote. In an undergraduate student constituency, all full-time students registered in a degree program in that constituency are eligible to vote; this includes students whose academic programs require a prolonged absence from campus such as a co-op work term or an approved study term abroad.

2.03 By-Elections

a. The USGC shall declare a Senate seat vacant:
   i. upon receipt of a written resignation from a member of Senate.
   ii. when a member of Senate ceases to be eligible to represent the constituency that elected the member, for example when a faculty member ceases to hold a regular faculty
appointment, or when a student graduates or otherwise ceases to be registered in the constituency that elected the student.1

b. If, within any year, a member of the Senate or any of its committees or councils, not having been granted permission to be absent by such body, attends less than 50 per cent of the regular meetings of such body, the member’s office shall be by that very fact considered to be vacated and a confirmatory resolution shall be passed by Senate declaring the membership vacant. The Senate or its committee or council may grant such permission to members who are going on an approved sabbatical, on a co-op term, or any similar such absence related to the members’ employment and/or educational program.

c. Subject to the provisions noted below, the chief returning officer shall call by-elections to fill vacancies as soon as feasible and shall place a suitable notice in such places and ways as may be designated from time to time by Senate, with copies to the appropriate faculties and constituency presidents. Nominations shall remain open for at least one week and shall be submitted in writing to the chief returning officer. Each nomination shall be signed by the required number of members of the constituency from which the member is to be elected, and shall include a signed statement from the nominee agreeing to serve if elected. For faculty and graduate students, the required number of members is five; for undergraduate students elected from a single faculty, the required number is twenty-five; for undergraduate students elected at large, the required number is one hundred.

d. When a seat is vacant because of the failure of a constituency to nominate any candidate to contest an election or by-election, that seat shall remain vacant until the next annual election, unless a petition [available from the Secretariat & Office of General Counsel] requesting a by-election signed by the required number of members of the constituency concerned is received by the chief returning officer.

e. When a seat becomes vacant within three months of the end of the term for that seat, no by-election shall be called to fill the vacancy for the balance of the term.

f. No by-election shall be called or held in any constituency between 1 July and 15 September. In addition, no by-election shall be held in any undergraduate constituency between 1 April and 1 July.

3. ALUMNI REPRESENTATION

3.01 Each year the Alumni Council shall recommend the names of individual(s) for appointment to Senate. The USGC shall be informed of such recommendations as they are made and shall so inform Senate.

4. BOARD OF GOVERNORS REPRESENTATION

4.01 Each year the USGC shall request the Board of Governors to elect from among its community-at-large members as many as four individuals to serve as members of Senate pursuant to paragraph 18(b)(1) of The University of Waterloo Act, 1972. The USGC shall be informed of the results of such election promptly following its completion, and shall so inform Senate.
Approved by Senate 15 June 1972.
Amended by Senate April 1973.
Amended by Senate June 1975.
Amended by Senate in two readings, September and October 1975.
Amended by Senate in two readings, November and December 1982.
Amended by Senate in two readings, January and February 1983.
Amended by Senate in two readings, December 1984 and January 1985.
Amended by Senate in two readings, December 1989 and January 1990.
Amended by Senate in two readings, October and November 1990.
Amended by Senate in two readings, November and December 1991.
Amended by Senate September 1995.
Amended by Senate September 1999.
Amended by Senate in two readings, October and November 2013.
Amended from Bylaw 5 by Senate in two readings, September and October 2014.
Amended by Senate in two readings, **** and **** 2016.

1See The University of Waterloo Act, section 25, for instances when graduating students may be exempt.
Senate Graduate & Research Council met on 9 November 2015 and 7 December 2016, and agreed to forward the following items to Senate for approval. These items are recommended for inclusion in the regular agenda.

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

FOR APPROVAL

CHANGES TO ACADEMIC PLANS

Faculty of Applied Health Sciences
School of Public Health and Health Systems

1. **Motion:** To approve changes to the doctoral comprehensive examination procedures as presented in Attachment #1.
   
   **Rationale:** The current procedures do not serve to sufficiently test a student’s breadth and depth of knowledge, and the proposed procedures have been developed to address this concern with input from both faculty and graduate students.

Faculty of Arts
English Language and Literature

2. **Motion:** To amend the name of the area examination from “Multimedia Critique, Design and Theory” to “New Media”.
   
   (stroikethrough = deleted text; underline = new text)

   **Area Examinations**

   ...

   **Language Areas:**
   - History of Rhetorical Theory and Criticism
   - Discourse and Text Analysis
   - Composition Theory and Pedagogy
   - Multimedia Critique, Design and Theory, New Media

   **Rationale:** The current name dates from the 1990s and changes within the field will be more appropriately reflected with the proposed name.

Faculty of Arts
Sociology

3. **Motion:** To approve the deletion of the existing masters and doctoral fields and the addition of new fields in sociology as presented in Attachment #2.

   **Rationale:** The new fields will better reflect the research foci of faculty members in the department and the impetus to do so comes out of a departmental review.
CHANGES TO REGULATIONS

English Language Proficiency

4. **Motion:** To approve changes to regulations pertaining to English language proficiency as presented in Attachment #3.

**Rationale:** These changes aim to better align the required scores from various tests, as well as to ensure that each required test score includes a writing and speaking component. The changes also remove paper-based testing and clarify the overall description of the requirements.

Enrolment Time Limits

5. **Motion:** To approve changes to the graduate enrolment regulations and time limits as presented in Attachment #4.

**Rationale:** These changes will ensure that students’ time limits are assessed with respect to their enrolment status, and replaces terminology utilizing years as the guidelines in favour of terms, which are defined within the regulation. The effective time limits are decreased/increased for specific categories of study and were reviewed by the Graduate Operations Committee.

/mg  George Dixon  Jim Frank
Vice-President, University Research  Associate Provost, Graduate Studies
Senate Graduate and Research Council – Course/Milestone – New/Revision/Inactivation form

Faculty: Applied Health Science
Effective term: Term/Year Winter 2016

Course ☐ New ☐ Revision ☐ Inactivation ☐
Milestone ☒ New ☐ Revision ☒ Inactivation ☐

New milestone title: Comprehensive

For course revisions, indicate the type(s) of changes:
Modifications to the PhD Comprehensive Examination Procedures

Course Subject code: Choose an item.
Course Number:
Course Title (max. 100 characters incl. spaces):
Course Short Title (max. 30 characters incl. spaces):
Grading Basis: Choose an item.
Course Credit Weight: Choose an item.
Course Consent Required: ☐ Choose an item.
Course Description:
New course description (for revision only):

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

Requisites:

Special topics course: Yes ☐ No ☐
Cross-listed: Yes ☐ No ☐

Course Subject(s) to be cross-listed with and approval status:
Sections combined/held with:

Rationale for request:

The current PhD Comprehensive examination in the SPHHS requires the student to write one major paper and defend the paper at an oral defense. The process has been under review because it has been criticized as not appropriately testing the student’s breadth and depth of comprehension of key theories and methodological approaches of the fields of study within public health and health systems. A comprehensive examination review committee along with the School’s Graduate Studies Committee developed the new procedures after gathering input from faculty and graduate students through a survey and meetings.
Proposed Procedures for the PhD Comprehensive Examination (to be added to the SPHHS Grad Studies Handbook)

A comprehensive examination consisting of written responses to three questions and an oral examination on the answers must be successfully completed before a PhD student may begin their dissertation research. Normally, doctoral students will begin working on their comprehensive examination after completing all required course work. For full time students, the process should normally begin in their third academic term and the oral examination should be scheduled sometime in their fourth term. Part-time students are normally expected to begin the comprehensive examination process by the sixth term after first registration. The timing of the examination will be established by the candidate in consultation with their supervisor. Candidates will be provided with three questions developed by their Comprehensive Examination Committee (see below) and a set of key readings; they are required to submit their written responses to the members of their comprehensive examination committee within 8 weeks. The oral examination should occur within four weeks following submission of the written work. The comprehensive examination requirement must be successfully completed, and the credit approved, before proceeding to the formal presentation for the dissertation proposal.

Comprehensive Examination Committee
The committee will consist of at least three faculty members (not including the Chair), at least one of whom shall have a primary appointment in the School (at least a 0.51 appointment). One of the members must have Approved Doctoral Dissertation Supervisor (ADDS) status. It is expected that the student’s supervisor will be a member, but shall not be appointed the Chair of the committee. It is recommended that one of the members be external to the School (another academic unit, or an external agency/university). As well, only two of the three members of the committee may serve on the student’s Dissertation Advisory Committee. The composition of the comprehensive examination committee will be decided by the supervisor and student and must be approved by the Associate Director, Graduate Research Programs (Graduate Officer). The Chair of the committee will be responsible for organizing the comprehensive examination and ensuring the School’s procedures are followed.

Procedure for the Examination
The Comprehensive Examination Committee will assess the student’s background and areas of interest prior to developing the examination questions. The Chair, in consultation with the Candidate, will determine the timing of the written and oral components of the exam. The “PhD Comprehensive Examination Approval of Committee and Date of Examination Form” (AHS PhD Form 1) should be completed at this time.

The Comprehensive Examination Committee will develop three questions along with a reading list that will be provided to the Candidate on the day the written component of the examination is to begin. Normally, each of the three committee members will develop one question and provide a list of
approximately five to ten relevant articles, or key readings; the questions and reading list will be reviewed and approved by the Comprehensive Examination Committee. Each of the three questions will have a different focus:

a) One question will require the candidate to demonstrate broad, substantive knowledge germane to their stream or discipline.

b) One question will focus on methodology and study designs used in public health or health systems research. This question may require the candidate to understand methods that will not likely be utilized in his, or her dissertation research.

c) The final question will allow the candidate to develop a deeper understanding of theories, concepts, or methods that are relevant to their dissertation research.

The questions and reading list will be provided to the Graduate Officer for approval and distribution to the candidate on the day they begin their written examination. During the first week of the written examination period the candidate may ask for clarification by directing questions to the Graduate Officer by email. Each examination question is to be answered separately, will be limited to 3000 words (not including references, tables, and appendices), and must be double-spaced using a 12-point font size (Times New Roman is recommended).

Written responses must be presented to the Comprehensive Examination Committee and to the Graduate Officer within eight weeks of receiving the questions and reading list. Students enrolled part-time may submit a written request to the Committee and Graduate Officer for a four week extension for submission of their written responses. The oral examination will typically take place within four weeks after submission of the written responses and the candidate is responsible for reserving the room and scheduling the examination. No feedback will be provided to the Candidate prior to the oral examination.

Oral Examination
The Graduate Officer will appoint a Chairperson for the oral defence (note, the Chair for the oral defence will be distinct from the Chair selected for the examination committee). The Chairperson will have an appointment in the School and have knowledge of the regulations, policies, and procedures associated with research-based graduate programs and the PhD comprehensive examination. It is recommended that the Chairperson have some background or expertise in the candidate’s field of study. The Chairperson is responsible for the proper conduct of the oral examination. The conduct of the oral examination will be similar to that of a PhD thesis examination as described in the document “Guide for Chairing a PhD Thesis Examination”.

The oral examination begins with an oral presentation by the candidate that should be no longer than 20 minutes in duration. The presentation will be followed by questioning in accordance with the usual procedures for a PhD thesis defence. It is expected that the majority of questions will pertain to the candidate’s written responses; however, general questions will also be asked to evaluate the candidate’s depth and breadth of comprehension of leading literature and perspectives in their field. At the end of the question period, the candidate will be asked to leave the room and the examining committee will deliberate in a closed session. During the closed session, the Chairperson shall call for a
formal vote before any discussion begins. A simple majority of the examiners will be sufficient to select the appropriate allowable decision.

The allowable decisions are based on both the candidate’s written work as well as responses to questions at the oral defence. The decisions may be:

Examination Passed: Both the written and oral responses to questions are acceptable and the candidate may continue with their regular program of study. A credit indicating completion of the PhD Comprehensive Examination is submitted to the GSO.

Decision Deferred Until Conditions Fulfilled: One or more components of the examination are not acceptable. The candidate will be informed which component(s) was/were not acceptable and the conditions that must take place to fulfill the comprehensive exam requirement will be clearly described. The Comprehensive Examination Committee will communicate the conditions (and timelines) orally to the student at the end of the defence and in writing within one week after the oral defence. The conditions may include rewriting one or more questions, providing a written response to a new question or questions, orally defending one or more responses, or taking a specific course or courses.

When the time period for meeting the conditions has expired, the Chairperson will ensure the work is reviewed appropriately to make a decision regarding the candidate passing or failing the comprehensive examination. Typically, this will involve an email vote of the examining committee, but if the candidate is required to orally defend one or more responses, then the procedures described for the oral comprehensive examination will be followed.

Repeat Comprehensive Examination: The candidate’s responses do not meet the requirements and the examination must be repeated. The reasons why the candidate was not successful will be communicated at the oral defence and will be provided in writing within one week of the defence. The written report will specify a time period for undertaking the repeat examination. The repeat examination will require that three new questions be developed and provided to the candidate along with a revised list of readings. The membership of the Comprehensive Examination Committee for the repeat examination may be same, or may differ. The procedures for the repeat examination will be the same as the initial examination except that the allowable decisions after the oral defence will be Examination Passed or Examination Unsuccessful.

As stipulated in the UW Graduate Studies Calendar: “candidates who fail to pass the comprehensive the first time or who are required to complete additional requirements must satisfy the comprehensive requirement of their department within one calendar year after the unsuccessful attempt, provided the decision made at the time of the comprehensive allows for another opportunity. Students who fail to meet this condition will be required to withdraw”.

Examination Unsuccessful: The committee will clearly state why the candidate was unsuccessful (verbally at the oral defence and within one week in writing). The candidate will be required to withdraw from the program.
The changes to the comprehensive exam procedures will require a change to the calendar for the requirements for the Doctor of Philosophy (http://gradcalendar.uwaterloo.ca/page/SPHHS-Doctor-of-Philosophy-PhD). The current wording under the heading “PhD Comprehensive Examination” is:

“The PhD comprehensive examination will be based on one paper, having relevance to a topic in health studies and gerontology and approved by the graduate studies committee. The paper will be defended in an oral examination. To graduate from any stream, the requirement is for the paper to have direct relevance to the orientation of that stream.”

Under the heading “PhD Comprehensive Examination” the following new wording is proposed:

“The purpose of the comprehensive examination is to test the breadth and depth of the candidate’s comprehension of the substantive content, methodological, and theoretical aspects of their discipline or stream. A comprehensive examination committee, comprised of at least three faculty members, will develop questions for the examination. Candidates will provide written responses to the questions and must successfully complete an oral defense.”

Prepared by: Phil Bigelow

Date: 10-Nov-15
MEMORANDUM

TO: Graduate Affairs Group

FROM: Suzan Ilcan, Associate Chair, Graduate Affairs, Department of Sociology and Legal Studies

DATE: 20 April 2015

RE: Graduate Calendar Changes – Fields

Major Modification

Program: Sociology
Degree Designation: MA, PhD

Type of Modification:
Deletion of existing Masters and Doctoral Fields and replacing with newly chosen Fields

Deletion of Doctoral Fields as per OCGS review 2007 and replacement of Doctoral Fields as per Sociology Program Retreat decisions on October 3, 2014

Approved at:
Sociology Program Retreat: October 3, 2014
Department of Sociology and Legal Studies, Department Meeting on 28 November 2014

Effective Date:
May 2015 or as soon as all approvals are obtained

Description of Proposed Change:
The following fields: Crime and Deviance, Interpretive Sociology, Social Inequality, Work and Technology and Survey and Fieldwork Methodology, approved by OCGS in the cyclical review in 2007 will be deleted and replaced with the following four fields:

Crime, law, and security
Crime, law, and security raise pressing issues for understanding contemporary policing and security practices and their cultural, political, and socio-legal implications. Our researchers study the causes, institutional responses to, and governance of crime, deviance, and anti-
social behaviour. Our diverse and active faculty support theoretically informed research in a range of substantive areas such as border security, criminal justice, criminal networks, national and international security, organized crime, policing, punishment, security and surveillance studies, socio-legal studies, and terrorism.

**Knowledge, education, and digital culture**
Knowledge, education, and digital cultures examines the development, conditions, and transmission of knowledge, values, and practices. Our researchers study how social contexts and informal and formal processes relate to the following origins of ideas, ideology, scientific and technical expertise, human development, social structures, and social stratification. Such research spans various levels of analysis, ranging from the individual to the structure of relations among institutions. Faculty and graduate students working in these areas investigate a range of topics including think tanks, intellectual networks, the culture of cities, parenting, the organization of schooling, academic achievement, new media, and gaming.

**Migration, borders, and transnationalism**
Migration within and between countries has reached unprecedented levels and continues to shape the societies we live in. Simultaneously, the proliferation of border and migration controls contributes to an increase in inequality and violence and to the classification of populations as citizens and non-citizens, and as wanted and unwanted migrants. Such practices shape political, legal, and cultural frameworks and have lasting effects on migrants and their socio-economic wellbeing, as well as on areas of origin, transit, and destination. Faculty and graduate students working in this area investigate how migration, borders, and transnationalism intersect with issues of global and national inequality, freedom of movement, citizenship and belonging, humanitarian and development governance, and security.

**Social inequality and public policy**
There are many dimensions of systematic inequality in society. Scholars of social inequality and public policy are interested in understanding the production and reproduction of systematic inequality, and social policy’s role in these dynamics. Dimensions of inequality include age, race/ethnicity, income, Aboriginality, gender, religion, immigration status, sexuality, rural/urban geography, health status, and (dis)ability and social class, among others. Social policy areas of focus include educational policy, health and health care, pensions and income support, welfare, social assistance, environmental legislation, immigration and security, and policing and law enforcement.

**Rationale for Proposed Change:**
The Department’s review assessors suggested that we needed to update our current research fields (and comprehensive examination areas) to better reflect faculty members’ research specializations. In this regard, at a departmental retreat on 3 October 2014, four new field areas were decided unanimously and were thought to reflect the department’s current faculty members’ research expertise and specializations. At the department
meeting on 28 November 2014, members of the department unanimously passed the four new field titles and descriptions.

FACULTY RESEARCH  
(Please revise the following paragraph:)  
Within the four thematic fields our faculty secure research grants, train graduate students, and conduct research projects on a broad range of topics. Please consult the department’s webpage for more information on faculty research (https://uwaterloo.ca/sociology-and-legal-studies/).

Rationale for Proposed Change:  
The Department’s review assessors suggested that we needed to update our current research fields (and comprehensive examination areas) to better reflect faculty members’ research specializations. In this regard, at a departmental retreat on 3 October 2014, four new field areas were decided unanimously and were thought to reflect the department’s current faculty members’ research expertise and specializations. At the department meeting on 28 November 2014, members of the department unanimously passed the four new field titles and descriptions.

Old Calendar Description:  

Areas of Research

Students may specialize in the following research fields including mastery of relevant theory and methodology:

Insert the following:

- Crime, law, and security (master’s, doctoral)
- Knowledge, education, and digital culture (master’s, doctoral)
- Migration, borders, and transnationalism (master’s, doctoral)
- Social inequality and public policy (master’s, doctoral)

Delete the following and replace with the above:

- Crime and Deviance (master’s, doctoral)
- Interpretive Sociology (master’s, doctoral)
- Social Inequality (master’s, doctoral)
Survey and Fieldwork Methodology (master’s)

Work and Technology (master’s, doctoral)

Delete the following:

Faculty members engage in research in the following areas:

- Crime and Deviance
- Gender and Sexuality
- Governance
- Health, Education, Religion
- Migration and Immigration
- Security and Society
- Social Inequality
- Theory and Methodology

**Rationale for Proposed Change:**
The Department’s review assessors suggested that we needed to update our current research fields (and comprehensive examination areas) to better reflect faculty members’ research specializations. In this regard, at a departmental retreat on 3 October 2014, four new field areas were decided unanimously and were thought to reflect the department’s current faculty members’ research expertise and specializations. At the department meeting on 28 November 2014, members of the department unanimously passed the four new field titles and descriptions.

**Old Calendar Description:**

**Master of Arts (MA)**

**Research Fields**
Master’s students may specialize in the following research fields including mastery of relevant theory and methodology:

- Crime, law, and security (master’s, doctoral)
- Knowledge, education, and digital culture (master’s, doctoral)
• Migration, borders, and transnationalism (master’s, doctoral)
• Social inequality and public policy (master’s, doctoral)

Delete the following fields:

• Crime and Deviance
• Interpretive Sociology
• Social Inequality
• Survey and Fieldwork Methodology
• Work and Technology

Rationale for Proposed Change:
The Department’s review assessors suggested that we needed to update our current research fields (and comprehensive examination areas) to better reflect faculty members’ research specializations. In this regard, at a departmental retreat on 3 October 2014, four new field areas were decided unanimously and were thought to reflect the department’s current faculty members’ research expertise and specializations. At the department meeting on 28 November 2014, members of the department unanimously passed the four new field titles and descriptions.

Old Calendar Description:

Doctor of Philosophy (PhD)

Research Fields

PhD students may specialize in the following research fields including mastery of relevant theory and methodology:

Insert the new fields here:

• Crime, law, and security (master’s, doctoral)
• Knowledge, education, and digital culture (master’s, doctoral)
• Migration, borders, and transnationalism (master’s, doctoral)
• Social inequality and public policy (master’s, doctoral)

Delete the following fields and replace with the above:

• Crime and Deviance
• Interpretive Sociology
• Social Inequality
• Work and Technology
Rationale for Proposed Change:
The Department’s review assessors suggested that we needed to update our current research fields (and comprehensive examination areas) to better reflect faculty members’ research specializations. In this regard, at a departmental retreat on 3 October 2014, four new field areas were decided unanimously and were thought to reflect the department’s current faculty members’ research expertise and specializations. At the department meeting on 28 November 2014, members of the department unanimously passed the four new field titles and descriptions.

Old Calendar Description:

Comprehensive Examinations

Before submitting a dissertation proposal, the student must pass two comprehensive examinations in substantive areas, related to the department’s PhD "fields" listed immediately below. Students may take two comprehensives in the same field. In each comprehensive, students are expected to demonstrate a familiarity with the theoretical and methodological approaches germane to that substantive area.

Insert the new fields here:

- Crime, law, and security
- Knowledge, education, and digital culture
- Migration, borders, and transnationalism
- Social inequality and public policy

Delete the following fields:

- Social Inequality
- Work and Technology
- Interpretive Sociology
- Crime and Deviance

Rationale for Proposed Change:
The Department's review assessors suggested that we needed to update our current research fields (and comprehensive examination areas) to better reflect faculty members’ research specializations. In this regard, at a departmental retreat on 3 October 2014, four new field areas were decided unanimously and were thought to reflect the department’s current faculty members’ research expertise and specializations. At the department meeting on 28 November 2014, members of the department unanimously passed the four new field titles and descriptions.
MEMORANDUM

October 29, 2015

TO: Mike Grivicic, Assistant University Secretary (Committee Governance)
FROM: Jeanette Nugent, Associate Director, Graduate Admissions
RE: Agenda item for Senate Graduate and Research Council committee meeting – November 9, 2015

Rationale:
A review of the accepted English Language Proficiency (ELP) examinations and score standards for graduate admissions was undertaken for the Graduate Operations Committee and Senate Graduate and Research Council for updates to the Graduate Studies Academic Calendar.

1. For improvements to concordance of the various test scores, in particular, for the individual departments/schools that require higher scores as previously approved by Senate.

Graduate Departments/Schools requiring higher scores are:


2. To ensure all required test scores include a Writing and Speaking band.

3. Remove TOEFL Paper Based. The TOEFL PBT test is being phased out and is currently offered only in locations where testing via the internet is not available.

4. To improve ELP requirement description for clarity.

See below for the current ELP regulations (page 2) and proposed changes (pages 3 and 4) for the Graduate Studies Academic Calendar. It is necessary to update the wording in the Graduate Academic Calendar to reflect this.
Current Graduate Studies Academic Calendar copy:  http://gradcalendar.uwaterloo.ca/page/GSO-ELP

English Language Proficiency

Applicants who have not completed three or more years of post-secondary work at a Canadian or a university at which English was the primary language of instruction, or have not completed a graduate degree at a university where English is the primary language of instruction, or have not been employed for a similar period of time in a position in which English was the primary language of business will be required to provide certification of English language proficiency through one of the accepted examinations listed below.

Test scores are valid for two years from the test date. Test results must be sent directly to the Graduate Studies Office from the original source.

Graduate Studies Accepted Examinations and Required Scores:

<table>
<thead>
<tr>
<th>Paper-based TOEFL (PBT)</th>
<th>Internet-based TOEFL (iBT)</th>
<th>IELTS (Academic)</th>
<th>MELAB</th>
<th>CAEL</th>
<th>PTE (Academic)</th>
<th>EFAS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>90; writing 25; speaking 25</td>
<td>7.0</td>
<td>85; 80 per section</td>
<td>70; 60 per band; 70 writing; 70 speaking</td>
<td>63; writing 65; speaking 65</td>
</tr>
<tr>
<td>580</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Graduate Studies Accepted Examinations and Alternative Minimum Scores

<table>
<thead>
<tr>
<th>Paper-based TOEFL (PBT)</th>
<th>Internet-based TOEFL (iBT)</th>
<th>IELTS (Academic)</th>
<th>MELAB</th>
<th>CAEL</th>
<th>PTE (Academic)</th>
<th>EFAS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>80; writing 22; speaking 20; reading 20; listening 18</td>
<td>6.5</td>
<td>80; 78 per section</td>
<td>60; 60 per band</td>
<td>60; writing 60; speaking 60</td>
</tr>
<tr>
<td>550</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.
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

- 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 Office website https://uwaterloo.ca/discover-graduate-studies/admission-requirements/english-language-proficiency-elp/english-language-proficiency-exemptions.

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 reserves the right to request an English language test result from any applicant.

Graduate Studies Accepted Examinations and Required Scores

<table>
<thead>
<tr>
<th>Paper-based TOEFL (PBT)</th>
<th>Internet-based TOEFL (iBT)</th>
<th>IELTS (Academic)</th>
<th>MELAB</th>
<th>CAEL</th>
<th>PTE (Academic)</th>
<th>EFAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>550</td>
<td>90; writing 25; speaking 25</td>
<td>7.0; writing 6.5 speaking 6.5</td>
<td>85; 80 per section speaking 3</td>
<td>70; 60 per band; 70 writing; 70 speaking</td>
<td>63; writing 65; speaking 65</td>
<td>75% overall in level 400 with at least 75% in writing, oral and academic skills</td>
</tr>
</tbody>
</table>
Graduate Studies Accepted Examinations 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.

<table>
<thead>
<tr>
<th>Paper-based TOEFL (PBT)</th>
<th>Internet-based TOEFL (iBT)</th>
<th>IELTS (Academic)</th>
<th>MELAB</th>
<th>CAEL</th>
<th>PTE (Academic)</th>
<th>EFAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>550</td>
<td>80; writing 22; speaking 20; reading 20; listening 18</td>
<td>6.5 writing 6.0 speaking 6.0</td>
<td>80; 78 per section speaking 3</td>
<td>60; 60 per band speaking 60</td>
<td>60; writing 60; speaking 60</td>
<td>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</td>
</tr>
</tbody>
</table>

Graduate Studies Accepted Examinations and Alternative Higher Scores


<table>
<thead>
<tr>
<th>Paper-based TOEFL (PBT)</th>
<th>Internet-based TOEFL (iBT)</th>
<th>IELTS (Academic)</th>
<th>MELAB</th>
<th>CAEL</th>
<th>PTE (Academic)</th>
<th>EFAS</th>
</tr>
</thead>
<tbody>
<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>
<td></td>
</tr>
</tbody>
</table>
October 28, 2015

TO: Mike Grivicic, Assistant University Secretary, Senate Graduate and Research Council

FROM: Sarah Hildebrandt, Director, Graduate Academic Services

RE: Graduate Studies Academic Calendar – Enrolment and Time Limits

Background:

The Graduate Studies Academic Calendar stipulates program time limits for all graduate programs by program type (e.g. Master’s, PhD from an Honour’s Bachelor, PhD from a Master’s). When a student reaches the maximum time limits allowed for their program, they must submit a Petition for Program Extension form to their department/Graduate Studies Office by the government reporting deadline of each applicable term if they wish to continue in their program past the time limit.

Under current regulations, the number of terms specified in these time limits applies regardless of whether the student is enrolled full-time or part-time. A term is counted as one enrolment session regardless of full-time or part-time status. For example, a student who begins a program full-time but who switches to part-time status in their second term has the same time limits as a student who is studying full-time the entire time. This policy does not account for changes in enrolment status and results in a large number of petitions for extensions to program time limits (approximately 900 per term).

Operationally, in order to maintain this method of counting terms for the purposes of program time limits, a separate table (customization) must be maintained in Quest, since for all other purposes (government reporting and claim, scholarships, etc) terms are counted as either full-time (1.0) or part-time (0.5).

This is a proposal to count terms for the purposes of program time limits based on enrolment status (0.5 part-time or 1.0 full-time) as outlined in the attached Calendar copy. The proposed changes were analyzed within the Graduate Studies Office to determine any impacts such as on scholarship eligibility. The proposed changes were also shared with IAP to determine any impact on BIU claims and the calculation of time to completion statistics, and with Finance to determine any impact on tuition assessment. No concerns were raised. The changes were approved by Graduate Operations Committee October 27, 2015.

Impact:

- Time limits for all students will be assessed based on actual enrolment status, which may include a combination of part-time and full-time terms
- Time limits for part-time Master’s decreased in real time from 5 years to 4 years
- Time limits for part-time PhD student (from an Honours Bachelor’s) increased in real time from 7 years to 12 years
- Time limits for part-time PhD student (from Master’s) increased in real time from 6 years to 8 years

Effective date: Winter 2016. The new regulations will apply to all students with one exception. Students who commenced a Master’s program on a part-time basis prior to Winter 2016 may apply the more generous previous time limits of five years.
Graduate Studies Academic Calendar

Enrolment and Time Limits

Residence Requirements - Graduate Programs

Residence is related to terms of enrolment and on-campus activity. It is calculated based on a student's enrolment status in their program (part-time or full-time). Additional enrolment information is provided below.

| Master's | • Normal: three terms of full-time enrolment (6 terms part-time) from an Honours Bachelor's degree  
|          | • Minimum: two terms of full-time enrolment (4 terms part-time) from an Honours Bachelor's degree |
| PhD      | • Normal: six terms of full-time enrolment from Master's degree, nine terms from Honours Bachelor's degree  
|          | • Minimum: four terms of full-time enrolment from Master's degree, six terms from Honours Bachelor's degree |

In exceptional cases, and on the recommendation of the Faculty, some or all of the residence requirements may be waived.

Enrolment

At the University of Waterloo the calendar year is divided into three academic terms known as Fall (September-December), Winter (January-April) and Spring (May-August). Graduate students normally enrol for the first time in September at the beginning of the Fall term. In some cases, a department permits new students to enrol in January or May. To enrol, a new student must have been issued a Letter of Acceptance by the Graduate Studies Office (GSO) which specifies the date for which enrolment is authorized.

Enrolment and Residence: On successful completion of each four-month period (Fall, Winter, Spring) students advance as follows:

- full-time students will advance at the rate of one term (1.0);
- part-time students will advance at the rate of one-half term (0.5);
- Inactive enrolment has a term value of 0.0.

Term Enrolment: Students will not be allowed to enrol after the government reporting date in a term (for relevant dates refer to the Calendar of Events & Academic Deadlines page). If they are not enrolled, students will not receive credit for course work completed up to that date and will have to apply for readmission to their program.

Enrolment and Time Limits (additional Program Time Limits information is provided below): Students who have enrolled and paid fees, but have reached the maximum time limits allowed for their program
must submit a Petition for Program Extension form to their department/Graduate Studies Office by the government reporting deadline of each applicable term (departments may have earlier deadlines). Students who fail to do so will be de-registered from their program. Once de-registered, students will be required to re-apply to the program.

Failure of students to arrange fees as required will cause their enrolment in Graduate Studies to lapse. It may be re-established only if an application for readmission is approved.

Students who are readmitted to a program must enrol for a minimum of one academic term.

**Continuous Enrolment**

A graduate student proceeding to a degree must maintain continuous enrolment, either active or inactive, in each successive term from the time of initial admission until the end of the term during which the requirements for the degree are completed. Students are responsible for ensuring that they enrol and arrange fees at the appropriate time each term (formal dates are available on the Finance website).

**Co-operative Work Terms**

Students on a work term must change enrolment status to part-time/work term. Students requesting a status change, must complete a Change of Enrolment Status/Voluntary Withdrawal Form.

Enrolment in a course is allowed with permission from the student's home department. Failure to maintain continuous enrolment will cause their registration in Graduate Studies to lapse (see the Co-Operative Education page for more information).

**Full-Time Off-Campus**

A student who is undertaking an internship, or other degree requirement where the activity requires the student to be away from campus for more than four weeks in an academic term shall enrol as full-time off-campus.

The student's supervisor/graduate officer/associate dean must advise her/him regarding intellectual property commitments, e.g., signing an agreement which may restrict a student's ability to publish their thesis or other program-related work.

Students requesting full-time off-campus status must complete a Change of Enrolment Status/Voluntary Withdrawal Form.

**Inactive Status**

All graduate students must maintain continuous enrolment until the completion of their program. In certain circumstances such as illness, maternity/parental leave, limited external research or work opportunity which is not related to their University of Waterloo program, or temporary financial difficulties for which the University cannot provide hardship funds, students may apply to the Associate
Dean (Graduate Studies) of their Faculty for inactive status (leave of absence). Students who have been granted inactive status for a term are not entitled to use the services of the University, including graduate supervision, for the duration of that term. Normally, inactive status is approved for a maximum of two consecutive terms (maternity leave up to three consecutive terms). Students who request more than two consecutive terms of leave because they have other commitments such as a full-time job or travel plans, should voluntarily withdraw from their program until they are prepared to resume their studies. In advance of voluntary withdrawal, students must discuss with their department any conditions which must be met upon their readmission to their program. Normally, students who have incomplete courses on their record are not eligible for inactive status.

Students requesting inactive status, must complete a Change of Enrolment Status/Voluntary Withdrawal Form.

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**Enrolment - International Students on Study Permits**

Students without valid Study Permits will not be allowed to enrol at the University of Waterloo. All international students admitted to graduate studies degree programs at the University of Waterloo must have a valid Study Permit issued by Citizenship and Immigration Canada (CIC). A copy of the Study Permit must be submitted to the Graduate studies Office (GSO) upon arrival at the University.

If a Study Permit expires prior to program completion, students must apply to CIC for renewal and submit a copy of the renewed Study Permit to the GSO (check the 'valid until' date on the Study Permit). Make sure you apply at least 30 days before your current permit expires. If your Study Permit expires and you have made an application to renew it, but have not had a decision yet, you can continue studying until you receive a decision. Proof of application for renewal must be submitted to the GSO to permit continuing enrolment.

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**Birth and Parental Leave**

Students wishing to take parental leave during their program of study may apply to change their status to inactive. Interested students should consult with their academic supervisor(s) and Department Graduate Coordinator prior to making such an application; where an external agency is involved as in the case of visa students or those holding external scholarships, such agencies should also be consulted.

Further information on Birth and Parental Leave can be found in the Graduate Studies Birth and Parental Leave Guidelines. Students who wish to apply for a Parental Leave Bursary should complete the application available on the Graduate Studies Office website.

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**Withdrawal**

Students who are unable to participate in their program of study for more than two consecutive terms should voluntarily withdraw from the program. Students who reapply to a program and are approved for readmission, will be required to enrol for a minimum of one full term, without tuition refund, to complete their program.
The Change of Enrolment Status/Voluntary Withdrawal Form is also available in department Graduate Offices and the Graduate Studies Office.

The University reserves the right to require a student to withdraw from a program for academic reasons.

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**Course Drop/Add Date**

During the first six weeks of term, students must drop or add graduate courses using Quest, the University of Waterloo's online student information system. For courses with enrolment restrictions, students must obtain permission through their Department Graduate Assistant.

Graduate students who wish to enrol in an undergraduate course may petition using a Drop/Add form, obtainable through their Department or the Graduate Studies Office. Signature of the instructor, supervisor and Department Graduate Officer are required.

After the first six weeks of term, students may not drop or add a course except by petition using the Drop/Add form, and only under exceptional circumstances with the signature of the instructor, supervisor, Department Graduate Officer and the Associate Dean (Graduate Studies) of their home Faculty.

These are Graduate Studies Office deadlines. Individual Faculties may have earlier deadlines. *(Please check with your Associate Dean's Office.)*

Courses may not be dropped or added, nor course status changed, after the examination period begins.

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**Retaking Graduate Courses**

Course selection by a graduate student is subject to approval from the academic department of the student's program. A graduate course may be retaken only once as a requirement for the degree and requires approval from the department and Faculty. The original course will be retained on the student's academic record and is normally counted for credit in the overall average for the program.

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**Enrolment vis-a-vis Completion of Degree Requirements**

Graduate students must enrol active, and pay appropriate fees plus incidentals, in each term in which they are engaged in course work, research, or thesis preparation including the term in which the completion of degree requirements is anticipated.

If a student plans to enrol in courses beyond the degree requirements, he/she must apply for non-degree admission for the term following the term of degree completion.

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**Program Time Limits**

The University Senate has set the following program time limits:
<table>
<thead>
<tr>
<th>Program Type</th>
<th>Time Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master's (full-time)</td>
<td>6.0 terms (2 years)</td>
</tr>
<tr>
<td>Master's (extra-mural programs and programs in which the students are proceeding to a degree totally on a part-time basis)</td>
<td>15 terms (5 years)</td>
</tr>
<tr>
<td>PhD (full-time) from an Honours Bachelor's</td>
<td>18.0 terms (6 years)</td>
</tr>
<tr>
<td>PhD (full-time) from a Master's</td>
<td>12.0 terms (4 years)</td>
</tr>
<tr>
<td>PhD (full-time) from an MA (Clinical Psychology)</td>
<td>15.0 terms (5 years)</td>
</tr>
<tr>
<td>PhD (programs in which the students are proceeding to a degree totally on a part-time basis) from an Honours Bachelor's</td>
<td>21 terms (7 years)</td>
</tr>
<tr>
<td>PhD (programs in which the students are proceeding to a degree totally on a part-time basis) from a Master's</td>
<td>18 terms (6 years)</td>
</tr>
</tbody>
</table>

The number of terms specified in these time limits applies regardless of whether the student is enrolled full-time or part-time.

Up to 3.0 three terms' extension of these time limits may be obtained by petitioning the Graduate Officer of the Department. Further extensions must be approved by the Associate Dean (Graduate Studies) of the Faculty. A Petition for Extension of Program Time Limit Form may be obtained from department graduate offices or through the GSO website. If the Petition is not approved, the student will be discontinued from their program. If students fail to submit a Petition approved by the government reporting date of each term (departments may have earlier deadlines) the close of Registration (Fall – September 30, Winter – January 30, Spring – May 30), they will be discontinued from their program and must reapply.

* For the purposes of these time limits a term is counted as 1.0 per term of full-time enrollment, and 0.5 per term of part-time enrollment. One enrolment session, i.e., one term = one enrolment session regardless of full-time or part-time status.
Senate Undergraduate Council met on 10 November 2015, and considered a proposal for new articulation agreements. Council agreed to forward the following item to Senate for approval. Council recommends this item be included in the regular agenda.

Further details are available at: uwaterloo.ca/secretariat/committees-and-councils/senate-undergraduate-council

FOR APPROVAL

► Faculty of Science
Articulation Agreements

1. **Motion:** To approve two articulation agreements with Conestoga College as presented in Attachment #1.

   **Rationale:** These articulation agreements outline the admission, progression and transfer credit requirements between the two institutions. Upon signing of the agreements, calendar text will be forthcoming.

   Mario Coniglio
   Associate Vice-President, Academic

/mg
Articulation Agreement
between
Conestoga College Institute of Technology and Applied Learning
School of Health & Life Sciences and Community Services
Kitchener, Ontario, Canada

and

University of Waterloo
Faculty of Science
Waterloo, Ontario, Canada

Conestoga College and University of Waterloo have developed this articulation agreement (the “Agreement”) with the purpose of facilitating the educational mobility and transfer of students between Conestoga College and University of Waterloo.

Conestoga College and University of Waterloo enter into this Agreement as cooperating, equal partners who shall maintain the integrity of their separate programs while working to ensure a smooth curriculum transition for interested students.

In this Agreement, the following terms shall have the following meanings:

“Waterloo” shall mean the University of Waterloo;
“Conestoga” shall mean Conestoga College Institute of Technology and Applied Learning.

Article I
Organization Information

Participating Organizations
Conestoga
School of Health & Life Sciences and Community Services
• Biotechnology Technician (Diploma)

Waterloo
Faculty of Science
• Honours Bachelor of Science in Biology
• Honours Bachelor of Science in Biomedical Sciences

Term of Agreement
This Agreement shall be effective from the date of signing, and shall terminate on 30 June 2018, unless renewed in accordance with the following paragraph.

Terms for Renewal or Cancellation
This agreement will be reviewed annually in March to ensure no program changes have occurred that may affect the accuracy of this agreement. Beginning in March 2018, and in March every three years thereafter for which this Agreement has been extended
pursuant to this paragraph, Conestoga and Waterloo will enter discussions to review performance pursuant to this Agreement. As a result of these discussions, the parties may agree to extend this Agreement for an additional three years, beginning on 1 July of the then current year and terminating on 30 June of the third year thereafter. Such extension of this Agreement may be done with or without amendment. If no agreement is reached on extension of this Agreement by 15 June of the then current year, then this Agreement shall terminate on 30 June of the then current year.

Any amendments to and renewals of this Agreement shall be done with a view to the integrity of each party’s academic programs, as well as to improve the processes and student articulation contemplated by this Agreement, with a view overall to student success.

The parties agree that in the event of termination of this Agreement, those students participating in the program will have the opportunity to complete it fully.

Curriculum and Policy Changes
Conestoga and Waterloo agree to communicate any curriculum changes or policies annually during the time of review referred to above, which may affect the agreed upon relationship. Such curriculum or policy changes will be considered during discussions at the time this Agreement is reviewed, as referred to above.

Articulation Agreement Contacts
Sacha Burrows
Conestoga College Institute of Technology and Applied Learning
299 Doon Valley Drive
Kitchener, Ontario, N2G 4M4
Phone: 519-748-5220 ext 2344
Email: sburrows@conestogac.on.ca

Heather O’Leary, Manager, College and University Partnerships
University of Waterloo
200 University Avenue West
Waterloo, Ontario, N2L 3G1
Phone: 519-888-4567 Ext. 36024
Email: heather.oleary@uwaterloo.ca

Article II
Agreement Information

Purpose
This Agreement will create an articulated transfer pathway for students by blending a Bachelor of Science (BSc) undergraduate degree in Biology (non-specialized) and Biomedical Sciences in the Faculty of Science at Waterloo with a Biotechnology Technician Diploma (Fast-track) in the School of Health & Life Sciences and Community Services at Conestoga.
This Agreement will provide opportunities for Waterloo students to gain practical applied skills to complement their university studies, while enhancing the classroom “mix” in the Conestoga’s program. This opportunity will minimize duplication of content and permit the completion of both the degree and diploma in minimum time.

A typical progression through this articulated transfer pathway for Waterloo Regular and Co-op students would be as follows:

### Honours Biology Progression

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term:</td>
<td>F</td>
<td>W</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>REGULAR</td>
<td>Wat BIOL</td>
<td>Wat BIOL</td>
<td>Off</td>
<td>Wat BIOL</td>
</tr>
<tr>
<td>Academic term:</td>
<td>1A</td>
<td>1B</td>
<td>2A</td>
<td>2B</td>
</tr>
<tr>
<td>Units per term:</td>
<td>3.0</td>
<td>2.75</td>
<td>3.0</td>
<td>2.75</td>
</tr>
<tr>
<td>Units total:</td>
<td>3.0</td>
<td>5.75</td>
<td>8.75</td>
<td>11.5</td>
</tr>
</tbody>
</table>

*Important Note for Waterloo Co-op Students: Students must maintain communication with Co-operative Education at Waterloo during the Conestoga Winter term to ensure they are able to participate in job searches and placements for their 2nd work term in the subsequent Spring term (following Conestoga College terms). Co-op students should also note that this plan only accommodates four work terms (the minimum number of satisfactory work term reports required for graduation is four).*

### Honours Biomedical Sciences Progression

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term:</td>
<td>F</td>
<td>W</td>
<td>S</td>
<td>F</td>
<td>W</td>
</tr>
<tr>
<td>CO-OP</td>
<td>Wat BIOL</td>
<td>Wat BIOL</td>
<td>Off</td>
<td>Wat BIOL</td>
<td>Co-op</td>
</tr>
<tr>
<td>Academic term:</td>
<td>1A</td>
<td>1B</td>
<td>2A</td>
<td>2B</td>
<td>2.5 units of transfer credit (BIOL 3XX (1.5 unit), BIOL 433, CHEM 228)</td>
</tr>
<tr>
<td>Units per term:</td>
<td>3.0</td>
<td>2.75</td>
<td>3.0</td>
<td>2.75</td>
<td>2.5</td>
</tr>
<tr>
<td>Units total:</td>
<td>3.0</td>
<td>5.75</td>
<td>8.75</td>
<td>11.5</td>
<td>14.0</td>
</tr>
</tbody>
</table>

**Admission and Progression Requirements**

1. Waterloo students would enroll in the Honours BSc degree program in Regular or Co-op Biology or Regular Biomedical Sciences.
2. Admission to the Conestoga 1-year program requires the student be in satisfactory standing in their program (60% for Honours Biology; 65% for
Honours Biomedical Sciences). Students must also have no fails or incompletes in any courses in order to be admitted to the Conestoga program. Admission is competitive. A minimum average does not guarantee admission to the Conestoga program.

3. Waterloo Regular and Co-op students would transfer to Conestoga after their fourth academic term. The application for admission to the diploma program should be made during the second term (normally Winter) of the second year. Students will begin studies during the start of Conestoga’s academic year in the fall term and complete the one-year Biotechnology Technician Diploma.

4. Students must take BIOL 241 (Applied Microbiology) in their 2B term before beginning their studies at Conestoga.

5. After completing the diploma program successfully, the student would then return to Waterloo. Should the student not achieve the Conestoga diploma, transfer credits will be considered on an individual basis for courses with a minimum grade of 75%.

6. The Degree and Diploma would be presented at Waterloo’s convocation ceremony to the graduates. All requirements of both the student’s Waterloo program and the Conestoga diploma must be completed before either will be conferred.

7. The program opportunities will be advertised in the respective University and College promotional materials.

**Transfer Credits**

Transfer credits will be awarded for the successful completion of the Conestoga Diploma as outlined below:

<table>
<thead>
<tr>
<th>Level</th>
<th>Conestoga Course Code</th>
<th>Conestoga Course Name</th>
<th>Credits</th>
<th>Lecture Hours</th>
<th>Lab Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>BIOT 1070</td>
<td>Microbiology for Biotechnology</td>
<td>4</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>3</td>
<td>BIOT 1090</td>
<td>Agricultural and Food Biotechnology</td>
<td>2</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>BIOT 2090</td>
<td>Plant Cell Biotechnology</td>
<td>4</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>1</td>
<td>BIOT 1020</td>
<td>Current Trends in Biotechnology</td>
<td>3</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>BIOT 2030</td>
<td>Statistics for Life Sciences</td>
<td>3</td>
<td>30</td>
<td>15</td>
</tr>
<tr>
<td>3</td>
<td>BIOT 2120</td>
<td>Life Sciences Research Project I</td>
<td>2</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>BIOT 2040</td>
<td>Laboratory Skills for Biotechnology</td>
<td>3</td>
<td>0</td>
<td>45</td>
</tr>
<tr>
<td>4</td>
<td>BIOT 2100</td>
<td>Professionalism and Ethics for Life Sciences</td>
<td>3</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>BIOT 2025</td>
<td>Applied Molecular Biology</td>
<td>3</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td>4</td>
<td>BIOT 2070</td>
<td>Immunology</td>
<td>3</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td>4</td>
<td>BIOT 2065</td>
<td>Fermentation and Industrial Processes</td>
<td>3</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td>4</td>
<td>BIOT 2015</td>
<td>Applied Analytical Chemistry</td>
<td>4</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>2</td>
<td>BIOT 2115</td>
<td>Quality Management Practices</td>
<td>2</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>BIOT 2130</td>
<td>Life Sciences Research Project II</td>
<td>2</td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL WATERLOO UNITS TRANSFERRED:** BIOL 3XX = 1.5 units, BIOL 433 (0.5 unit), CHEM 228 (0.5 unit)
Article III
Communication and Marketing

Academic Regulations
Participating students must comply with the regulations of the university at which they are resident, including those governing academic and non-academic misconduct, and the ethical conduct of research. Acts of misconduct at Conestoga will be reported back to Waterloo.

Communication
Conestoga will designate an individual who will be responsible for the ongoing communication and monitoring of this Agreement at Conestoga. Waterloo will designate an individual responsible for this Agreement at Waterloo.

Positioning
Opportunities pursuant to this Agreement will be advertised in the respective University and College promotional materials.

Each party will obtain the other’s consent before issuing any official media releases and/or marketing or promotional materials relating to this Agreement and/or incorporating the other party’s name or logo(s).
Signatories

This agreement will commence the date of signing. The signatories hereby warrant that they have express and sufficient authority to execute this Agreement on behalf of the institutions on whose behalf they have signed.

<table>
<thead>
<tr>
<th>For Conestoga College</th>
<th>For University of Waterloo</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dean, Faculty of Science
University of Waterloo

Dr. Ian Orchard
Vice-President Academic & Provost
University of Waterloo

Date
Date
Articulation Agreement
between
Conestoga College Institute of Technology and Applied Learning
School of Health & Life Sciences and Community Services
Kitchener, Ontario, Canada

and

University of Waterloo
Faculty of Science
Waterloo, Ontario, Canada

Conestoga College and University of Waterloo have developed this articulation agreement (the “Agreement”) with the purpose of facilitating the educational mobility and transfer of students between Conestoga College and University of Waterloo.

Conestoga College and University of Waterloo enter into this Agreement as cooperating, equal partners who shall maintain the integrity of their separate programs while working to ensure a smooth curriculum transition for interested students.

In this Agreement, the following terms shall have the following meanings:

“Waterloo” shall mean the University of Waterloo;
“Conestoga” shall mean Conestoga College Institute of Technology and Applied Learning.

Article I
Organization Information

Participating Organizations
Conestoga
School of Health & Life Sciences and Community Services
  • Biotechnology Technician 2-Year (Diploma)

Waterloo
Faculty of Science
  • Honours Bachelor of Science in Biology
  • Honours Bachelor of Science in Biomedical Sciences

Term of Agreement
This Agreement shall be effective from the date of signing, and shall terminate on 30 June 2018, unless renewed in accordance with the following paragraph.

Terms for Renewal or Cancellation
This agreement will be reviewed annually in March to ensure no program changes have occurred that may affect the accuracy of this agreement. Beginning in March 2018, and in March every three years thereafter for which this Agreement has been extended
pursuant to this paragraph, Conestoga and Waterloo will enter discussions to review performance pursuant to this Agreement. As a result of these discussions, the parties may agree to extend this Agreement for an additional three years, beginning on 1 July of the then current year and terminating on 30 June of the third year thereafter. Such extension of this Agreement may be done with or without amendment. If no agreement is reached on extension of this Agreement by 15 June of the then current year, then this Agreement shall terminate on 30 June of the then current year.

Any amendments to and renewals of this Agreement shall be done with a view to the integrity of each party’s academic programs, as well as to improve the processes and student articulation contemplated by this Agreement, with a view overall to student success.

The parties agree that in the event of termination of this Agreement, those students participating in the program will have the opportunity to complete it fully.

Curriculum and Policy Changes
Conestoga and Waterloo agree to communicate any curriculum changes or policies annually during the time of review referred to above, which may affect the agreed upon relationship. Such curriculum or policy changes will be considered during discussions at the time this Agreement is reviewed, as referred to above.

Articulation Agreement Contacts
Sacha Burrows
Conestoga College Institute of Technology and Applied Learning
299 Doon Valley Drive
Kitchener, Ontario, N2G 4M4
Phone: 519-748-5220 ext 2344
Email: sburrows@conestogac.on.ca

Heather O’Leary, Manager, College and University Partnerships
University of Waterloo
200 University Avenue West
Waterloo, Ontario, N2L 3G1
Phone: 519-888-4567 Ext. 36024
Email: heather.oleary@uwaterloo.ca

Article II
Agreement Information

Purpose
This Agreement will create an articulated transfer pathway for students who have completed a Biotechnology Technician Diploma (2-year) in the School of Health & Life Sciences and Community Services at Conestoga into the Honours Regular or Co-Op Biology or Honours Regular Biomedical Sciences program in the Faculty of Science at Waterloo.

This opportunity will minimize duplication of content and permit the completion of both the degree and diploma in minimum time.
A typical progression through this articulated transfer pathway for Waterloo Regular and Co-op students would be as follows:

### Honours Biology Regular Progression

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program:</td>
<td>Conestoga BIOT Off</td>
<td>Conestoga BIOT Off</td>
<td>Waterloo SCI Off</td>
<td>Waterloo SCI Off</td>
<td>Waterloo SCI Off</td>
</tr>
<tr>
<td>Academic term:</td>
<td>F W</td>
<td>F W</td>
<td>2A 2B</td>
<td>3A 3B</td>
<td>4A 4B</td>
</tr>
<tr>
<td>Units per term:</td>
<td></td>
<td></td>
<td>2.75 2.75</td>
<td>2.5 2.5</td>
<td>2.5 2.5</td>
</tr>
<tr>
<td>Unit Totals:</td>
<td></td>
<td></td>
<td>8.75 11.5</td>
<td>14.0 16.5</td>
<td>19.0 21.5</td>
</tr>
</tbody>
</table>

### Honours Biology Co-op Progression

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program:</td>
<td>Conestoga BIOT Off</td>
<td>Conestoga BIOT Off</td>
<td>Waterloo SCI Co-op</td>
<td>Waterloo SCI Co-op</td>
<td>Waterloo SCI Co-op</td>
<td>Waterloo SCI Off</td>
</tr>
<tr>
<td>Academic term:</td>
<td>F W</td>
<td>F W</td>
<td>2A W</td>
<td>2B F</td>
<td>3A S</td>
<td>3B W S</td>
</tr>
<tr>
<td>Units per term:</td>
<td></td>
<td></td>
<td>2.75 2.75</td>
<td>2.5 2.5</td>
<td>2.5 2.5</td>
<td>2.5 2.5</td>
</tr>
<tr>
<td>Unit Totals:</td>
<td></td>
<td></td>
<td>8.75 11.5</td>
<td>14.0 16.5</td>
<td>19.0 21.5</td>
<td></td>
</tr>
</tbody>
</table>

### Honours Biomedical Sciences Regular Progression

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program:</td>
<td>Conestoga BIOT Off</td>
<td>Conestoga BIOT Off</td>
<td>Waterloo SCI Off</td>
<td>Waterloo SCI Off</td>
<td>Waterloo SCI Off</td>
</tr>
<tr>
<td>Academic term:</td>
<td>F W</td>
<td>F W</td>
<td>2A 2B</td>
<td>3A 3B</td>
<td>4A 4B</td>
</tr>
<tr>
<td>Units per term:</td>
<td></td>
<td></td>
<td>3.0 3.25</td>
<td>2.75 2.75</td>
<td>2.5 2.5</td>
</tr>
<tr>
<td>Unit Totals:</td>
<td></td>
<td></td>
<td>9.0 12.25</td>
<td>15.0 17.75</td>
<td>20.25 22.75</td>
</tr>
</tbody>
</table>

### Admission and Transfer Credit Requirements

This agreement recognizes that a student who has completed a diploma at Conestoga in Biotechnology Technician (2-year) with a minimum average of 75% and presenting all admission requirements will be eligible for admission and transfer credits.

Conestoga graduates will be considered in the same applicant pool as internal transfer students and external transfer students, but will be given preferential consideration over
all other college programs where transfer credit agreements do not exist. Each student’s transcript will be assessed individually.

This agreement recognizes the high quality of courses that Conestoga students currently take, and the confidence the University of Waterloo has in considering Conestoga graduates for admission.

Transfer credit will be awarded for courses (listed below) in which a minimum grade of 70% has been achieved.

**Transfer Credits**

Transfer credits will be awarded for the successful completion of the Conestoga Biotechnology Technician Diploma (2-year) wherein a minimum final course grade of 70% is achieved in each of the following 11 Conestoga courses.

<table>
<thead>
<tr>
<th>Conestoga Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOT 1020</td>
<td>Current Trends in Biotechnology</td>
</tr>
<tr>
<td>BIOT 1040</td>
<td>Introduction to Microbiology</td>
</tr>
<tr>
<td>CHEM 1050</td>
<td>Introductory Chemistry</td>
</tr>
<tr>
<td>BIOT 1055</td>
<td>Introductory Analytical Chemistry</td>
</tr>
<tr>
<td>BIOT 1083</td>
<td>Organic Chemistry</td>
</tr>
<tr>
<td>BIOT 1110</td>
<td>Introduction to Molecular Biology</td>
</tr>
<tr>
<td>BIOT 1035</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>BIOT 1070</td>
<td>Microbiology for Biotechnology</td>
</tr>
<tr>
<td>BIOT 2015</td>
<td>Applied Analytical Chemistry</td>
</tr>
<tr>
<td>BIOT 2070</td>
<td>Immunology</td>
</tr>
<tr>
<td>BIOT 2025</td>
<td>Applied Molecular Biology</td>
</tr>
</tbody>
</table>

The Transfer Credits will be awarded as follows:

<table>
<thead>
<tr>
<th>UW Course Code</th>
<th>Course Title</th>
<th>Value (in credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 130</td>
<td>Introductory Cell Biology</td>
<td>0.5</td>
</tr>
<tr>
<td>BIOL 239</td>
<td>Genetics</td>
<td>0.5</td>
</tr>
<tr>
<td>BIOL 240</td>
<td>Fundamentals of Microbiology</td>
<td>0.5</td>
</tr>
<tr>
<td>BIOL 240L</td>
<td>Microbiology Laboratory</td>
<td>0.25</td>
</tr>
<tr>
<td>BIOL 241</td>
<td>Introduction to Applied Microbiology</td>
<td>0.5</td>
</tr>
<tr>
<td>BIOL 2XX</td>
<td>Miscellaneous Biology</td>
<td>1.0</td>
</tr>
<tr>
<td>CHEM 120/120L</td>
<td>Physical and Chemical Properties of Matter + Lab</td>
<td>0.75</td>
</tr>
<tr>
<td>CHEM 123/123L</td>
<td>Chemical Reactions, Equilibria, Kinetics + Lab</td>
<td>0.75</td>
</tr>
<tr>
<td>CHEM 2XX</td>
<td>Miscellaneous Chemistry</td>
<td>0.5</td>
</tr>
<tr>
<td>CHEM 266L</td>
<td>Organic Chemistry Lab</td>
<td>0.25</td>
</tr>
<tr>
<td>CHEM 228</td>
<td>Chemical Analysis</td>
<td>0.5</td>
</tr>
</tbody>
</table>

**Total:** 6.0 units
Article III
Communication and Marketing

Communication
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For Conestoga College

For University of Waterloo

________________________________________

________________________________________

Dean, Faculty of Science
University of Waterloo

Dr. Ian Orchard
Vice-President Academic & Provost
University of Waterloo

Date

Date
University of Waterloo
Report of the Vice-President, University Research
18 January 2016

Tri-agency

- Waterloo had one applicant invited to the second stage of the CIHR foundation grants, of 12 Waterloo applicants – there is significant concern among professoriate and university leaders at Waterloo and other institutions as to the direction the CIHR reforms are taking. An Institutional response to CIHR is planned early 2016.
- We have been informed that the Tri-Agency will be performing a Monitoring Review in Fall 2016 (date to be determined). Typically they review institutions every 6 years and we last had a full review in 2009.

Chief Ethics Officer Report

- Waterloo has successfully negotiated collaborative ethics review agreements with the following institutions: Western University, WLU, Grand River Hospital, St. Mary’s Hospital, Cambridge Memorial Hospital, Conestoga College Institute of Technology and Advanced Learning. It means one application form, one set of feedback and one clearance certificate. It will apply to both social science and health research and extends to both minimal risk and above minimal risk research. It also includes post approval events e.g. adverse events, incidental findings, protocol deviations.
- As a result of the recent increase in number of “first in class” research protocols involving unregulated medical devices or researcher invented equipment which are not regulated by Health Canada, the OR initiated discussions with the Safety Office and a working group of uW researchers concerning how to provide better institutional support for researchers required to provide risk information to RECs (who are often students developing these devices or equipment as part of unfunded class projects or entrepreneurial activities) to both minimize delays and ensure appropriate levels of institutional oversight are in place.
- Working with representatives engaged in entrepreneurial activity, developed a new guideline which clearly differentiates between course based research which requires ethics review and professional skill development or entrepreneurial activities which do not.
- Initiated discussions to clarify compliance obligations via “Role of the PI” working group. First draft almost complete.
- January 2016 expected completion of Phase 3 of Central Animal Facility.

WatCo

- Ontario Audit General Activity
  - Formal report published on Dec. 2, 2015 and sent to President. Main recommendations targeted at some administrative changes to WatCo information documentation collection, addressing lack of institutional IP data collection and lack of institutional mechanism to collect R&D and commercialization impact metrics.
- Policy 73 – IP Reporting Tool
  - Prototype IP reporting tool was tested with selected faculty members and reviewed by FAUW representative. Based on feedback the reporting tool underwent revisions. Reporting tool is now “live” and faculty have begun completing as part of annual performance review process.
- NSERC – I2I project funded: Pixel Circuit with the Compensation of Threshold Voltage Shift for AMOLED Displays (William Wong and Manoj Sachdev – E&CE), $125k.
- AC Jumpstart Partnership with WatCo
  - Third cohort of AC Jumpstart (FedDev funded and partially co-funded by uW) companies funded; 4 funded of 26 applications.
  - Cohort #1 recipient Voltera (product: lost cost table top printed circuit board “printer”) was the winner of the James Dyson Award ($45k USD plus $7.5k to the University).
Waterloo International

- 3 awarded projects totaling $971,635.
- 3 proposals submitted totaling $1,534,384.
- International Research Partnership Grants (IRPG) Update: Since 2011 the program has invested $860,000 in 56 projects. To date, the program has leveraged $1.3M in matching cash contributions and generated another $2.3M by IRPG partners and in addition, Waterloo researchers have been awarded $4.3M in new grants. Additional spin-offs include: 134 new partnerships, 127 publications, 175 national and international workshops, 49 new technological innovations, 10 spin-off and start-up companies and 5 patents.

Reminder: Next “Research Talks” scheduled for February 18, 12:00 pm in DC 1302; Ian Goldberg presenting.

D. George Dixon