Date: Monday 23 March 2015  
Time: 3:30 p.m.  
Place: Needles Hall, Room 3001

<table>
<thead>
<tr>
<th>Time</th>
<th>Agenda Item</th>
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<tbody>
<tr>
<td>3:30</td>
<td>Open Session</td>
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<tr>
<td>3:35</td>
<td>Consent Agenda</td>
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<tr>
<td>3:35</td>
<td><strong>Motion:</strong> To approve or receive for information by consent items 2-6 below.</td>
<td>Declaration</td>
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<tr>
<td>3:35</td>
<td>1. Minutes of the 23 February 2015 Meeting</td>
<td>Decision</td>
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<tr>
<td>3:40</td>
<td>Regular Agenda</td>
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<td>3:40</td>
<td>7. Business Arising from the Minutes</td>
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<td>3:45</td>
<td>8. The Water Institute Presentation – Bob Gillham, Executive Director</td>
<td>Information</td>
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<tr>
<td>3:55</td>
<td>9. Reports from Committees and Councils</td>
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<tr>
<td>3:55</td>
<td>a. Amit &amp; Meena Chakma Awards for Exceptional Teaching by a Student Committee [to be distributed]</td>
<td>Information</td>
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<tr>
<td>4:00</td>
<td>b. Distinguished Teacher Award Committee [to be distributed]</td>
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<td>4:05</td>
<td>c. Executive Committee</td>
<td>First Reading/Information</td>
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<td>4:15</td>
<td>d. Finance Committee [to be distributed]</td>
<td>Decision</td>
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<tr>
<td>4:35</td>
<td>e. Graduate &amp; Research Council</td>
<td>Decision</td>
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<td>f. Undergraduate Council</td>
<td>Decision</td>
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<td>4:55</td>
<td>10. Report of the President</td>
<td>Information</td>
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<td>5:05</td>
<td>11. Q&amp;A Period with the President</td>
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<tr>
<td>5:20</td>
<td>a. University Professor Designations</td>
<td>Information</td>
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<td>5:20</td>
<td>b. Course Evaluation Project</td>
<td>Information</td>
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<td>5:20</td>
<td>c. Undergraduate Admissions Update</td>
<td>Information</td>
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<tr>
<td>5:30</td>
<td>13. Report of the Vice-President, University Research</td>
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<tr>
<td>5:40</td>
<td>14. Report of the University Librarian</td>
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<tr>
<td>5:50</td>
<td>15. Other Business</td>
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<td>5:55</td>
<td><strong>CONFIDENTIAL SESSION</strong></td>
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<tr>
<td>6:00</td>
<td>16. Conflict of Interest</td>
<td>Declaration</td>
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<tr>
<td>6:05</td>
<td>17. Minutes of the 23 February 2015 Meeting</td>
<td>Decision</td>
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<td></td>
<td>18. Business Arising from the Minutes</td>
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<tr>
<td>6:10</td>
<td>19. Reports from Nominating Committees</td>
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<tr>
<td>6:20</td>
<td>a. Honorary Degrees</td>
<td>Decision</td>
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<td>6:30</td>
<td>b. Dean of Applied Health Science [to be distributed]</td>
<td>Decision</td>
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<td></td>
<td>c. Dean of Environment [to be distributed]</td>
<td>Decision</td>
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<td>6:40</td>
<td>20. Other Business</td>
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JLA:ta
9 March 2015

Logan Atkinson
University Secretary & General Counsel
Secretary to Senate
University of Waterloo  
SENATE  
Minutes of the Monday 23 February 2015 Meeting


Guests: Steven Amirikah, Nello Angerilli, Sanjeev Bedi, Barb Blundon, Mario Coniglio, Mahejabeen Ebrahim, Donna Ellis, Stéphane Hamade, James Koo, Nick Manning, Ellen Réthoré, Daniela Seskar-Hencic, Allan Starr, Marilyn Thompson, Bud Walker, Dave Wallace

Secretariat & Office of General Counsel: Logan Atkinson, Tracy Dietrich


*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.

OPEN SESSION

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

Consent Agenda
   Senate heard a motion to approve or receive for information by consent items 2-6 below.

2. MINUTES OF THE 19 JANUARY 2015 MEETING
   Senate approved the minutes of the meeting as distributed.

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
   • Undergraduate Admission Requirements. Senate approved the undergraduate admission requirements for 2016 as provided in the report.

   The remaining items in the report were received for information.
4. REPORT OF THE PRESIDENT
Honorary Degrees and Convocation Speakers. Senate received notice of the call for nominations.

Recognition and Commendation. Senate received the report for information.

5. REPORT OF THE ASSOCIATE PROVOST, GRADUATE STUDIES
Early Issuance of Graduate Degree. Senate received the report for information.

6. REPORTS FROM THE FACULTIES AND RENISON UNIVERSITY COLLEGE
Senate received the reports for information.

Hamdullahpur and Busch. Carried.

Regular Agenda

7. BUSINESS ARISING FROM THE MINUTES.
Professional Accreditation. Orchard advised that the question of professional accreditation of programs was referred to the Executive Committee for advice. The Executive Committee decided to request input from each of the six deans on the involvement of professional bodies on programs in their faculties. The request has been made to the deans, and a report will be coming forward in due course.

8. TEACHING PRESENTATION
Coniglio introduced Sanjeev Bedi, professor of mechanical & mechatronics engineering. Bedi provided a presentation on “Integrative Learning, the Mechatronics Experience.”

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

9. REPORTS FROM COUNCILS
Graduate and Research. Senate heard a motion to the following effects:
- Economics, Faculty of Arts. To approve the proposed removal of the Thesis Option in the Master of Arts in Economics plan.
- Sociology, Faculty of Arts. To approve changes to the doctoral plan in sociology as presented in the report.
- Management Sciences, Faculty of Engineering. To approve changes to the Master of Applied Science, Master of Management Science and doctoral plans in management sciences as provided in the report.
- Geography and Environmental Management, Faculty of Environment. To approve changes to the Master of Climate Change plan as provided in the report.

Frank and Andrey. Carried.

Senate heard a motion to the following effects:
- Classical Studies, Faculty of Arts. To approve the proposed deactivation of the Master of Arts in Ancient Mediterranean Cultures plan.
- Civil and Environmental Engineering, Faculty of Engineering. To approve the proposed deactivation of the Master of Engineering in Infrastructure Systems plan.

Frank and Peers. Carried.
Undergraduate

- Calendar Dates. Senate heard a motion to approve the 2015-16 calendar dates as provided in the report.

Darling and Ramdev.

Following discussion of the way in which the dates are presented on the chart, it was heard that the chart would be amended accordingly.

There was discussion of the benefits of pre-examination study days, focusing on the possibility of harmonizing the winter and spring terms for purposes of vacation days. The matter will be referred to the Undergraduate Operations Committee for consideration.

The motion carried.

The remaining item in the report was received for information.

10. REPORT OF THE PRESIDENT

Hamdullahpur presented a wide ranging report, including: comments on the NSERC awards reception where Chris Eliasmith, professor in the Departments of Philosophy and Systems Design Engineering and the Cheriton School of Computer Science, received the John C. Polanyi Award (the only one awarded this year). David Blowes, professor in the Department of Earth and Environmental Sciences, received the Synergy Award for Innovation. Michael MacTavish from the Faculty of Environment received the André Hamer Postgraduate Prize, awarded to the most outstanding candidate in NSERC’s doctoral scholarship competition. Senate joined the president in acknowledging these significant accomplishments.

The president mentioned the recent CBC report on sexual assault on campus. The issue is a challenging one, and there were some methodological errors in the reporting. We are providing proper policy and prevention measures, and will continue to work on this. The director of equity, Mahejabeen Ebrahim, reported on the activities of the Provost’s Advisory Committee on Equity, and its working group on sexual violence awareness, prevention and education. The working group will meet regularly, consider things happening at other campuses, do an initial gap analysis, and come to an understanding of best practices.

Hamdullahpur noted a strong desire among faculty and students to be in an interdisciplinary environment, and we will continue to work toward doing this better. Under George Dixon’s leadership, we are doing a brown bag luncheon series to explore greater interdisciplinary opportunities.

11. Q&A PERIOD WITH THE PRESIDENT

There was no questions.

12. REPORT OF THE VICE-PRESIDENT, ACADEMIC & PROVOST

2014-15 Operating Budget Update and the 2015-16 Budget Plan. Orchard provided an update on the status of the current budget, indicating a projected deficit of approximately $1.9 million. He summarized the planning assumptions for the 2015-16 cycle.

A question was raised about increases in supplies expense as a possible source of the current year deficit. Orchard replied that the supplies expense is not as easily interpreted as it may appear. Orchard was asked about how faculties implement a 3% cut, and whether such a cut emerges in reduced support for core activities in the faculties. He replied by saying that the faculties rely on carry forwards to fund certain things, and some of the cut would have flowed back to fund new initiatives. In response to a question, Orchard advised that a greater focus on international recruitment will assist
with revenue generation. He also advised that about 35-40% of total expenses relate to non-academic units.

The budget for 2015-16 is built on the old model. The new resource allocation model will come to Senate and the Board of Governors for information. There will be no piloting of this model *per se*, but there will be reviews made along the way to see whether adjustments ought to be made, probably three or so years out. This model is very similar to what has been implemented at many other universities across Canada and in the United States. Many presentations have been made to members of the community, including Senate, to educate constituencies. The drivers, about 13 or 15 in all, have essentially been established. Orchard agreed to provide a list of the drivers to Senate.

In graduate enrolment, we are under our targets in both master’s and doctoral programs, and the group looking at strategic enrolment management will be considering this very seriously going forward.

Slides used in the presentation may be seen at: https://uwaterloo.ca/secretariat-general-counsel/sites/ca.secretariat-general-counsel/files/uploads/files/20150223_budget.pdf

Undergraduate Applications and Admissions Update. Darling presented the report on undergraduate applications and admissions for the coming cycle, advising that we are on track to meet our fall 2015 admissions target. He was asked whether growth in business schools provincially is affecting recruitment to our non-business programs. He responded by saying that the movement away from the Faculty of Arts predominantly has sent students to the STEM disciplines and business schools. In response to a question on how the “x and business” programs translate into recruitment possibilities, Darling advised that the demand for these programs in higher than our capacity to accept students, and the interest in business schools is starting to flatten. But a strategy must be developed to capitalize on our strengths in business education, and the associate vice-president, academic is undertaking this work now.

Slides used in the presentation may be seen at: https://uwaterloo.ca/secretariat-general-counsel/sites/ca.secretariat-general-counsel/files/uploads/files/20150223_admissions.pdf

13. REPORT OF THE VICE-PRESIDENT, UNIVERSITY RESEARCH
Dixon reported that Geoff Fong, professor in the Department of Psychology, will receive the Luther R. Terry Award from the American Cancer Society for outstanding contribution on a global basis for work in the field of tobacco control. Philippe Van Cappellen in the Department of Earth and Environmental Sciences has received the 2015 Science Innovation Award from the European Association of Geochemistry, and Brian Dixon in the Department of Biology has won the 2015 Robert Arnold Wardle Award from the Canadian Society of Zoologists.

Dixon advised that discussions on restructuring of the CIHR funding council is causing some concerns in the research community.

There is an attempt underway to harmonize standards for research ethics boards to allow for streamlining of project approvals where multi-institutional researchers are involved. The University of Waterloo has been fully accredited, the fourth university in Ontario to receive accreditation and the first without a medical school. There is a movement in the same direction with clinical research ethics boards, although this works through a formal certification process.

14. WEATHER CLOSING GUIDELINES
Orchard summarized the judgment involved in making the decision on 2 February 2015. The campus was accessible, although we continue to look at our capabilities, and a plan will come forward from Huber soon in this respect. The recent decision was made in keeping with the guideline that was reviewed and updated in 2014. It is a judgment call, and it is not likely that tying us to the school
board (which has a different constituency and other considerations) will change the criteria on which our judgment is exercised. Senators offered several comments, including: support for the decision, but a need for better campus preparation; concern over accessibility inside the Ring Road, with mobility issues and with snow removal; a request to consider some prioritization of pathways that attract high volumes of pedestrians; the question of fairness in a situation that requires people to take a day off to look after their children when the daycares are closed, whether this is a gender issue that ought to be considered, and whether we are meant to be leaders in this area; some observation that the process ought to be enshrined in a policy rather than a guideline.

Orchard replied by saying that, in the end, this is a judgment call whether it is in a policy or a guideline. There is a need to communicate the decision as early as possible in the morning. In response to a question, Orchard advised that it is the responsibility of supervisors to manage staff who are unable to come due to inclement weather when the University is open. Manning provided a summary on enhanced extreme weather communications managed in his office. In response to a further question, Orchard advised that instructors have to realize that there are times when they have to make accommodations because of inclement weather, and instructors will be advised of their responsibility in this respect. Reference was made to the many student grievances filed after 2 February, and to a student petition in circulation, and whether the relief they receive ought to be available to all students. Should this be enshrined in a policy at the university level, at least approved by Senate?

Orchard agreed to take under advisement the question of a policy on the matter, and Hamdullahpur suggested that the two principal questions to be resolved involved the academic implications for students and the safety of the campus.

15. OTHER BUSINESS

There was no other business.

Senate convened in Confidential Session.

24 February 2015

Logan Atkinson
University Secretary & General Counsel
Secretary to Senate
Senate Graduate & Research Council met on 9 February 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

FOR INFORMATION

CURRICULAR MODIFICATIONS
On behalf of Senate, council reviewed and approved new courses, course revisions and minor plan changes for the faculties of engineering (mechanical engineering, graduate diploma plans in mechanical engineering), mathematics (applied mathematics) and the collaborative water program.

SCHOLARSHIPS AND AWARDS
On behalf of Senate, council approved the creation of the Flora T.T. Ng and Garry L. Rempel Doctoral Scholarship in Sustainable Development, the Faculty of Engineering Domestic Doctoral Student Award and the Keith and Winifred Shantz Master of Fine Arts Internship.

PROGRAM REVIEWS
History
On behalf of Senate, council reviewed the joint MA and PhD programs in history offered by the Department of History in the form of the Tri-University Graduate Programs in History (offered with Wilfrid Laurier University and University of Guelph) in accordance with the university’s Institutional Quality Assurance Framework. Based on the material presented in the Final Assessment Report (Attachment 1), and the report of the reading subcommittee formed by council to review in depth the self-study and program materials, as well as to request additional information and provide recommendations, the program was found to be of good quality.

Augmented Review – Programs in School of Planning
Please see Senate Undergraduate Council report (consent).

Augmented Review – Two-Year Report for Programs in French Studies
Please see Senate Undergraduate Council report (consent).

Jim Frank
Associate Provost, Graduate Studies

George Dixon
Vice President, University Research
The Tri-University Graduate Programs in History is the joint program for graduate research and education operated by the history departments of the University of Guelph, Wilfrid Laurier University and the University of Waterloo. It currently includes more than 60 core faculty members drawn principally from the history departments of the three universities, the University of Waterloo’s colleges and Laurier’s Brantford campus. Founded in 1994, the Tri-University Doctoral Program in History admitted its first doctoral candidates in Fall Term of 1995. The new PhD program combined the two previously existing yet separate doctoral programs at the University of Guelph (established in 1966), the University of Waterloo (established in 1974), and integrated the faculty at Wilfrid Laurier University.

The success of the joint doctoral program led to the creation of the Tri-University Master’s Program in 2001 that integrated the three existing Master’s programs into the joint program. Prior to this consolidation, the separate Master’s programs at all three universities had all been favourably reviewed. This change dramatically increased the number of students that the program was admitting and administering (the approximate total number of students at any given time since the 2007 OCGS appraisal is about 40 PhD students and 60 MA students with 10 to 15 incoming PhD and 40 to 50 incoming MA students each year).

The directorship of the program rotates between the three universities every three years. In 2013, it will move from the University of Waterloo to the University of Guelph. That process will repeat again in 2016, when it relocates to Wilfrid Laurier University. Given the dramatic increase in the size of the program, the departmental support staff at the University of Guelph (where the directorship resided from 2004 to 2007) hired an administrative assistant to participate in running the program. Thanks to the generosity of Guelph’s History Department, the administrative side of the Tri-University Program has been housed in the Department of History at the Guelph campus since 2004. The department has paid for administrative expenses, including the use of a telephone, photocopiers, electricity and supplies. The department has also offered much-needed office and cabinet space for the program.

Summary of Review Process
Submission of Self-Study by Program: September 11, 2013
Site visit: January 27-29, 2014
Final Assessment Report received: February 21, 2014
Response of Director: received May 12, 2014
Response of Deans: received July 14, 2014

Review Team:
External Reviewers:  Dr. Doris Bergen, Department of History, University of Toronto  
Dr. Jim Miller, Department of History, University of Saskatchewan

Internal Reviewer: Dr. Judith Cukier, Department of Geography, University of Waterloo  
Dr. Anthony Clarke (AVP Graduate Studies), University of Guelph  
Dr. Mark Eys, Department of Kinesiology, Wilfrid Laurier University

The Associate Provost, Graduate Studies, at the University of Waterloo selected the external reviewers from a list provided by the Tri-University History program director. Each of the partner universities appointed an internal reviewer who accompanied the external reviewers during the visit to their home university. The Review Team conducted a site review of the joint History graduate programs over three days on January 27th to 29th; the self-study report was provided prior to the visit. Their agenda included meetings with representatives of each institution (Waterloo, Guelph and Wilfrid Laurier), including: Associate Provost/AVP/Dean (Graduate Studies), Associate Deans (Graduate Studies) and Deans of Faculties; Department Chairs; Director of the Tri-University History Program; Faculty members, graduate students, and staff of the respective Departments, and Library staff. They were given a tour of the research facilities at each of the partner universities.

The External Reviewers, Dr. Doris Bergen and Dr. Jim Miller, submitted a very positive report on the Tri-University History (MA and PhD) programs. The Reviewers were impressed by the quality of the faculty and students: “Tri-U program benefits both from committed and enthusiastic graduate instructors and able and energetic students”. They concluded that: “the Tri-University Graduate Program in History offers degrees programs of very good quality, and the organization of the Program, while it could be improved in certain of its details, is on the whole sound. The three institutions can be confident that they are supporting a tri-university program that operates in accordance with practices used at other good institutions and provide an education and training of high quality to its students.”

The Reviewers made 23 generally minor recommendations under the following headings: Objectives, Administration Requirements, Curriculum, Teaching and Assessment, Resources, Quality Indicators, Additional Graduate Program Criteria, Quality Enhancement and Other. The Tri-U Program Director and the three program Coordinators have discussed all of the Reviewers’ suggestions in detail and will
develop an implementation plan at the Tri-U Executive retreat in late autumn 2014.
In this report, responses to the Reviewers’ recommendations have been combined
under the following headings: Tri-U Program Objectives, Program Delivery and
Logistical Matters.

**Summary of Cyclical Program Review of the Tri-University History (MA AND PhD) Programs**

**Strengths**

- High quality of the faculty as measured by the number of publications.
- The Tri-university arrangement provides a critical mass of expertise, especially in
the fields of War and Society and Canadian History.
- PhD students are provided the opportunity for mentored teaching of
undergraduate courses
- Graduate Coordinators at each of the universities provide much appreciated
support for students
- A well-run program.

**Weaknesses**

- A large number of fields (8) with limited expertise in some.
- Limited travel support for students commuting between campus for courses.
- Lack of office and study space for students at two of the universities: Waterloo
and Wilfrid Laurier.
- Limited professional preparation for non-academic careers.

**Summary of the Reviewer's Recommendations with the Department's and Dean's Responses**

**Recommendations:**

**Program Objectives.** Recommendations 1, 5, 6, 18, 19, 21, 23 in the report focus on
program objectives, clarification of administration requirements, and the
presentation of the Program’s strengths and weaknesses.

- Program administrators should make it clear in Program literature and policy
statements that a vocational element is central to the nature and purpose of the
PhD program.
- Presentation of the Program’s strengths and successes should be updated and
improved for both internal and external purposes. While it may not be necessary
at this time to revise the major fields offered, the Tri-U historians should be
prepared to explain those fields and their rationale in more compelling ways.
We recommend that the departmental chairs take seriously the need to help the Tri-U Program Director recruit minor field advisors. We also encourage the Tri-U Director and Graduate Coordinators to explore ways to help faculty develop a larger stake in the success of graduate students, including those for whom they are not the main supervisor.

We recommend that the Program make it clear in the material it provides to applicants to the MA program that all research assignments – MRP or thesis – are to be based on research in primary sources.

The Program Handbook is seriously in need of revision. We recommend the Tri-U Director work with Graduate Coordinators and perhaps TUGSA or other graduate students to update and revise the Handbook as soon as possible.

We recommend that one meeting of a student’s advisory committee be held per year, provided that the student is required to submit a progress report in advance of the meeting.

We recommend that incoming students be provided with a brief introduction to the members of the Tri-U “team” so that they know to whom to turn regarding certain frequently asked questions. There should be some kind of orientation session where new graduate students meet the key people face-to-face.

The program will work to improve and update individual department websites and the Tri-U website to reflect more accurately their strengths and revise the mission statement to make the program objectives more closely reflect current faculty expertise.

Revision of the MA and PhD handbooks are in progress and members of the Tri-U Graduate Student Association (TUGSA) and the TUGSA executive have been consulted.

Revising and updating the MA and PhD handbooks will resolve a number of the Reviewers’ suggestions concerning communication across all 3 institutions. Handbook revisions and updated websites will clarify the MA and PhD programs’ objectives and requirements. There will be emphasis on how the PhD trains students for academic jobs and a stronger emphasis on the program’s success in training PhDs for “vocational” positions in public history, the private sector, government, and nongovernmental organizations.

The revised handbook and website will direct incoming and in-program MA and PhD students to orientation dates; TUGSA events; the program newsletter (Triumvirate); information concerning deadlines for travel grants, conference funding, SSHRC and other scholarships; seminar training; and the annual Tri-U Conference. Revised handbooks will clarify questions concerning the pedagogical requirements of MA and PhD coursework, milestones, and syllabi.

Other items for future discussion include the increasing cost of program administration, student’s transportation costs, and the stress and strain on administrative staff. We agree with the Reviewers’ additional suggestions (6, 15) that the Tri-U Executive, which includes three department chairs, the Director, and three coordinators meet on a more regular basis and streamline communication.
**Program Delivery.** Recommendations 3, 7, 13, 14, 15 focus on curriculum, teaching and assessment.

- The departments should monitor the performance of their MA students and, if appropriate, reduce the intake, particularly at the bottom of the pool of applicants.
- We recommend that the Program institute examination of all three PhD fields.
- We recommend that the departments revisit the question of allowing MA students to take doctoral field-preparation seminars as seminars that earn credit in the MA in appropriate circumstances. Conversely, PhD students preparing fields in which MA courses are being offered could be encouraged to join in the MA seminar rather than working in isolation.
- Professors should make their syllabi available well in advance of the beginning of the course.
- We recommend that the three institutions provide resources to fund the grant for travel between the campuses at a substantially higher level. If necessary, the universities could offer the higher grants on an accountable basis.

*The PhD Handbook indicates that the purpose of the minor field is to “provide students with a supplementary teaching [at the undergraduate level] area and a comparative understanding of work in their dissertation research area.” Students work very hard in minor fields. They read the equivalent of 50 books, write an extensive research essay, and answer questions in field seminars. We believe that this is an adequate assessment of learning outcomes. An additional oral examination would add pressure to students struggling to complete the Program milestones in 4 years. MA and PhD students might benefit from interacting with each other in seminars, but the problem of isolation as relatively unusual. Moreover, PhD and MA students have separate needs and benefit from seminars, and major and minor fields, that are tailored to those needs. Indeed, the Program’s wide range of MA-only seminars and PhD-only field courses, made possible by the combined resources of the three departments, distinguishes it from most other programs in the country. That said, the Program does permit PhD students to sit in on MA seminars and some students and faculty may take advantage of this informal option. The Reviewers noted this flexibility as one of the Program’s strengths and an attribute appreciated by its students.*

**Logistical Matters.** Recommendations 2, 4, 6, 14, 16, 17, 18, 23 focus on logistical concerns: admission, library, and transportation.

- The several departments should investigate ways to smooth out the consultative phase of the admissions procedures.
- Communications with applicants should be coordinated so that they each receive only one letter of acceptance or one rejection from the Tri-U Program.
We recommend that the departmental chairs take seriously the need to help the Tri-U Program Director recruit minor field advisors. We also encourage the Tri-U Director and Graduate Coordinators to explore ways to help faculty develop a larger stake in the success of graduate students, including those for whom they are not the main supervisor.

Professors should make their syllabi available well in advance of the beginning of the course.

We recommend that the librarians involved consider the difficulties that students reported concerning access to books, including e-books. We suggest that the administrators at all three institutions monitor how the work of resolving the problems with access to library resources proceeds.

In addition to making their syllabi or at least reading lists available to prospective students well in advance of the beginning of term, field supervisors and course instructors should also work with librarians to ensure that the books are available, and if possible are on reserve in more than one of the Tri-U libraries.

We recommend that the Program make it clear in the material it provides to applicants to the MA program that all research assignments – MRP or thesis – are to be based on research in primary sources.

We recommend that incoming students be provided with a brief introduction to the members of the Tri-U “team” so that they know to whom to turn regarding certain frequently asked questions. There should be some kind of orientation session where new graduate students meet the key people face-to-face.

The Tri-U Director and Graduate Officers feel that the consultation phase of the application process currently works very well. They appreciate the face-to-face meetings that provide the opportunity to become familiar with all incoming students and to match students with the most appropriate supervisors. It also provides the opportunity to monitor the progress of in-program students and faculty supervisory workloads and to envisage the most appropriate field-offerings for academic term.

The universities of Waterloo and Guelph have recently adopted online application systems (Laurier will do so soon). The initial disruption resulting from the introduction of this new system is over and application procedures are now running smoothly.

As recommended, the Director will send a comprehensive welcome letter to all students who accept their offers of admission with specific information on the pre-registration process, lists of courses and information concerning how to contact supervisors and instructors with questions about syllabi.

The libraries at the three institutions are major stakeholders in the Tri-U Program. Library holdings will be monitored more closely. The integrated Tri-U library system (Trellis) has streamlined the ordering of books, which has reduced multiple book ordering. The program will work more closely with librarians to address the shortage of multiple copies of books.

The program will advise Tri-U students to obtain Public Library cards
and consult library reps for log-in options for off-campus borrowing. Field instructors will be made aware of this situation. Inherent in the Tri-U Program is the cost of transportation, a burden that falls most heavily on Guelph students. As recommended, the program will seek increased travel funding at all three institutions. In the interim, the program will continue to encourage ride-shares and carpooling.
University of Waterloo
SENATE UNDERGRADUATE COUNCIL
Report to Senate
23 March 2015

Senate Undergraduate Council met on 13 January 2015 and 10 February 2015, and on behalf of Senate approved changes to academic plans, new courses, course changes and course inactivations. Council agreed to forward the following items to Senate for information. Council has also forwarded one item for approval. Council recommends that these items be included in the consent agenda. The items recommended for inclusion in the regular agenda are contained in a separate report.

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

FOR APPROVAL

CHANGE TO ACADEMIC PLAN [effective 1 September 2016]

Faculty of Engineering and Faculty of Mathematics
Software Engineering

1. **Motion:** To approve changes to the software engineering program as described. (Note: *strikeout* = deleted text, *underline* = new text)

   **Academic Curriculum**

   **Key for next table:**

<table>
<thead>
<tr>
<th>Abbreviation/ Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>*</td>
<td>Alternate weeks</td>
</tr>
<tr>
<td>**</td>
<td>One hour seminar per week</td>
</tr>
<tr>
<td>***</td>
<td>Laboratory is not scheduled and students are expected to find time in open hours to complete their work</td>
</tr>
<tr>
<td>+</td>
<td>Number of contact hours for the tutorial or laboratory are unknown; there may be more components than the class (LEC) section</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Cls</th>
<th>Tut</th>
<th>Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class</td>
<td>Tutorial</td>
<td>Laboratory</td>
</tr>
</tbody>
</table>

   | 0 - 9 | Number of hours for Class, Tutorial, Laboratory |

   _The term by term academic component of the program for students entering Fall 2011 and later is as follows:_

<table>
<thead>
<tr>
<th>Term</th>
<th>Course and Title</th>
<th>Cls</th>
<th>Tut</th>
<th>Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A Fall</td>
<td>CS 137 Programming Principles</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>ECE 105 Physics of Electrical Engineering 1</td>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>ECE 140 Linear Circuits</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>MATH 115 Linear Algebra for Engineering</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>MATH 117 Calculus 1 for Engineering</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>SE 101 Introduction to Methods of Software Engineering**</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Semester</td>
<td>Course Code</td>
<td>Course Name</td>
<td>Credits</td>
<td>Year Credits</td>
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</tr>
<tr>
<td>1B Winter</td>
<td>SE 102</td>
<td>Seminar</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>CS 138</td>
<td>Introduction to Data Abstraction and Implementation</td>
<td>3</td>
<td>1</td>
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<tr>
<td></td>
<td>ECE 106</td>
<td>Physics of Electrical Engineering 2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>ECE 124</td>
<td>Digital Circuits and Systems</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>MATH 119</td>
<td>Calculus 2 for Engineering</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>MATH 135</td>
<td>Algebra for Honours Mathematics</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>2A Fall</td>
<td>SE 201</td>
<td>Seminar</td>
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<td>0</td>
</tr>
<tr>
<td></td>
<td>CHE 102</td>
<td>Chemistry for Engineers</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>CS 241</td>
<td>Foundations of Sequential Programs</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>ECE 222</td>
<td>Digital Computers</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>SE 212</td>
<td>Logic and Computation</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>STAT 206</td>
<td>Statistics for Software Engineering</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Elective (see note 1)</td>
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<td>3</td>
<td>+</td>
</tr>
<tr>
<td>2B Spring</td>
<td>SE 202</td>
<td>Seminar</td>
<td>1</td>
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<tr>
<td></td>
<td>CS 240</td>
<td>Data Structures and Data Management</td>
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<tr>
<td></td>
<td>CS 247</td>
<td>Software Engineering Principles ***</td>
<td>3</td>
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<tr>
<td></td>
<td>MSCI 261</td>
<td>Engineering Economics: Financial Management for Engineers</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>MATH 213</td>
<td>Advanced Mathematics for Software Engineers</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>MATH 239</td>
<td>Introduction to Combinatorics</td>
<td>3</td>
<td>1</td>
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<tr>
<td></td>
<td>Elective (see note 1)</td>
<td></td>
<td>3</td>
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<tr>
<td></td>
<td>WKRPT 200</td>
<td>Work-term Report</td>
<td></td>
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<tr>
<td></td>
<td>TPM 000</td>
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<tr>
<td>3A Winter</td>
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<tr>
<td></td>
<td>CS 341</td>
<td>Algorithms</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>CS 349</td>
<td>User Interfaces ***</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>SE 350</td>
<td>Operating Systems</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>SE 465</td>
<td>Software Testing and Quality Assurance ***</td>
<td>3</td>
<td>1</td>
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<tr>
<td></td>
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<td>3</td>
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<tr>
<td>3B Fall</td>
<td>SE 302</td>
<td>Seminar</td>
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<tr>
<td></td>
<td>CS 343</td>
<td>Concurrent and Parallel Programming</td>
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<tr>
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<td>CS 348</td>
<td>Introduction to Database Management</td>
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<td>0</td>
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<tr>
<td></td>
<td>SE 380</td>
<td>Introduction to Feedback Control</td>
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<td>1</td>
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<tr>
<td></td>
<td>SE 390</td>
<td>Design Project Planning ***</td>
<td>2</td>
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<tr>
<td></td>
<td>SE 464</td>
<td>Software Design and Architectures ***</td>
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<td>Elective (see note 1)</td>
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<tr>
<td></td>
<td>WKRPT 300</td>
<td>Work-term Report</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Four Three Advanced Technical Electives (ATE):

The advanced technical electives comprise primarily fourth-year course offerings in CS or ECE. Students are advised to plan ahead when selecting ATEs. Most ATEs are not offered every term, and some ATEs have other ATEs as prerequisites. Other courses may be approved by the Program Director. Courses offered by the Department of Systems Design Engineering require instructor consent.

One of the following CS courses (CS List):

CS 442 Principles of Programming Languages  
CS 444 Compiler Construction  
CS 448 Database Systems Implementation  
CS 449 Human-Computer Interaction  
CS 450 Computer Architecture  
CS 452 Real-time Programming  
CS 454 Distributed Systems  
CS 457 System Performance Evaluation  
CS 458 Computer Security and Privacy  
CS 462 Formal Languages and Parsing  
CS 466 Algorithm Design and Analysis  
CS 473 Medical Image Processing  
CS 484 Computational Vision  
CS 485 Machine Learning: Statistical and Computational Foundations  
CS 486 Introduction to Artificial Intelligence  
CS 487 Introduction to Symbolic Computation  
CS 488 Introduction to Computer Graphics

One of the following ECE courses (ECE list):

ECE 409 Cryptography and System Security  
ECE 416 Higher Level Network Protocols  
ECE 418 Communications Networks  
ECE 423 Embedded Computer Systems  
ECE 429 Computer Architecture  
ECE 454 Distributed Computing  
ECE 455 Embedded Software  
ECE 457A Cooperative and Adaptive Algorithms  
ECE 457B Fundamentals of Computational Intelligence  
ECE 458 Computer Security  
ECE 459 Programming for Performance  
ECE 481 Digital Control Systems
ECE 486 Robot Dynamics and Control
ECE 488 Multivariable Control Systems

One of

An additional course from the CS and ECE lists above

CS 487 Applied Cryptography
CS 462 Formal Languages and Parsing
CS 466 Algorithm Design and Analysis
CS 467 Introduction to Quantum Information Processing
CS 475 Computational Linear Algebra
CS 487 Introduction to Symbolic Computation
CS 489 Advanced Topics in Computer Science
CS 490 Information Systems Management
ECE 406 Algorithm Design and Analysis
SE 498 Advanced Topics in Software Engineering
SE 499 Project
SYDE 533 Conflict Resolution
SYDE 575 Image Processing

One of

An additional course from the ATE lists above

CS 360 Introduction to the Theory of Computing
CS 365 Models of Computation
CS 370 Numerical Computation
CS 371 Introduction to Computational Mathematics
ECE 207 Signals and Systems
ECE 224 Embedded Microprocessor Systems
ECE 327 Digital Hardware Systems
SYDE 348 User Centred Design Methods

Two Science Electives (SCE)
Normally these courses are in the natural sciences, chosen from the list below. Alternate courses may be chosen in consultation with the SE Program Advisors.

Science Elective Courses:
BIOL 110, BIOL 130 with BIOL 130L, BIOL 165, BIOL 239, BIOL 240, BIOL 273, CHE 161, CHEM 262 with CHEM 262L, EARTH 121, EARTH 122, PHYS 234, PHYS 246, PHYS 263, PHYS 275, PHYS 334, PHYS 375, SCI 238, SCI 250

Four Three Linkage Electives (LE)
At least one from each of the areas of Societal Issues, Humanities and Social Sciences, and Communications, as specified below. Students should be aware that these courses may have enrolment limits, or may not fit their schedules.

One course on Societal Issues:
CS 492, Complementary Studies Elective List A

One course on Communication:
ENGL 109, ENGL 119, ENGL 140R, ENGL 210E, ENGL 210F, SPCOM 100, SPCOM 223, SPCOM 324, SPCOM 432
Two One additional courses on Humanities and Social Sciences:

Complementary Studies Elective List C

Notes
1. There are eleven electives. As detailed above, these electives must include three four advanced technical electives, two science electives, and three four linkage electives. For their remaining three electives, students may choose to take any of an additional courses form the elective lists above or any other 0.5 credit course for which they meet the requisites. advanced technical elective, an additional science elective, any course from the complementary studies electives lists, a foreign-language linguistics or grammar course, BUS 111W, BUS 121W (see Wilfrid Laurier University calendar), COMM 400, or any other course approved by the SE Program Advisor. Advanced Technical Electives may not be taken before the 3A term, 400-level Advanced Technical Electives may not be taken before the 3B term.
2. Students may choose to take three electives in 4A and four electives in 4B, instead of two in 4A and five in 4B.
3. Students enrolled in Software Engineering will only be permitted to use the WD and WF (see Grading System for descriptions) provisions used in the Faculty of Mathematics to withdraw from extra courses taken above and beyond the degree requirements.
4. Foreign-language courses must be approved by the SE advisor.
5. With the permission of the Program Advisor, ECE 358 may be swapped with a taken in 3A or 3B and replaced with a technical elective in 4A if required as a prerequisite for an ATE.

Three Work-term Reports (WKRPT)

Work-term reports are listed as part of the Software Engineering curriculum; they are treated as courses that a BSE student must successfully complete to satisfy the program requirements. They appear on all grade reports and transcripts, but they are not used in calculating term averages.

Each work-term report requirement is satisfied by earning a grade of satisfactory or better on a work-term report related to the previous term's co-op employment. Each work-term report must be submitted at the beginning of the academic term in which it is listed as a course; it is due seven days after the first official day of lectures. Reports submitted after the due date will receive a failing grade and will be evaluated the following academic term.

Failed work-term reports contribute to a student's accumulated failed-course count. They also appear on a student's transcripts. Once a failure has cleared, the original grade will still be listed on transcripts but will be annotated with a credit (CR) in the "sup" field.

Technical Presentation Milestone (TPM)

Each student registered in Software Engineering is required to satisfy the Technical Presentation Milestone (TPM) during his or her 2B term. If admitted to the Software Engineering program after 2B, then the student must satisfy this requirement before the end of the student's first academic term in the program. The details of the TPM requirement are provided during the student's 2A term, so that the student can plan appropriately for the presentation during the work term preceding 2B. A student who is interested in formal instruction on how to develop and deliver an oral presentation should consider taking SPCOM 223.

Five Professional Development (PD) Courses

Five professional development courses are required as described in the BASc and BSE Specific Degree Requirements section on Work Terms. Two core PD courses are specified for all engineering students: PD 20 and PD 21. Due to the importance of understanding the legal and ethical ramifications of software development, Software Engineering students are also required to take PD 10. This course replaces one of the PD electives, such that Software Engineering students have three core PD courses (PD 20, PD 21, and PD
10) and two PD elective courses. Software Engineering students are automatically enrolled in PD 20, PD 21, and PD 10 but must enrol in the elective PD courses using the normal Quest enrolment process.

**Rationale:** Elective listings have been amended to rebalance offerings with an overall view to maintaining sufficient technical content while providing opportunities for students to explore other areas of interest to enhance their degree. The addition to the required professional development courses provides important background knowledge for the legal and ethical ramifications of software development as it applies to the capstone project.

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**FOR INFORMATION**

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**CURRICULAR MODIFICATIONS**

New courses and course changes and minor plan changes were approved for the Faculty of Engineering (nanotechnology engineering) and the Faculty of Environment (English language proficiency requirement) effective 1 September 2015.

New courses and course changes were approved for the Faculty of Engineering (nanotechnology engineering) and the Faculty of Environment (environment & resource studies; environmental studies) effective 1 January 2016.

New courses, course changes, course inactivations, minor plan changes and calendar text changes were approved for the Faculty of Environment (counting graduate courses for undergraduate degrees; diploma of environmental assessment; environment & resource studies; environmental studies; geography and aviation; geography & environmental management; international development; knowledge integration; minors for general degree students; planning; residency requirement) effective 1 September 2016.

**Academic Program Review Reports**

**Augmented Final Assessment Report – Planning** – Please see [Attachment #1](#).

The augmented report was reviewed by Senate Undergraduate Council and by Senate Graduate & Research Council (9 February 2015) and both councils found the programs to be of good quality.

**Two-Year Report – French Studies** – Please see [Attachment #2](#).

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Mario Coniglio
Associate Vice-President, Academic
Final Assessment Report of the Review of the School of Planning programs (BES, MA, MES, MAES and PhD)

December 2014

Introduction
This final assessment report includes reviews of the following degree programs:

- Bachelor of Environmental Studies (Planning) (Honours BES)
- Master of Arts (Planning) (MA)
- Master of Environmental Studies (Planning) (MES)
- Master of Applied Environmental Studies (Planning) (MAES)
- Doctor of Philosophy (Planning) (PhD)

In accordance with uWaterloo’s Institutional Quality Assurance Process (IQAP), this final assessment report provides a summary and synthesis of (i) the external review of the undergraduate and graduate programs in Planning, (ii) the School of Planning response to the external review, and (iii) an implementation plan for improvements that lists specific actions, timelines, required resources and responsibility.

The School of Planning (SOP) prepared their augmented self-study report to cover the period Fall 2007 to Spring 2012. The self-study document was written to fulfill the reporting expectations for the accreditation by the Canadian Institute of Planners (CIP) for the BES, MA and MES degrees, but in the end, the CIP review did not materialize, and the review process followed the requirements of uWaterloo’s IQAP.

Self-Study Process and Site Visit
The review document was prepared by several faculty members, which included the Director, Associate Chairs of Undergraduate and Graduate Studies, and support staff including the Academic Service Manager, Undergraduate Advisor, and the Graduate Studies Administrator. Information was garnered from many sources which included School and faculty records, student and alumni surveys and discussions with student association representatives (Association of Graduate Planners and the Planning Student Association).

The self-study was received March 7, 2014 and the site visit occurred May 5-6, 2014. The external reviewers were Prof. Paul Hess, Director, Graduate Programs in Planning, Department
of Geography and Planning, University of Toronto and Prof. Andrew Seidel, Chair of School of Environmental Planning, University of Northern British Columbia. The internal member of the review committee was Prof. Jack Callaghan, Department of Kinesiology. During the visit, the team met with university, Faculty of Environment and Planning Program administrators, faculty, sessional instructors, staff, graduate students and undergraduate students. The review team’s report was received on September 24, 2014, and the program’s response and implementation plan and Dean’s endorsement were received on December 15, 2014.

This Final Assessment Report is derived from selected direct and paraphrased extracts from the self-study, the reviewers’ report, the program response and the program implementation plan.

**Previous Reviews**
The SOP has undergone a number of reviews over the last decade. The two most recent and relevant were:

1) in 2007 to address provincially mandated periodic assessment of the undergraduate program as well as the CIP accreditation review of both the undergraduate and graduate degree programs; and

2) in 2008, the OCGS review of SOP’s graduate programs.

All programs were CIP accredited to February 2013, with the exception of the MAES program, which fell short of requirements in several areas, and currently remains unaccredited. The PhD is currently accredited until 2014. However, a change in CIP policy has PhD programs no longer eligible to be accredited subsequently.

The primary outcome from the 2007 undergraduate review was a significant review of the undergraduate curriculum, revising the program core program, increasing the number of required courses and most significantly, deciding to offer a co-op only BES Honours in Planning starting in Fall 2010. Much effort was applied to evaluating course offerings and ensuring that they addressed intended learning outcomes, aligning with the learning expectations various regulatory bodies.

**Characteristics and Goals of the Planning Programs**
Waterloo’s SOP is recognized across Canada and internationally as a leader in planning education. In fact, feedback from the planning community suggests that the SOP provides the best preparation for practicing planners among Canadian planning departments.

The School uses an interdisciplinary approach to address the range of environmental and planning issues, with its programs focusing on planning as a process, which includes policy-making, research, and decision making. The undergraduate and graduate programs, curricula, and faculty research that comprise the SOP prepare students for basic and applied research as
well as professional practice in planning, designing, and management of natural, human and built environments in Canadian and international settings.

The undergraduate program prepares students for a career in urban and regional planning. The undergraduate program is co-operative only, although prior to Fall 2010, both regular and co-operative streams were available. Students may choose to complete various elective specializations, diplomas, options, and minors. Typically at least 60% of a graduating class would obtain a specialization (Decision Support and GIS, Environmental Planning and Management, Land Development Planning and Urban Design).

The thesis-based, CIP-accredited Master’s programs (MA and MES) are two-year degrees that aim to teach graduate students advanced research methods, as well as practice fundamentals that are needed for professional planning practice.

The course-based, non CIP-accredited Master’s program (MAES) is a one-year program and focuses on skills development and the provision of the base of knowledge that is necessary for effective planning practice. It has a lesser emphasis on research, but has the requirement for prior professional experience.

The PhD program trains graduate students in advanced research principles, skills and methods. Graduates of this program are prepared for careers in university-level teaching and research or research-oriented positions in the public or not-for-profit sectors. Evidence of the ability to pursue independent research (prior Masters degree) fits squarely with the expectations for independent and original research as an outcome of the PhD program.

Fields offered in the graduate programs are in two areas of specialization, and the interstices between them: the Physical/Natural Environment, and the Human and Built Environment. The program core includes planning history, methods, philosophy and process. Core faculty members have expertise in one or both specialty fields and there have been no changes in the fields since the last appraisal.

**Students**

Combining both undergraduate and graduate programs, the SOP at Waterloo is the largest Planning program in Canada. Over the review period (2007-2012), student complement increased overall by 18% - from 450 students (largely full time – 80/20 undergraduate/graduate split) to 529 students (Fall 2012). From 2005 to 2011, an average of 73 students registered in the co-op undergraduate program, and from 2005 to 2009 an average of 11 students registered in the regular program. The number of degrees granted at the undergraduate level has ranged over the last seven years from a low of 51 in 2009 to high of 90 in 2010.

The average number of MAS, MES, MAES and PhD students entering each year on average is 11, 6, 4 and 6 students per year, respectively. The data indicate that in the most recent time frame, PhD numbers have declined while Master’s numbers have increased, reflecting both the
emphasis on funding domestic Master’s students and the challenge of meeting institutional requirements for guaranteed funding levels for PhD students.

An exit survey administered to undergraduates upon graduation reveals the following results (2011, n = 50). Over half of the students had full time employment upon graduation, 9% were working part-time whereas 26% were looking for employment. A further 13% were undertaking further education. For many undergraduates, the co-op aspect of their education was instrumental in their success and 96% would recommend Waterloo to other students while 86% were satisfied or very satisfied with their career preparation.

The self-study notes a lack of hard data on the employment prospects of its graduate students post-graduation, although alumni reports indicate many finding fulfilling rewarding career options across the country.

Faculty
There are currently 16 faculty members in the SOP, including 1 lectureship position, for a total of 14.5 FTE. On average, each faculty member teaches 4 courses per year, although this varies significantly depending on administrative appointments, sabbaticals, and other factors. The SOP continues to be a leading institution for planning research in Canada. The SOP focuses on applied solution oriented research categorized into four broad themes: sustainable community planning and design, infrastructure and transportation, land use planning, and environment and health. As a whole, the SOP is very productive and would be comparable in the rate of output to other prominent Canadian planning schools such as McGill, UBC, and Queens. Planning faculty publish on average of 2.5 peer reviewed publications per year, comparing favorably to top schools in the US in terms of productivity, even with a much higher overall student-to-faculty ratio. Total project value from 2005/2006 to 2011/12 was over 12.3 million dollars, averaging approximately $118,000 per faculty member per annum.

A number of core faculty have been recognized through the receipt of prestigious awards (e.g., Best Article of the Year Award, Distinguished Teacher Award) and many are involved with professional/disciplinary associations, including editorial roles with academic and professional journals.

Program Strengths and Challenges

All Planning programs
Waterloo’s SOP is recognized across Canada and internationally as a leader in planning education, and provides the best preparation for practicing planners among Canadian planning departments. The external reviewers indicated clearly their very favourable overall impression of the Planning programs, referring to them as a “very solid, well-developed, well-focused, appropriately supported by faculty, set of programs.” They further noted that the outcomes and
expectation of the Planning programs were fully in alignment with the institutional mission of the University of Waterloo. Admission requirements were viewed as appropriate for all programs. Responding to whether the program’s structure and regulations allowed students to meet specified program learning outcomes and degree level expectations, the reviewers wrote that “...not even a rumor of a concern in this area was reported ...”. The curriculum was judged to reflect the current state of the area of study, but the reviewers noted that “these programs focus a bit more on design than some programs within this field and a bit less than some others. This is completely appropriate.” Modes of program delivery and student assessment in the undergraduate and graduate programs were deemed to be appropriate and no major concerns were brought forward.

The reviewers indicated that SOP faculty “are clearly committed to bring their research into the classroom, and in actively engaging with students and their learning. Program and pedagogical goals have been carefully considered. We have no concerns that the SOP will continue to ensure the intellectual quality of the student experience.”

The following strengths and challenges of the Planning programs were determined from the self-study and the external reviewers’ report.

Strengths

- There is high demand for Planning programs.
- High quality students - most students from all Planning programs have low attrition, mostly timely program completions and favourable employment outcomes following graduation.
- Student gender balance is even across all programs.
- High quality, productive, accessible faculty are able to attract research funding and awards recognizing their research and teaching.
- The SOP’s human, physical and financial resources are appropriately and effectively employed.

Challenges

- Current student-to-faculty ratio (30:1) is very high in comparison to peer programs, but there are few other schools that offer the full suite of undergraduate, master’s, and Ph.D. level programs.
- Faculty members in the SOP teach 3 lecture courses and 1 seminar per year, compared the uWaterloo norm for course loads being 2.8 courses.

Specific to the Bachelor Program

Strengths

- Co-op employment rates are strong, employers rank students well.
Challenges

- The undergraduate program has low numbers of international students (most are from Ontario).
- Co-op employment is not diverse (very reliant on public sector employment).
- In undergraduate urban design studio teaching, the student-to-faculty ratio was judged by the external reviewers as being too high to provide effective teaching.

Specific to the Graduate Programs

Strengths

- Graduate students bring a diversity of backgrounds and experience to the programs.
- MA and MES students often gain career-relevant work experience while pursuing their degrees – but this also causes lengthening time for completion of their programs
- Graduate level advising and research supervision appears to be excellent.
- Graduate students routinely publish their research.

Challenges

- Time to complete Master programs is 2.5 years (rather than 2 years) and for PhD programs the time is currently 5 years and appears to be lengthening. This seems to be an issue for many fields and universities, however.
- There is a lack of hard data on employment outcomes.
- Attracting PhD students challenging, as it is for many other graduate programs at uWaterloo.
- The two recognized fields (human and built environment and physical/natural environment) in the graduate program are unevenly represented among the SOP’s faculty. Twelve faculty carry out research in the human/built area but faculty in other academic units have research interests related to Planning and effectively broaden the pool of expertise available for the graduate program.
- A number of 600 level graduate courses mix undergraduate and graduate students.

Program Response and Implementation Plan

The following is the response and implementation plan provided by the SOP based on the issues identified in the external reviewers’ report. Note that not all of the challenges listed above were identified as issues by the reviewers. Below, the SOP indicates how they will respond to those issues identified by the external reviewers, as well as flag a number of responses for incorporation into a 2-year work plan.

1. Undergraduate communications course

The report highlights an area of difficulty with a “communications course” – PLAN 102 Professional Communications, which is a core course in our program. The source of this concern arose in reviewer discussion with senior undergraduate students.
Response: This course has been a challenge to deliver at the right level for incoming students, who often bristle at the suggestion that their communication skills need to be further developed. In 2012, there was a transition to another faculty member who introduced changes to the course, likely experienced by the cohort of students interviewed. In 2014, it was assigned to a recent hire in our unit as one of their primary responsibilities. This individual has retooled the course again, based on feedback from former students and instructors, and injecting lessons from their decade long experience in the private sector, prior to joining the University. We are confident that this course is fulfilling the learning outcomes required of our program and the feedback received to date has been positive. The specific learning outcomes in this course include 1) understand the importance of written and oral communication skills for university and career success 2) develop the practical communication skills professors and employers need and expect and 3) apply those skills in contexts relevant to the profession.

Work plan: Monitor evaluations and instructor experience (through discussions) before and after each delivery through to 2016.

Responsibility: Director of the SOP through his responsibility for course evaluations and assignments, will discuss with the instructor and solicit input from the undergraduate administration team within the SOP.

2. Faculty course load/work load

The report raises the issue of faculty course load and workload, suggesting that it be reduced to 3 courses per year, especially given the emphasis on securing research funding to support graduate students at a research-intensive institution like UW. It further flags the high student faculty teaching ratios of 30:1 as being a potential issue for continued delivery of our high quality programming.

Response: The present course load expectations in the Faculty of Environment are 4 courses per year, with those courses distributed over 2 school terms. Within the SOP, we have already introduced a 3/4 course system in alternating years, and balance off exposure to core and elective classes. For example, a faculty member teaches 4 courses one year and then 3 courses the next year, typically dropping an elective course from the 4. In our scheduling, we ensure that students are aware of this cycle and can take electives when appropriate. However, the current requirements for developing online courses, combined with administrative appointments and research related course buy outs and sabbaticals, has constrained the 3/4 model. The course assignments are carefully reviewed each year and we’re comfortable in our ability to support the requirements of both teaching and research within the unit.

Further, the Faculty of the Environment is addressing the challenges of graduate student support directly. The Associate Dean for Graduate Studies is providing resources (guaranteed funding) to remove some of the funding pressure on domestic PhDs. The Dean is also
supportive of expanding the faculty complement as a longer run solution, provided the needs are demonstrable.

**Work plan:** Monitor and evaluate the annual performance of faculty and the quality of our programming as per normal practice. Develop a plan by 2016 to expand the faculty complement.

**Responsibility:** Director of the SOP through leadership of Annual Review Process, interaction with Undergraduate and Graduate Chairs, and input through the SOP meeting process: Further, any requests for new faculty positions will be initiated and implemented by the unit chair in time for the Fall 2016 hiring cycle.

### 3. Mixed graduate/undergraduate courses

There is a concern expressed around the number of 600 level graduate courses that mix undergraduate and graduate students.

**Response:** There are a number of 4th year elective course offerings that include a graduate level offering (600 level) as part of the delivery. The obvious benefit is to offer graduate students a richer mixture of elective offerings, with the obvious challenge being that they are not in a purely graduate course. This issue is becoming less pronounced in our unit because of the redevelopment of the MA/MES level graduate degree, and the transition (to online delivery) of our MAES (course based professional masters). We have increased the number of 700 level courses offered and we are developing more elective courses for online delivery as well as pursing approvals for our graduate students taking electives from other online UW programs.

**Work plan:** Monitor graduate student enrollments in all courses over the 2012 to 2016 period to track impact of program changes and student choice. Evaluate graduate student experience in mixed courses to ensure compliance with program learning outcomes and optimal student experience. Action will include a report by Spring of 2017 on the status of mixed courses, the experience in the revised program (MA/MES), and recommendations on program changes as needed.

**Responsibility:** Associate Chair, Graduate Studies within the SOP in conjunction with the Director:
4. Student-to-faculty ratios in urban design courses

The concern is PLAN 210 in particular – one of 2 core urban design courses in our program with typical enrollments of 110 to 120 students per offering. The external reviewer report indicates that the current student-to-faculty ratios are beyond the limits of effectiveness. They suggest we consider options such as removing the requirement for the course or finding additional teaching support.

Response: The SOP is aware of the challenges in delivering urban design courses to relatively large numbers of students and has been working with instructors to address this issue. It is already the most heavily resourced undergraduate course we offer – 1 instructor, 2 professional Studio Assistants (working professionals) and 6 TAs. We are currently reviewing a report submitted by the PLAN 210 instructor, which includes an option to offer the studio component only to those students pursuing the Urban Design specialization. This would ease the pressure on the “studio” component of the course. However, we also need to explore how the requirements for the two core urban design courses fit into the broader program expectations and the requirements for the specialization.

Work plan:

a) Review the existing PLAN 210 report and experiences with other similar programs and their design course (e.g. Ryerson) and define terms for decision-making and implementation of changes in design courses.

(Spring 2015 deadline)

b) - i) Define the learning outcomes in our core specialization courses in design and their integration in the broader undergraduate curriculum.

ii) Establish pedagogical approaches for design courses.

iii) Propose course changes as needed.

(Spring 2015 deadline)

c) Approve proposed changes and implement official approval for (through course change process) Fall 2016.

Responsibilities:

a) Director, Associate Chair Undergraduate

b) Design Course Instructors within SOP, Associate Chair Undergraduate

c) Associate Chair Undergraduate
5. Thesis completion in revised MA/ MES degree

Related to the increasing course requirements and internship milestone introduced in 2014 as part of our revised MA/MES degree, reviewers noted that the SOP should consider methods to facilitate thesis completion. They also felt that our time to completion average of 2.5 years was above the norm of 2 years.

Response: The average time to completion for the MA/MES degree has been influenced by the desire of our students to get practice experience and the potential for thesis related field data collection to lengthen degree time (discussed on page 119 of our augmented report). However, the changes in our degree requirements are going to increase time pressure (more courses) as noted by the external reviewers. For many comparable programs in Canada (accredited Master’s degree in Planning), a Major Research Paper (MRP) is the norm, rather than a thesis. However, we feel strongly that the thesis experience is valuable from an educational and professional development perspective.

We have introduced a recommended schedule for thesis completion as well as shared clear guidelines for students and faculty as to the structure and expectations for the thesis. This schedule includes taking Plan 710 in the Winter term of their first year – the output of which is a full thesis proposal. The guidelines will help to ensure that the scope and scale of thesis research is appropriate to our disciplinary degree expectations.

Work plan: Monitor time to completion on an annual and ongoing basis as per normal expectations

Actions: Issues with workload and completion time will be assessed as part of the continual assessment of program changes and overall program performance. The appropriate response to the issues will be established and proposed by the School’s internal Graduate Committee for broader approval.

Responsibility: Associate Chair Graduate Studies, School of Planning

6. On-line course offerings

The external reviewers recommend that we consider alternative models of delivery for online courses. In particular, they suggest exploring models that include an element of face-to-face interaction (in person).

Response: The SOP has embarked on transitioning our MAES degree to online delivery as per the strategic direction of the University – promoting technology enabled learning – and the
growing demands for ongoing professional education within the field of Planning. We are taking a cautious approach that has allowed instructors flexibility in the design of the on-line courses they are developing. There is no explicit face-to-face component in the program overall (as a program design feature). Instructors are incorporating as much interaction into the courses as they can and we are open to adjusting the face-to-face component as the program evolves (i.e. responding to demands in specific markets). Certainly, there are models that have built in weekends of in-person engagement (for example) at either end of the degree or term experience. Geographically, we did not want to constrain ourselves to specific markets nor present a barrier to those wishing to register in our program because of the timing and location any potential required face to face meeting.

**Work plan:**

Monitor and evaluate enrollment and quality of engagement in on-line course offerings through 2016 and beyond. Solicit specific feedback from participants on the need for face-to-face engagement. Consider any adjustments to on-line offerings as part of a comprehensive review of the program (3 years in)

**Responsibility:**

Director: through course evaluation review process

Associate Director Graduate Studies – to develop specific feedback (incorporated into online course evaluation instrument W 2015) and to lead comprehensive review
Two Year Progress Report for the Department of French Studies

The Department’s Self Study report was submitted in January 2012. A site visit took place on March 26-27, 2012 and the assessors’ report was received in May 2012. The Department’s response to the augmented review report was submitted in October 2012 and was subsequently considered by the Senate. This report provides an update on developments since then.

Context:

The reviewers overall impression of the Department of French Studies was that it was a “fully integrated research and teaching unit which also makes a major service contribution through its language courses to the broader university community” (p. 12). The report stressed the dual nature of the Department of French Studies, and the need maintain its quality both “as a research and graduate program” and as “a service provider” (p. 12). Undergraduate enrolment in French courses and programs was considered to be strong in 2012. Enrollments have in fact increased since then, with about 120 Majors. In addition, the graduate program was considered to be “sound, reflecting current standards and tendencies in the discipline, and designed to meet the program’s targeted learning outcomes (p. 3)”. Current graduate enrollments are: 11 M.A. and 12 Ph.D. students. The assessors were impressed by the Department’s commitment to the pedagogy of French as a second-language, and noted that a similar commitment to digital technologies in literary studies should be “maintained and fostered as a priority (p. 4)”.

Progress achieved on various action items:

1. The assessors recommended the reduction of the teaching load from 5 to 4 courses in order to allow more time for graduate supervision, mentoring and teaching, and to ensure a more equitable distribution of supervisory and administrative tasks in the Department.

The Department has progressively moved, over the past two years, to a 4-course teaching load for tenure-track faculty members.

2. The report recommended regularizing the situation of the Staff Language Instructors, a highly anomalous employment category.

The Department is moving to converting all Staff Language Instructor positions to Continuing Lecturer Positions (first advertised as Definite Term Lecturer Positions). The last Staff Language Instructor position will be converted in May 2015.

3. The assessors recommended offering Definite Term Lecturers longer contracts to provide greater stability within the department.

Since 2012, two Definite Term Lecturer positions have been converted to Continuing Lecturer positions; a third conversion is in progress. Two Definite Term Lecturer positions are currently advertised in the Department, with two-year contracts, potentially renewable. This shift to a greater number of Continuing Lecturers and to longer Definite Term Lecturer contracts is
providing stability and continuity in the Department, and is enabling better planning of future course offerings.

4. The report recommended the addition of a third administrative position for the effective performance of administrative tasks.

A change in personnel and better coordination and communication between the existing administrative support staff has resulted in a more efficient administrative structure.

5. The assessors recommended carefully monitoring time to completion in the Ph.D. program, and implementing individual schedules for completion for each student to track progress in the program.

In 2013, the Department put into place tools to track student progress in the Ph.D. program. Also in 2013, with the help of the Faculty of Arts Graduate Studies Office, the Department worked to reduce the teaching load of graduate students from three terms to two terms each year, as per Faculty norms. This change should have a significant impact on completion times. In Fall 2014, the Department restructured the Ph.D. comprehensive exams in order to permit students to begin working on the thesis topic sooner, a change which will help students to undertake their dissertation research in a more timely fashion.

6. The report recommended strengthening Field 3 of the Department’s Ph.D. program, by hiring a specialist in 20/21st –century literature with a background in the field of Francophone Literature.

In 2013, the Department hired a colleague in the field of 20/21st-century literature with a secondary field in Francophone literature. This has enabled us to offer more graduate level courses in literature of the Francophonie, with a new graduate course on Sub-Saharan African literature on offer in Fall 2014.

Recommendations not acted upon but for which action is planned.

1. The assessors strongly recommended the hiring of an eleventh faculty member with expertise in Field 1 of the Ph.D. program: Digital Archiving, Editing and Publishing.

The Department has unfortunately not yet been able to hire in this field. The Chair will continue to pursue the possibility of obtaining the recommended tenure-track position.

2. The report noted that the full-time secondment of a faculty member to the Stratford campus has left the Department in a difficult position with regard to the integrity of the Ph.D. program.

The Department has an Assistant Professor on a three-year definite-term contract to replace the colleague now at Stratford. This contract expires on April 30, 2015. The Chair is working with
the Dean regarding next steps which -- should the secondment be extended--could lead either to a renewal of the contract or advertising a tenure-track position.

3. The assessors recommended reducing time to completion in the M.A. program by eliminating the Coursework Option and lightening the requirements in the Thesis and Memoire Options.

The Department attempted to streamline the M.A. program and terminate the Coursework Option in 2013, but was advised against doing so by the Faculty of Arts Graduate Office. The Department continues to work on examining options for lightening the requirements for the Thesis and Memoire.

4. The Report noted that the provision of dedicated graduate student space in or close to the Modern Languages Building should be an urgent priority.

Space remains a major issue for the Department. The creation of more student space is a key item in the Faculty of Arts Strategic Plan.

Recommendations no longer considered appropriate

1. The Assessors suggested that if the Department’s position in Linguistics were to fall vacant, it should be rethought as a position in applied linguistics.

There is no anticipated vacancy. Linguistics is not a priority area that requires investment at the current time.

Other Relevant Information

The Department of French Studies is currently undertaking a comprehensive review and restructuring of its undergraduate programs within the framework of the Plan Standardization initiative within the Faculty of Arts.

December 2014
FOR INFORMATION

Recognition and Commendation

Three Waterloo academics are named among Canada’s Top Natural Sciences and Engineering Researchers for 2015 by the Natural Sciences and Engineering Research Council of Canada (NSERC). The work of these researchers is advancing human brain research using computer models, decreasing the environmental impacts of mining and increasing our understanding of invasive species. Waterloo’s award winners are: Chris Eliasmith, professor in the Departments of Philosophy and Systems Design Engineering and the Cheriton School of Computer Science and Canada Research Chair in Theoretical Neuroscience, wins the NSERC John C. Polanyi Award that honours an individual or team whose Canadian-based research has led to a recent outstanding advance in the natural sciences or engineering; David Blowes, professor in the Department of Earth and Environmental Sciences and Canada Research Chair in Groundwater Remediation, wins a Synergy Award for Innovation recognizing examples of college- or university-industry collaboration that stand as a model of effective partnership; Michael McTavish from the Faculty of Environment wins the NSERC André Hamer Postgraduate Prize awarded to the most outstanding candidate in NSERC’s doctoral scholarship competition. “This University is where industries, institutions and governments turn to for answers to their most pressing challenges,” said Feridun Hamdullahpur, president and vice-chancellor. “These awards show that our colleagues here deliver on priorities that matter to Canadians and the world and I congratulate Chris, David and Michael on their achievements. Transformative research projects such as these are a key element of the unique Waterloo model that generates real-world impact with global reach.” NSERC is the primary funding agency supporting Canada’s science and engineering research community. The agency supports almost 30,000 post-secondary students and post-doctoral fellows in their advanced studies. NSERC promotes discovery by funding approximately 12,000 professors every year and fosters innovation by working with over 3,000 Canadian companies that are participating and investing in post-secondary research projects. [Waterloo Stories, 17 February 2015]
FOR INFORMATION

A. APPOINTMENTS/REAPPOINTMENTS

Adjunct Appointment
Graduate Supervision
DAVIES, Hugh, Associate Professor, School of Public Health and Health Systems, February 1, 2015 – January 31, 2016.

Special Appointments
Undergraduate Instruction
BURNS, Robert, Lecturer, Department of Kinesiology, January 5, 2015 – April 30, 2015.

Graduate Instruction
HYNDMAN, Brian, Lecturer, School of Public Health and Health Systems, May 1, 2015 – August 31, 2015.

VANDERLEE, Lana, Lecturer, School of Public Health and Health Systems, May 1, 2015 – August 31, 2015.

Cross Appointment
HILBRECHT, Margo, Research Assistant Professor, Canadian Index of Wellbeing, Faculty of Applied Health Sciences to Department of Recreation and Leisure Studies, January 1, 2015 – June 30, 2016.

Postdoctoral Fellow to Research Reappointment
KOLUS, Ahmet, Department of Kinesiology, December 1, 2014 to May 31, 2015.

B. ADMINISTRATIVE APPOINTMENT

GLOVER, Troy, Associate Chair, Graduate Studies, Department of Recreation and Leisure Studies, July 1, 2015 – June 30, 2016.

C. SABBATICAL LEAVES
For Approval by the Board of Governors

HUGHSON, Richard, Professor, Department of Kinesiology, May 1, 2015 – April 30, 2016, 100% salary.

MAIR, Heather, Associate Professor, Department of Recreation and Leisure Studies, July 1, 2015 – June 30, 2016, 85% salary.

MCGILL, Stuart, Professor, Department of Kinesiology, July 1, 2015 – June 30, 2016, 100% salary.

MOURTZAKIS, Marina, Associate Professor, Department of Kinesiology, July 1, 2015 – December 31, 2015, 100% salary.
STAINES, W. Richard, Professor, Department of Kinesiology, July 1, 2015 – December 31, 2015, 100% salary.

D. ADMINISTRATIVE LEAVE
MCGILL, Stuart, Professor, Department of Kinesiology, January 1, 2017 – April 30, 2017, 100% salary.

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

A. APPOINTMENTS/REAPPOINTMENTS

Adjunct Reappointment

Instruction

LABADIE, Colin, Lecturer, Department of Drama and Speech Communication, January 1, 2015 to March 18, 2015.

Graduate Student to Part-Time Lecturer Appointment

CRONIN, Keely, Department of English Language and Literature, January 1, 2015 to April 30, 2015.

B. ADMINISTRATIVE APPOINTMENTS

FERRER, Ana, Associate Chair, Graduate Studies, Department of Economics, July 1, 2015 to June 30, 2017.

SKUTERUD, Mikal, Acting Chair, Department of Economics, July 1, 2015 to December 31, 2015.

C. SABBATICAL LEAVES

For Approval by the Board of Governors

HARDIMAN, Craig, Associate Professor, Department of Classical Studies, July 1, 2015 to December 31, 2015, full salary.

LIBBY, Theresa, Professor, School of Accounting and Finance, July 1, 2015 to June 30, 2016, 93.3% salary.

Douglas M. Peers
Dean, Faculty of Arts
FOR APPROVAL

A. CONSTITUTION AND BYLAWS FOR THE ASSEMBLY AND FACULTY COUNCIL OF THE FACULTY OF ENGINEERING

**Motion:** To amend the Engineering Faculty Council membership (Constitution, section II.A) and the Undergraduate Studies Committee membership (Standing Committees of Council, section II.6) as follows:

- **Faculty Council Membership** – Add “The Director of the Biomedical Engineering Program, or such other delegate that the Director of the Biomedical Engineering Program may name” as new subsection x (and move each subsequent subsection down by one creating a subsection xviii).

- **Undergraduate Studies Committee Membership** – Add “The Director of the Biomedical Engineering Program or his/her designate” as new subsection j (and move each subsequent subsection down by one creating a subsection o).

**Background:** The proposed amendments, a consequence of the creation of the Biomedical Engineering Program, were approved at the 18 November 2014 special meeting of the Engineering Faculty Council.

FOR INFORMATION

B. APPOINTMENTS/REAPPOINTMENTS

**Probationary-Term Appointments**

**CROWLEY, Mark,** Assistant Professor, Department of Electrical & Computer Engineering, January 15, 2015 – June 30, 2018. PhD University of British Columbia 2011; MSc University of British Columbia 2005; BA York University 1999. Dr. Crowley completed his PhD in artificial intelligence and computational sustainability. Since 2012, he has been a postdoctoral scholar in the School of Electrical Engineering and Computer Science at Oregon State University. His research and teaching interests are machine learning theory and tools with application to sustainability problems.

**JIANG, Ning,** Assistant Professor, Department of Systems Design Engineering, May 1, 2015 – June 30, 2018. PhD University of New Brunswick 2009; MSc, University of New Brunswick, 2004; BE Xi’an Jiaotong University 1998. Dr. Jiang is currently a senior research scientist in the Department of Neurorehabilitation Engineering, University Medical Center Göttingen, Georg-August University, Germany, where he is heading a Myoelectric Control Lab and Brain Computer Interface Lab. His research interests include signal processing of electromyography (EMG), advanced prosthetic control, neuromuscular modeling, electroencephalogram (EEG) processing, and brain computer interface (BCI) for neurorehabilitation.

**WILLETTE, Thomas,** Assistant Professor, Department of Systems Design Engineering, July 1, 2015 – June 30, 2018. PhD Dalhousie University 2007; MA Sc Queen’s University 2003; BSc Queen’s University 2001. Dr. Willett has taught 4th year Introductory Biomechanics, 2nd year BioDesign (the design and innovation process for biomedical engineering) and graduate level Orthopaedic Biomechanics at the University of Toronto. His research interests include skeletal tissue mechanics – both fundamental mechanistic studies and applied projects, the application of bio-mimicry and additive
manufacturing technologies to produce mechanically-competent osteoconductive graft biomaterials for large skeletal reconstructions, and Biomedical Engineering Design and Innovation.

**Probationary-Term Reappointments**

**BLACKWELL, Adrian,** Assistant Professor, School of Architecture, July 1, 2015 – June 30, 2018. MA University of Toronto 2002; BARC University of Waterloo 1991; BES University of Waterloo 1988.


**WILSON, Christopher,** Associate Professor, Department of Electrical & Computer Engineering, July 1, 2015 – June 30, 2018. PhD Yale University 2002; BSc Massachusetts Institute of Technology 1996.

**Definite-Term Appointment**

**MADHURANTHAKAM, Chandra,** Assistant Professor, Department of Chemical Engineering, January 1, 2015 – December 30, 2016. PhD University of Waterloo 2007; MSc Indian Institute of Science 2002; BTech Sri Venkateswara University 1999. Dr. Madhuranthakam was a lecturer in the Department of Chemical Engineering for four years until the end of 2014. He did a superb job as an instructor, and students really appreciate him, as evidenced by his teaching evaluations and, more recently, by a featured article about him in the Iron Warrior. He taught a large number of different courses, but this did not prevent him from pursuing research “on the side” and publishing research articles every year. Dr. Madhuranthakam has now been hired under a definite-term contract for two years as assistant professor; this change of status will help the Department of Chemical Engineering to continue to provide high quality teaching, while at the same time allowing him to spend more time on research activities.

**Visiting Appointments**

**ABEDI Daryoush,** Scholar, Department of Chemical Engineering, March 20, 2015 – March 19, 2016.

**ABORI G, Amir,** Professor, Department of Chemical Engineering, April 1, 2015 – July 31, 2015.

**ALBAHRI, Tareq,** Researcher, Department of Chemical Engineering, August 1, 2016 – August 30, 2017.


**GASPAR, Jozsef,** Scholar, Department of Chemical Engineering, July 1, 2015 – December 31, 2015.

**CHAJAR, Rahmataollah,** Scholar, Department of Mechanical & Mechatronics Engineering, May 15, 2015 – February 14, 2016.

**HAITAO, Ding,** Professor, Department of Mechanical & Mechatronics Engineering, May 15, 2015 – May 14, 2016.

**KAMINSKI, Gabriel A.T.,** Scholar, Department of Chemical Engineering, July 1, 2015 – June 30, 2016.
MEDEIROS, Rafael S., Scholar, Department of Systems Design Engineering, August 1, 2015 – July 31, 2016.


RAHMAN, Arifah, Scholar, Department of Chemical Engineering, February 23, 2015 – August 31, 2015.

ROTICH, Nicolus K., Scholar, Department of Chemical Engineering, April 5, 2015 – April 4, 2016.

SAIKIA, Ankita, Researcher, Department of Chemical Engineering, January 5, 2015 – December 31, 2015.


Visiting Reappointments

WANG, Xiaodong, Associate Professor, Department of Chemical Engineering, April 28, 2015 – August 28, 2015.

Adjunct Reappointments
Graduate Supervision
ESMAILZADEH, Ebrahim, Assistant Professor, Department of Mechanical & Mechatronics Engineering, November 1, 2014 – December 31, 2017.

Graduate Supervision and Research

Special Appointments
Undergraduate Instruction
BANISTER, Carsen, Lecturer, Department of Mechanical & Mechatronics Engineering, January 1, 2015 – April 30, 2015.

GLENNON, Zachariah, Lecturer, School of Architecture, January 1, 2015 – April 30, 2015.

MEHRABI, Naser, Lecturer, Department of Systems Design Engineering, January 1, 2015 – April 30, 2015.

MORYOUSSEF, Anya, Lecturer, School of Architecture, January 1, 2015 – April 30, 2015.
PICKFIELD, Peter, Lecturer, Department of Civil & Environmental Engineering, January 1, 2015 – April 30, 2015.

ZHANG, Ning, Lecturer, Department of Electrical & Computer Engineering, January 1, 2015 – April 30, 2015.

ZURELL, Cory, Lecturer, School of Architecture, January 1, 2015 – April 30, 2015.

Graduate Instruction
IBELINGS, Johannes, Lecturer, School of Architecture, January 1, 2015 – April 30, 2015.

ROSS, Barbara, Lecturer, School of Architecture, January 1, 2015 – April 30, 2015.

SPREMULLI, Matthew, Lecturer, School of Architecture, January 1, 2015 – April 30, 2015.

Special Reappointments
Undergraduate Instruction
GHAVAM, Kamyar, Lecturer, Department of Mechanical & Mechatronics Engineering, January 1, 2015 – April 30, 2015.

MATHER, David, Lecturer, Department of Mechanical & Mechatronics Engineering, January 1, 2015 – April 30, 2015.

Graduate Supervision
NGUYEN, Tam, Assistant Professor, Department of Mechanical & Mechatronics Engineering, January 1, 2015 – December 31, 2017.


VANHEEGHE, Philippe, Professor, Department of Civil & Environmental Engineering, December 1, 2014 – November 30, 2017.

C. ADMINISTRATIVE REAPPOINTMENT
ARMITAGE, Howard, Associate Director, Virtual Incubation Program (VIP), Conrad Business, Entrepreneurship and Technology Centre, Office of the Dean of Engineering, November 1, 2014 – August 31, 2015.

Pearl Sullivan
Dean, Faculty of Engineering
A. APPOINTMENTS/REAPPOINTMENTS

Probationary-Term Reappointments

DIAS, Goretty, Assistant Professor, School of Environment, Enterprise and Development, July 1, 2015 to June 30, 2018: PhD, University of Guelph, 1998; Hons BSc, University of Guelph, 1993; Hons BA, University of Western Ontario, 1987.

ROBINSON, Derek, Assistant Professor, Department of Geography and Environmental Management, July 1, 2015 to June 30, 2018: PhD, University of Michigan, 2009; MES, University of Waterloo, 2003; BES, University of Waterloo, 2001.

Adjunct Appointments

Graduate Supervision

SLOCOMBE, Scott, Professor, School of Planning, January 1, 2015 to December 31, 2018.

THEVATHASAN, Naresh, Professor, Department of Environment and Resource Studies, September 1, 2014 to August 30, 2016.

Graduate Supervision and Research

BOURBONNIERE, Richard, Professor, Department of Geography and Environmental Management, February 1, 2015 to February 28, 2020.

MCALLISTER, Mary Louise, Associate Professor, Department of Environment and Resource Studies, September 1, 2015 to August 31, 2018.

Cross Appointment

MUIRHEAD, Bruce, Professor, Department of History, Faculty of Arts, to the Department of Environment and Resource Studies, January 1, 2015 to December 31, 2018.

B. ADMINISTRATIVE APPOINTMENTS

GIBSON, Robert, Associate Chair, Graduate Studies, Department of Environment and Resource Studies, July 1, 2015 to December 31, 2015.

YOUNG, Steven, Director, Environment and Business Program, School of Environment, Enterprise and Development, January 1, 2015 to June 30, 2015.

C. SABBATICAL LEAVE

For Approval by the Board of Governors

MITCHELL, Clare, Associate Professor, Department of Geography and Environmental Studies, July 1, 2015 to December 31, 2015 and July 1, 2016 to December 31, 2016, 85% salary.

Jean Andrey
Interim Dean, Faculty of Environment
FOR INFORMATION

A. APPOINTMENTS/REAPPOINTMENTS

Probationary-Term Appointment Date Change

RHEBERGEN, Sander (MSc 2005, PhD 2010, University of Twente), Assistant Professor, Dept. of Applied Mathematics, date change from December 1, 2014 – June 30, 2018 to February 1, 2015 – June 30, 2018.

Definite-Term Reappointment

DUPONT, Eddie, Lecturer, Office of the Dean, April 29, 2015 – April 27, 2017. Mr. Dupont will teach six courses per year, continue as an academic advisor and continue his work on question bank.

Visiting Appointments

AZEVEDO, Vinicius, Scholar, David R. Cheriton School of Computer Science, February 1, 2015 – August 31, 2015.

BABANEZHD, Manoochehr, Professor, Dept. of Statistics and Actuarial Science, September 1, 2015 – August 31, 2016.

ESHAN, Nava, Scholar, David R. Cheriton School of Computer Science, February 1, 2015 – October 31, 2015.


LI, Ping, Scholar, Dept. of Applied Mathematics, September 1, 2015 – August 31, 2016.


Adjunct Appointment

Graduate Committee

LA TORRE, Davide, Associate Professor, Dept. of Applied Mathematics, January 1, 2015 – December 31, 2017.

Adjunct Reappointments

Instructor

CAMACHO, Fernando, Lecturer, Dept. of Statistics and Actuarial Science, May 1, 2015 – August 31, 2015.

Research
Cowan, Donald, Professor, David R. Cheriton School of Computer Science, January 1, 2015 – December 31, 2018.

Postdoctoral Fellow to Part-Time Lecturer Appointments


B. SABBATICAL LEAVES
For Approval by the Board of Governors
Biedl, Therese, Associate Professor, David R. Cheriton School of Computer Science, June 1, 2015 – November 30, 2015, 51.94% salary. This is an early sabbatical.

Charbonneau, Benoît, Associate Professor, Dept. of Pure Mathematics, July 1, 2015 – December 31, 2015, 85% salary. This is an early sabbatical.

Ragde, Prabhakar, Professor, David R. Cheriton School of Computer Science, September 1, 2015 – August 31, 2016, 85% salary.

Approved by the Board of Governors
Goulden, Ian, Professor, Dept. of Combinatorics and Optimization, July 1, 2015 – June 30, 2016, 100% salary.

Karigiannis, Spiro, Associate Professor, Dept. of Pure Mathematics, July 1, 2015 – December 31, 2015, 85% salary. This is an early sabbatical.

Ian P. Goulden
Dean, Faculty of Mathematics
FOR INFORMATION

A. APPOINTMENTS/REAPPOINTMENTS

Adjunct Appointments

Graduate Supervision and Research

CINELLI, Michael Eric, Associate Professor, School of Optometry and Vision Science, February 1, 2015 to January 31, 2018.

Graduate Supervision and Other

MUIR, Andrew, Assistant Professor, Department of Biology, January 1, 2015 to December 31, 2017.

Adjunct Reappointments

Graduate Supervision

JESSOP, Paul E., Professor, Department of Physics and Astronomy, May 1, 2014 to April 30, 2017.

Undergraduate Instruction and Research

DAMIAN, Festo, Assistant Professor, School of Pharmacy, December 8, 2014 to December 31, 2017.

Special Reappointments

Undergraduate Instruction

BOWLES-JORDAN, Janie, Clinical Assistant Professor, School of Pharmacy, January 1, 2015 to June 30, 2015.

COOK, Rachel, Lecturer, Department of Biology, May 1, 2015 to August 31, 2015.

Cross Appointment

BAN, Dayan, Professor, Department of Electrical and Computer Engineering to Department of Physics and Astronomy, January 1, 2015 to December 31, 2017.

Cross Reappointment

TRIPP, Bryan P., Assistant Professor, Department of Systems Design Engineering to Department of Biology, April 1, 2015 to March 31, 2018.

B. ADMINISTRATIVE APPOINTMENT

GAUTHIER, Mario, Associate Chair, Graduate and Research Programs, Department of Chemistry, January 1, 2015 to December 31, 2017.

C. ADMINISTRATIVE REAPPOINTMENTS

BARRA, Monica, Associate Chair, Undergraduate and Co-op Programs, Department of Chemistry, January 1, 2015 to December 31, 2017.

EVANS, Stephen, Associate Chair, Geological Engineering, Department of Earth and Environmental Sciences, January 1, 2015 to April 30, 2015.
D. SABBATICAL LEAVES
For Approval by the Board of Governors

HA, Bae-Yeun, Professor, Department of Physics and Astronomy, September 1, 2015 to August 31, 2016, 97.5% salary arrangement.

LEUNG, K. Tong, Professor, Department of Chemistry, July 1, 2015 to June 30, 2016, 100% salary arrangement.

T.B. McMahon
Dean, Faculty of Science
FOR INFORMATION

Council of Ontario Universities
Report of the Academic Colleague

The academic colleagues met on February 26th and 27th in Toronto. On February 26th, Jonathan Hamilton-Diabo (director, Aboriginal Student Services, University of Toronto) met with academic colleagues to discuss support for Aboriginal students. Ontario universities offer a variety of campus supports and activities. At the University of Toronto, services for Aboriginal students have been in place since 1992, but the Council of Aboriginal Initiatives was established only 6 years ago. University of Toronto services are supported by student fees, and include academic support, cultural programming, social activities, financial aid advising, recruiting and outreach. First Nations House at U of T is focused on academic supports and integration into the campus community rather than serving as a community centre; First Nations House also serves as a resource for non-Aboriginal students, faculty and staff.

For Hamilton-Diabo, building campus awareness is a process that depends on listening and understanding student and community needs. Aboriginal students arrive at university campuses with very different educational experiences, backgrounds, and cultures. Building trust with communities and students requires early engagement—before students are in high school. A commitment from campus leadership is also important in developing a climate of support. Support for Aboriginal initiatives may be bolstered by connections to Strategic Mandate Agreements; SMAs can be used to frame discussions and to connect Aboriginal supports to other campus priorities. Support may be more easily developed by working first with faculty, staff, and leadership who are already committed. Their support can help generate commitment from others.

Colleagues appreciated the comments provided by Hamilton-Diabo, and also noted that some underlying issues might make his suggestions challenging. Some Aboriginal students do not seek supports or identification, for example. Political and historical contexts also shape student experiences. It may be helpful to look at institutional commitments for Aboriginal services, and corresponding student success rates. Universities with high success rates for Aboriginal students – Queen’s or Laurentian, for example – might have best practices to share. It was suggested that a panel of students may be invited to speak with colleagues at the next colleagues meeting (in April at WLU).

A detailed update on the following important matters of interested to COU was provided on February 27th:

**Funding Formula review:** MTCU will be announcing a review soon; an executive lead will be identified, and a public consultation process will be outlined. Four objectives are likely for the review:

- Support for differentiation;
- Shifting emphasis from access to quality (access goals have largely been met);
- Move to performance based funding; and
- Support financial sustainability.

COU has put forward a process for the review, emphasizing a collaborative approach. COU has established a task force to engage with MTCU in the review, including members from the Executive Committee and experts from the sector.
**Outcomes surveys:** Currently, MTCU surveys undergraduates 2 years after completion of their bachelor’s degree; in consultation with COU and the University Key Performance Indicator Survey Committee, the ministry has been publishing detailed survey results. Information on The Ontario University Graduate Survey (OUGS) can be found here: [http://www.tcu.gov.on.ca/pepg/programs/osaprates/](http://www.tcu.gov.on.ca/pepg/programs/osaprates/).

MTCU is interested in expanding the survey to include graduate students (graduates of postgraduate programs). OCAV has discussed this possibility, and indicated some concerns related to the timing of the ministry’s survey (two years following graduation). OCAV supports the following approach:

- To engage with MTCU on its survey development;
- To develop a more robust survey administered by universities; the National Graduate Outcomes Survey (NGOS), developed by UBC, was suggested as a possible model. The NGOS surveys graduates 5 years out, and collects a range of outcome measure (in addition to labor market outcomes); and
- To include undergraduates in a more robust survey.

A working group is forming to develop options and recommendations concerning a new survey.

**Online initiative:** As the end of the fiscal year gets closer, MTCU is working to spend its online allocation. An additional $500,000 has been made available to support the development of additional courses and modules. Eight courses and modules will be added to the list of funded projects. In total, universities will receive $6.5M in funding for 2014-15 for courses and modules. The Ontario Online Learning Consortium is incorporated and has almost fully established board membership. A search is currently underway to hire a CEO.

The board is moving toward the first set of deliverables, including a web-based presence (portal), planned for launch in the fall 2015. The first phase of the portal will include:

- A search tool for online college and university courses;
- Initiation of registration for university courses, to facilitate Letter of Permission and registration processes; and
- Links to pedagogical supports for faculty and instructors. In later phases, the portal may include facilitation of faculty interactions and support for communities of practice.

The OOLC board will also begin discussions around longer term policy directions. Faculty (and OCUFA) have indicated some concerns and questions around intellectual property, faculty workload implications, and the direction of curriculum. These concerns have been noted. The new consortium will not develop or deliver courses or curriculum; it is intended as a facilitative environment only, with space for collaboration. Issues such as IP will continue to be governed by the universities who are developing courses and programs. It is anticipated that a faculty member will be nominated to the OOLC board as the “expert” member (with experience in technology-enhanced teaching, and knowledge of the scholarship of teaching and learning).

Colleagues discussed the importance of recognizing faculty as content experts as OOLC plans move forward, and to solicit student input. Colleagues noted that plans for the OOCL should also include blended learning, rather than strictly online learning.

**Program Approvals:** MTCU has outlined an expedited review process based on SMA alignment; it is not clear whether programs reviewed in the expedited process will result in faster approvals. [Update: MTCU recently released approvals for proposals submitted in November; the Ministry met its commitment for decision within 4 months and all proposals were approved.] Some concerns have been noted about how “SMA alignment” is defined by MTCU staff leading review of new program proposals.
The working group is continuing discussions with MTCU, particularly on the issue of approvals for undergraduate certificate programs. MTCU is also requiring expanded program development reports as part of the approval process, to include information regarding program contexts and potential competitors.

Reference Group on Sexual Violence: The reference group worked to influence the Premier’s action plan, which was released on March 6, 2015. Going forward, the group will collect information and advice to inform universities’ development of policies and supports. COU and the reference group will also work to facilitate positive media and governmental focus on universities.

Ontario Education Number (OEN): The MTCU Act amendments passed, and MTCU will be expanding their authority to collect personal information. Personal information collected in student-record-level data collection (gender, year of birth, postal code information) will now be linked to OEN. MTCU is working with universities to develop a policy and process framework for addressing protection of privacy. The framework will also establish who has access to the data. Universities, with HEQCO and ONCAT, are advocating for access to depersonalized OEN data for use in research.

The next meeting of the academic colleagues is scheduled for April 9th, 2015. Academic colleagues will meet in the morning of April 9th to prepare a presentation for the council meeting. Several topics were suggested and was decided to prepare for discussion on two issues:

1. Strategies for internationalizing Ontario universities; and
2. Declining enrolments in arts and humanities programs.

Marios Ioannidis
Academic Colleague
Council of Ontario Universities
The Senate Executive Committee (“SEC”) met on 2 March 2015 and agreed to forward the following items to Senate for first reading and information.

**Senate and Senate Executive Committee ex officio Membership and Senate Executive Committee Term Limits for Elected Members**

At the October meeting of Senate, it was resolved that each of the committees and councils of Senate ought to review its ex officio membership, and the term limits for its elected members. Further, SEC was asked to review ex officio membership of Senate. Reports are requested for the March meeting of Senate.

This report summarizes the views of SEC on the question of ex officio membership on Senate, and some preliminary views on SEC membership and term limits.

**FOR FIRST READING**

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**Senate ex officio Membership**

SEC recommends the addition of the Associate Vice-President, Academic as an ex officio member of Senate and the deletion of the Vice-President, Administration & Finance from Senate Bylaw 4 as membership for this position is provided in *The University of Waterloo Act* (the “Act”), s.18.a.3. The amended Bylaw 4 [see Attachment 1] is recommended to Senate for first reading.

Following are the current ex officio members of Senate. Those in bold are established by the Act; the remainder were established by resolution of Senate passed pursuant to what is now Bylaw 4.

<table>
<thead>
<tr>
<th>Chancellor</th>
<th>Chair, Board of Governors</th>
<th>President</th>
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<tbody>
<tr>
<td>VP, Academic &amp; Provost</td>
<td>VP, Admin &amp; Finance</td>
<td>VP, Advancement</td>
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<tr>
<td>VP, University Relations</td>
<td>VP, University Research</td>
<td>AP, Grad Studies</td>
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<td>AP, Resources</td>
<td>Dean, AHS</td>
<td>Dean, Arts</td>
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<td>Dean, Engineering</td>
<td>Dean, Environment</td>
<td>Dean, Mathematics</td>
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<td>Dean, Science</td>
<td>Librarian</td>
<td>Registrar</td>
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<td>President, Conrad Grebel</td>
<td>Principal, Renison</td>
<td>President, St. Jerome’s</td>
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<tr>
<td>Principal, St. Paul’s</td>
<td>President, FAUW</td>
<td>President, FEDS</td>
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<td>President, GSA</td>
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</table>

In the relevant provision of the Act, it provides that “The Dean of each faculty of the University and the Dean of Graduate Studies” shall be ex officio members of Senate. Therefore, it is likely true that the ex officio membership of the AP, Graduate Studies is also provided for in the Act.

It is not possible for us to change the membership of Senate provided in the Act without going to the Legislature for a statutory amendment.

Generally, then, we’re talking about 3 vice-presidents, the AP, Resources, and the presidents of FAUW, FEDS and GSA as ex officio members established by resolution of Senate.

It is worth noting that faculty is guaranteed majority representation in Senate by virtue of section 18.b.2 of the Act, which reads in part as follows respecting elected members of Senate: “Members of faculty equal in number to one more than the total number of all other members of the Senate…” Any resolution providing for the addition of an ex officio position would also provide for the addition of the proper number of faculty senators to maintain the faculty majority. This means that, in the event Senate were to resolve to rescind those earlier motions, then the additional faculty seats would necessarily be removed as well so as to maintain the balance originally established in the Act.
As currently constituted, Senate has 46 faculty members, including AFIW faculty senators but excluding the president of FAUW (as an *ex officio* senator), and other faculty members who hold seats *ex officio* (the deans, for example). There are 45 other seats on Senate.

The above recommendation of the addition of the Associate Vice-President, Academic necessitates the election of one additional faculty-at-large member.

**FOR INFORMATION**

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**Senate Executive Committee *ex officio* Membership**

SEC is established pursuant to new Senate Bylaw 2. *Ex officio* membership is as follows:

- President
- VP, Academic & Provost
- AP, Graduate Studies
- President, FAUW

There are 12 additional seats on SEC, all elected, as follows:

- 6 faculty senators (1 from each Faculty)
- 3 student senators (at least 1 undergrad and 1 grad)
- 1 senator from among the community-at-large board members of Senate
- 1 faculty senator from AFIW
- 1 alumni senator

At Senate in October 2014, the specific question raised about *ex officio* membership on SEC was the AP, Graduate Studies position, the suggestion being that there seemed no obvious rationale for this.

Note that, if we count the President of FAUW and the AFIW faculty senator, then there are 8 faculty members on SEC out of a total of 16 members.

The seat for the board member has not been filled in many years, according to records maintained in the Secretariat & Office of General Counsel.

SEC will continue to consider its composition, focused on proper balance among faculty and other members, the number of students, and the rationale for including the AP, Graduate Studies *ex officio*. A further report will be provided to Senate in due course.

**Senate Executive Committee Term Limits for Elected Members**

Pursuant to Bylaw 2, all of the elected members of SEC serve one-year terms, and all are eligible for re-election.

By virtue of the Act, elected student senators serve two-year terms on Senate, and all other elected senators serve three-year terms.

With respect to student participation on SEC, it is the committee’s position that a one-year term is appropriate, given that the term for students on Senate is two years. If the SEC term were extended to two years, then that would mean that students in their second year of service on Senate would be ineligible, effectively. It would also mean that all student senators serving on SEC would be first year senators, and that is not advised in the committee’s opinion.

With respect to the term limit of SEC members other than students, SEC continues to consider this issue and will report again to Senate in due course.

Feridun Hamdullahpur
President
Senate Bylaw 4

A bylaw relating to the naming of additional *ex officio* members of Senate of the University of Waterloo.

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

1. *Ex officio* members

WHEREAS The *University of Waterloo Act, 1972* provides in section 18.a.9 that Senate of the university may add to its membership such other *ex officio* members as Senate by bylaw may, from time to time, designate; and

WHEREAS The *University of Waterloo Act, 1972* provides in section 18.b.2 that elected members of the faculty shall equal in number one more than the total number of all other members of Senate; and

WHEREAS The *University of Waterloo Act, 1972* provides in Section 18.c. that upon the designation of and addition, from time to time, by Senate of any additional *ex officio* members, the number of elected members from the Board of Governors, the undergraduate students, the graduate students and the alumni shall be increased by whatever numbers are necessary to retain the ratios, in each case, of the number of such elected persons to the number of elected faculty.

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

That the following be named as *ex officio* members of Senate:

- a. The vice-president, administration & finance.
- b. The vice-president, advancement.
- c. The vice-president, university relations.
- d. The vice-president, university research.
- e. The associate vice-president, academic.
- f. The associate provost, resources.
- g. The president of the Faculty Association of the University of Waterloo.
- h. The president of the Federation of Students, University of Waterloo.
- i. The president of the Graduate Student Association - University of Waterloo.

That the chief returning officer be empowered upon passage of this bylaw to take whatever steps are necessary to carry out such elections or by-elections as may be necessary to comply with the provisions of The *University of Waterloo Act, 1972*, cited above and arising from the designation of *ex officio* members of Senate by the passage or amendment of this bylaw.

*Approved by Senate May 20, 1975.*

*Amended by Senate at two readings, December 1980 and January 1981.*

*Amended by Senate at two readings, December 1983 and January 1984.*

*Amended by Senate at two readings, May 1987 and June 1987.*

*Amended by Senate at two readings, May 1990 and June 1990.*

*Amended by Senate at two readings, October 2012 and November 2012.*

*Amended by Senate in two readings, November 2013 and January 2014.*

*Amended from bylaw 11 by Senate in two readings, September and October 2014.*
Senate Graduate & Research Council met on 9 February 2015, 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

PLAN CHANGES

Faculty of Environment – Planning

1. **Motion:** To approve changing the plan name of the master of environment studies in planning to master of planning, and to approve changes to the same plan as described in Attachment #1.

   **Rationale:** The name change is intended to simplify the plan name in line with recent practice for professional master’s programs. Changes to degree requirements align with accreditation requirements, while changes to courses and moving to online delivery of the program reflect demand and time constraints existing within the professional constituency to which the program is targeted.

Collaborative Water Program

2. **Motion:** To approve the participation of the Department of Chemical Engineering in the Collaborative Water Program.

   **Rationale:** The department recognizes that involvement in the program provides significant educational and resource benefits to researchers and students alike. The department has expressed its clear desire to participate in this program.

/mg George Dixon Jim Frank
Vice-President, University Research Associate Provost, Graduate Studies
Proposal for Major Modification  
MAES/MPlan Degree in Planning  

Program  
Planning  

Degree Designation  
Current - Master of Applied Environmental Studies (MAES) Planning  
Proposed - Master of Planning (MPlan)  

Type of Modification  
Degree name change and course requirements  

Date of Proposal  
September 2014  

Approval Dates  
School of Planning - October 28, 2014  
Faculty of Environment Grad Studies Committee – November 3, 2014  

Effective Date  
September 2015  

Background  
In 2002 as part of its ongoing development of program offerings designed to educate both those entering the planning profession and those already in planning careers, the School of Planning proposed the idea of a course-based Master’s degree to complement its long standing thesis/research graduate programs (Master of Arts Planning MA, Master of Environmental Studies Planning MES and PhD Planning). The course-based Master of Applied Environmental Studies (MAES) was conceived as a one year (three-term) full time or 2 ½ year (eight-term part time degree aimed at those with planning work experience but lacking a recognized and accredited planning degree.1 It was first offered in 2003.  

The MAES proved useful for some students who were working full time and attempting to complete the degree part time. However, enrollment was consistently low at only two to four per year. Initially a research paper was a requirement for the MAES and there was no experience requirement. In 2005 it was decided that there should be more differentiation between the MA/MES and the MAES so the research paper requirement was dropped and program entry required a minimum of two year’s work experience. Following these changes, enrollment was still short of what the School of Planning felt was its potential.  

1 Accreditation allows graduates of a program to “fast track” to full professional status and in Ontario to use the designation Registered Professional Planner (RPP) behind their name.
The existing MA/MES programs in the School of Planning were both accredited by the Canadian Institute of Planners (CIP) and the provincial affiliate, the Ontario Professional Planning Institute (OPPI).\footnote{The PhD program was accredited until 2012 when the Canadian Institute of Planners withdrew the accreditation from all Planning PhD programs in the country judging them to be research and not professional degrees.} An application for the accreditation of the MAES was made to the CIP in 2007 but was refused. The refusal was based on the grounds of concern about the program’s ability to meet the accreditation expectations for content and skills development in one year of coursework. Subsequent policy developments by CIP have been clear in that one year degrees will not be accredited.

After being unsuccessful in having the MAES accredited, the School of Planning was left with the need to re-think the proper place and motivations for a course-based Master’s degree. The original intent to offer a fast track accredited degree to those with some planning experience has not been successful. In part, the challenges of offering traditional face to face classes to those usually working full time limited its appeal. Further, the learning objectives to provide a comprehensive planning education in one year of course work stand in contrast with existing accredited Masters degrees (across Canada) which involve two years of full time course work and research expectations.

A different direction was set out following the 2008 Self-Evaluation Report and in September 2012 the School of Planning decided to proceed with changing the MAES to a course-based, none accredited program offered full time or part time with the intent that eventually it would be offered entirely on-line. The second key change concerns the intent and content of the degree. The intent of the degree is now as an advanced professional degree with pedagogical emphasis on refreshing core concepts and upgrading Planning knowledge and skills. This is reflected in the proposed change of name, to a “Masters of Planning” as well as the proposed change in content described more fully below.

The question of professional accreditation for individuals is addressed by the following logic: if a person has two years of work experience in planning or a related field it is assumed that generally they have a first degree from one of the accredited undergraduate programs and therefore are already eligible for professional membership in the CIP.

**Chronology of the Growth and Development of the MAES in Planning**

- Feb 2002 – MAES Planning – Approved by School of Planning, Faculty & Senate
- Oct 2005 - MAES Planning – Research paper requirement removed; course work only
- Dec 2007 – Request for CIP accreditation on the MAES refused
- Sep 2012 – MAES Planning change to on-line - Approved by School of Planning
- Sep 2012 – MAES Planning change to on-line - Approved by Faculty of Environment
- Oct 2012 – MAES Planning change to on-line - Approved by SGRC
- Nov 2012 – MAES Planning change to on-line - Approved by Senate
Description of Proposed Changes: Modifications and Rationales

The School of Planning is proposing additional changes which we believe will allow our course-based Master’s degree to reach its full potential and respond to demands from the practice community. According to our understanding of University policy, what we are proposing is a program modification involving major changes. These include one degree requirement change, three course changes, a change to part time delivery and a name change. The changes are described below and are summarized in Appendix A.

Current Graduate Calendar Entry for MAES Planning

Master of Applied Environmental Studies (MAES)

A one-year if full time and 2½ year if part time course work degree for applicants with a minimum of two years planning, or related, work experience; includes eight one-term graduate courses. Select courses for this program are available online and in the future the entire the program will be available only through the Centre for Extended Learning online delivery.

https://uwaterloo.ca/planning/future-graduate/programs

Proposed Graduate Calendar Entry for MPlan

Master of Planning (MPlan)

A 3.3 year part time course-work degree for applicants with a minimum of two years planning, or related, work experience; includes ten one-term graduate courses. Courses in this program are offered through online delivery and are available through the Waterloo Centre for Extended Learning.

Note: While online delivery is a special feature of the program a student may take available classroom courses if appropriate. Most students in the program are expected to be part time, however, full time study can be approved on a case-by-case basis.

Degree Requirement Change

There will be one degree requirement change. The current MAES program involves 8 courses (although 1 of the existing 8 is a 1.0 unit course) while the proposed degree will include 10 courses.

Rationale for Degree Requirement Changes

The Canadian Institute of Planners (CIP) and the provincial affiliate, the Ontario Professional Planning Institute (OPPI), introduced changes in their accreditation procedure between 2009 and 2012. These changes called Planning for the Future have had an impact on the curriculum in our programs as well as the accreditation expectations and procedures. As part of Planning for the
Future, new guidelines for both content to be covered in accredited programs and the number and weight of courses were introduced.

As a result of these discussions with the professional accrediting body, the School of Planning increased the required number of courses in the MA/MES program in order to comply with CIP and OPPI standards which affect all university programs. The MAES, and by implication, the MPlan degree are not accredited and therefore are free from the requirement to meet CIP expectations. However, the course requirements for the course-based program have been increased from 8 to 10 courses in order to bring our professional degree program in line with competing professional degree programs.

The learning objectives of the program have been modified to de-emphasize the focus on planning fundamentals and to emphasize advanced planning content and skills for professional planners who already have experience.

Course Changes

In the previous configuration of the MAES there was a requirement for five core and three elective courses, eight in total. MAES students shared a number of core courses with MA/MES students. The proposed changes would see two courses taken in common (700 and 704) while two new and separate courses have been or are being developed exclusively for the course-based professional degree – one dealing with urban design issues (Plan 705), the other contemporary challenges in urban planning (Plan 7XX). The online delivery of the common core courses is that modifications in content and expectations for the MPlan cohort can be implemented to ensure that content expectations for the revised degree are met.

In the past all of the graduate courses were open to MAES candidates, but with the change to on-line delivery (already approved in 2012) the course-based program candidates will be able to take either School of Planning on-line courses or those offered on-line by other University of Waterloo schools and departments such as the Master of Public Health and Master of Environment and Business. This will necessitate suitable arrangements for access to electives with the departments offering those courses.

Rationale for Course Changes

The School of Planning has learned through the experience of offering the MAES that while some of the same core coursework is suitable for both full time research oriented students and part time professional learners, other work is different and is best taught in separate courses. For example the courses in Planning Paradigms and Theory (700), and the newly developed Methods of Planning Analysis (704), all deal with material that both streams of students need. On the other hand the professional students have little need to study Professional Practice (703) or Land Use Planning Fundamentals (701) since they are already in the business. What the School is offering to in-career professionals will benefit them in re-assessing and upgrading their current knowledge. The addition of two new courses, Design in Planning (705), and Contemporary

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3 This course is under development but has not yet been assigned a course number.
Issues in Planning (7XX), and the development of new elective course options (both with partner programs and internal to Planning) provide an opportunity for MPlan students to explore advanced areas for their skill and knowledge in Planning. The choice of these areas reflects the demands voiced in consultations with the practice community and through review of comparable professional programs.

Change to Part Time

Beginning in September 2015 it is proposed that the course-based Master’s program will be primarily available part time and consequently will typically take 3.3 years to complete.\

Rationale for Change to Part Time

The analysis conducted by the School of Planning to determine why there was not a greater up-take of the course-based professional masters revealed that one of the key factors was as long as the courses were delivered only face-to-face and on campus, they were only accessible to applicants who could travel weekly to Waterloo to attend classes. This provides the rationale for changing to online delivery. However, it was also found that few students were able to take more than one course per term since typically they are working. In reality, therefore, virtually all potential professional Master’s students are part time and it makes more sense to structure the program accordingly.

The School of Planning has assessed that the market for a course-based part time master’s degree is among practicing planners working in areas stretched across Canada and abroad. The recent adoption of mandatory Continuous Professional Learning (CPL) requirements by the Canadian institute of Planners has raised the level of interest in part time studies such as ours. Many potential students are living and working in remote places and certainly a great many are not able to commute to Waterloo. Even potential students within the GTA would find the commute in for classes challenging. This is the only on-line program of its kind offered in Canada.

Degree Name Change

It is proposed to change the name of the course-based masters in planning (Master of Applied Environmental Studies in Planning) to be a Master of Planning (MPlan).

Rationale for Degree Name Change

It has become the norm at Waterloo and elsewhere to adopt simplified names for professional master’s degrees. In the Faculty of Applied Health Studies they recently introduced the Master

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4 While online delivery is a special feature of the program a student may take available classroom courses if appropriate. Most students in the program are expected to be part time, however, full time study can be approved on a case-by-case basis (repeated from Proposed Graduate Calendar Entry for MPlan on page 3 above).
of Public Health (MPH) and in the Environment Faculty one of the newest programs is the Master of Environment and Business (MEB). The title, Master of Applied Environmental Studies in Planning (MAES) is felt to be too long and not distinct enough from MA and MES while Master of Planning (MPlan) is more in line with current academic/industry nomenclature.
### Appendix A:

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<tr>
<th></th>
<th><strong>Current</strong></th>
<th><strong>Proposed</strong></th>
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<tbody>
<tr>
<td><strong>Degree Title</strong></td>
<td>MAES in Planning</td>
<td>Masters of Planning (MPL)</td>
</tr>
<tr>
<td><strong>Structure</strong></td>
<td>Course-based Masters FT/PT - traditional classroom delivery -term-based fee structure</td>
<td>Course-based Masters PT - online delivery - term-based fee structure</td>
</tr>
<tr>
<td><strong>Courses</strong></td>
<td>8 Courses - 5 Core (total 3.0 units) – 3 Planning electives (1.5 units)</td>
<td>10 Total (6 core 4 electives) -</td>
</tr>
<tr>
<td></td>
<td>PLAN 700 Planning Paradigms and Theory (0.50)</td>
<td>*PLAN 700 Planning Paradigms and Theory (0.50)</td>
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<td></td>
<td>PLAN 703 Planning Professional Practice (0.50)</td>
<td>MPlan students will already be in the profession</td>
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<td>PLAN 701 Land Use Planning Fundamentals (0.50)</td>
<td>MPlan students will already be practicing planners and will know these fundamentals</td>
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<tr>
<td></td>
<td>Plan 625 Methods of Social Investigation for Planners (0.50)</td>
<td>*Plan 625 Methods of Social Investigation for Planners (0.50)</td>
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<td></td>
<td>Plan 702 Critical Assessment of Theories, Methods and Practices of Planning (1.0)</td>
<td>Plan 702 Community Studio Project (Critical Assessment of Theories, Methods and Practices of Planning ) (0.5)</td>
</tr>
<tr>
<td></td>
<td>3 Planning Electives (1.5 units)</td>
<td>*Plan 704 Methods of Planning Analysis (0.5)</td>
</tr>
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<td></td>
<td></td>
<td>*Plan 705 Design in Planning (0.5)</td>
</tr>
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<td></td>
<td></td>
<td>Plan 7XX Contemporary Issues in Planning (0.5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 Electives (2.0 units) – Drawn from Master of Public Health, Master of Environment and Business, and School of Planning</td>
</tr>
</tbody>
</table>

* Already developed and available in online format

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**Prepared by:** Robert Shipley  
**Date:** February 2015
Senate Undergraduate Council met on 10 February 2015, and agreed to forward the following item to Senate for approval. Council recommends that this item be included in the regular agenda. Items recommended for inclusion in the consent agenda are contained within a separate report.

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

FOR APPROVAL

NEW REGULATION [effective 1 September 2015]

- Faculty of Engineering
  Minor Credential

  1. **Motion:** To approve the addition of the minor credential type in the Faculty of Engineering and to amend calendar text as described. (Note: *strikeout* = deleted text, *underline* = new text)

  ... Engineering & Architecture

  ...

  Interdisciplinary Alternatives for non-Engineering Students

  In addition to the courses taught by engineering that are part of various plans across campus, the Faculty of Engineering offers two credentials available to other students on campus.

  - The Option in Society, Technology and Values is designed to help students come to grips with many of the major questions we face in a sophisticated technological society.
  
  - The Minor in Entrepreneurship is open to all non-engineering students on campus. Engineering students interested in entrepreneurship should consult the Option in Entrepreneurship.

  ...

  Options, Specialization and Electives for Engineering Students

  ...

  9. Although Engineering does not offer "MINORS" to students enrolled in engineering, many departments of other faculties of the University do. A minor normally requires a minimum of eight ten courses chosen from lists prepared by the department offering the minor. Engineering students who choose a minor must take extra courses. However, often courses in a minor can also be used to satisfy some of the requirements of the technical elective or complementary studies course groups.

  **Rationale:** The offering of the minor credential type will allow the faculty to meet student demand for such credentials in areas of strength for the faculty.
NEW ACADEMIC PLAN [effective 1 September 2015]

Faculty of Engineering
Minor in Entrepreneurship

2. **Motion:** To approve the new minor plan in entrepreneurship as described in Attachment #1.

   **Rationale:** A minor in entrepreneurship has been developed to satisfy interest from other faculties on the recently developed Option in Entrepreneurship. The Minor in Entrepreneurship is currently not open to engineering students.

Mario Coniglio
Associate Vice-President, Academic
Minor in Entrepreneurship

The Faculty of Engineering offers an eight course minor in entrepreneurship that can be taken by undergraduate students in all faculties (the exception is engineering, which has an Option in Entrepreneurship) at the University of Waterloo. It is designed for students with a passion for entrepreneurship, who wish to leverage their academic and technical background with the business skills required to move ideas from concept to commercial, organizational or social success. It is built upon a uniquely Waterloo approach to entrepreneurship education that integrates academic and experiential learning to develop an individual’s entrepreneurial capabilities. This is achieved through a combination of co-operative or capstone project educational experiences and academic content tailored to the entrepreneur’s stage of development.

Because of the diverse backgrounds of Waterloo’s undergraduate students and different curriculum requirements of its various programs, the minor is structured to: (1) provide a foundation of core material that is generalizable to all forms of entrepreneurial interest, (2) ensure flexibility of choice in terms of type of entrepreneurship track selected, and (3) respect individual Faculty/Department desires that the entrepreneurial knowledge gained in the core of the minor be applied to the specific disciplinary content of the home faculty.

The minor’s innovative curriculum focuses on two tracks of entrepreneurship: venture creation and corporate entrepreneurship, and also allows students to pursue social entrepreneurship interests. While it is common to associate entrepreneurship with venture creation, there is an increasing demand for students who can act as ‘entrepreneurs within organizations’, sometimes referred to as corporate entrepreneurs, or intrapreneurs. Both aspects of entrepreneurship are critical to Canada’s competitiveness in global markets. Further, it is recognized that many members of the University community are interested in social entrepreneurship. Either of these two tracks may be tailored by students to pursue a social entrepreneurship venture or initiatives within firms.

Integration of experiential education is a critical component of the minor. As such, students in the venture creation track must participate in Enterprise Co-op (E Co-op) or Entrepreneurial Experience Milestone, pursuing opportunities that lead to the formation of commercial or social ventures. Students in the corporate entrepreneurship track will be involved in a capstone style project, major project course, or a senior course containing a major assignment that could lead to a corporate enhancement or social contribution. Approval of capstone courses as an appropriate entrepreneurial experience will rest with the minor’s academic co-ordinator, referred to as the program co-ordinator in the remainder of this section of the calendar. This approval will be based on whether the proposed capstone project satisfies the experiential intent of the program, as well as there being a faculty supervisor for the project.

Core to both tracks

Must earn credit for all of the following courses:

- BET 100 or equivalent
- BET 320
- BET 400
- BET 420
- Two electives intended to allow students to tailor their program through the choice of approved electives. Normally these electives would be chosen from the electives already accessible through the student's major program. A guiding principle for approval of elective courses is that they must support the student’s entrepreneurship experiential component.

Venture Creation Track

In addition to the core courses listed above students are required to successfully complete the following courses:

- BET 300
- BET 310 and
- One of the listed milestones:
  - E Co-op Milestone: This milestone is awarded to students in a co-op program that complete an E Co-op term. Entry into an E Co-op term requires the program co-ordinator’s permission. The intent of the program is to permit students who are developing venture concepts to pursue during their co-op terms, or
  - Entrepreneurial Experience Milestone: This milestone is intended for students in a regular program. It recognizes students who are pursuing venture creation concepts during either a study term or an
off term. To achieve the milestone, non-co-op students must complete all the requirements normally expected from a student participating in an E Co-op term.

Conrad Business, Entrepreneurship and Technology Centre offers information sessions to students that provide the details on the E Co-op or the entrepreneurial experience requirements, as well as assisting students in planning their minor.

**Corporate Entrepreneurship Track**

In addition to the core courses listed above students are required to successfully complete the following courses:

- **BET 411**
- **BET 412** or an equivalent course, approved by the program co-ordinator, meeting the experiential component requirements of the minor.

**Successful Completion of the Minor in Entrepreneurship**

To be awarded the minor in entrepreneurship, students must complete all courses (core and approved electives) with an overall average of 65% and no course with a grade less than 60%, as well as milestone requirements for students pursuing the venture creation track.

**Specification for the Milestone associated with the Minor in Entrepreneurship**

**E Co-op Milestone:** This milestone is only available to students in a co-op program and requires successful completion of the following:

1. Completion of an approved E Co-op term, approval based on an application and interview with the co-ordinator and demonstration that there is an accessible market, realistic potential to create and deliver the proposed product or service and a work plan approved by the co-ordinator.
2. Attendance at 100% of workshops and presentations during the initial week of the term (this is for students on their first E Co-op term only, those in following terms are welcome to attend but it is not mandatory). These workshops and presentations will be available by skype.
3. Submission of an acceptable bi-weekly progress report based on the agreed term work plan as assessed by the E Co-op Co-ordinator.
4. Submission of an acceptable end-of-term progress presentation (essentially a post-mortem analysis) as assessed by the E Co-op Co-ordinator.

**Entrepreneurship Experience Milestone:** This milestone is available to a student pursuing an entrepreneurial experience outside a co-op credit.

1. Approval of the entrepreneurial experience, approval based on an application and interview with the coordinator and demonstration that there is an accessible market, realistic potential to create and deliver the proposed product or service and a work plan approved by the co-ordinator. Note: It is expected that the experiential portion of this term will require engagement in the venture for 35 hours per week for a full 12 to 16 week term.
2. Attendance at 100% of workshops and presentations during the initial week of the term. These workshops and presentations will be available by skype.
3. Submission of bi-weekly progress reports based on the agreed term work plan as assessed by the E Co-op Co-ordinator.
4. Submission of an acceptable end-of-term progress presentation (essentially a post-mortem analysis) as assessed by the E Co-op Co-ordinator.
University Professor Designations
The 2015 University Professor designations: William Coleman (political science) and William Cook (combinatorics & optimization).

Waterloo has awarded this distinction to 20 other individuals: Garry Rempel (chemical engineering), Mary Thompson (statistics & actuarial science) and Mark Zanna (psychology) in 2004; Terry McMahon (chemistry), Cam Stewart (pure mathematics) and Robert Jan van Pelt (architecture) in 2005; Phelim Boyle (accountancy) and Ian Munro (computer science) in 2006; Ken Davidson (pure mathematics), Keith Hipel (systems design engineering) and Jake Sivak (optometry) in 2007; Roy Cameron (health studies & gerontology) and Flora Ng (chemical engineering) in 2008; Ellsworth LeDrew (geography & environmental management) and Ming Li (computer science) in 2009; Stuart McGill (kinesiology) and Janusz Pawliszyn (chemistry) in 2010; Robert Le Roy (chemistry) in 2011; François Paré (French studies) in 2012; Douglas Stinson (computer science) in 2013.

UNIVERSITY PROFESSOR
The University of Waterloo owes much of its international reputation and stature to the quality of its eminent professors. UW recognizes exceptional scholarly achievement and international pre-eminence through the designation “University Professor.” Once appointed, a faculty member retains the designation until retirement.

Not counting retirees, it is anticipated there will be one University Professor for approximately every 60 full-time regular faculty members, with at most two appointments each year. Such appointments are reported to Senate and the Board of Governors in March and April respectively, and are recognized at Convocation.

Selection Process
1. Annually, nominations will be sought from Faculty deans, directors of schools and department chairs, as well as from the University community generally. A nominee shall have demonstrated exceptional scholarly achievement and international pre-eminence in a particular field or fields of knowledge. The individual who nominates a colleague is responsible for gathering the documentation and submitting it to the vice-president, academic & provost before the December break. The University Tenure & Promotion Committee will act as the selection committee; its decisions are final.

2. A nomination must be supported by at least six signatures from at least two UW departments/schools and must be accompanied by a curriculum vitae and a short, non-technical description of the nominee’s contributions.

3. A nomination must also be accompanied by letters from the nominee’s dean, and from at least two and no more than five scholars of international standing in the nominee’s field from outside the University. The scholars are to be chosen by the nominee’s chair/director in consultation with the dean and the nominator. The letter of nomination should explain why these particular scholars were chosen.

4. Letters soliciting comments from scholars shall be sent by the chair/director. Scholars shall be asked to comment on the impact and specific nature of the nominee’s most influential contributions, addressing their responses directly to the vice-president, academic & provost.

5. The dossiers of unsuccessful nominees remain in the pool for two additional years. The appropriate dean should provide updated information each year.

Ian Orchard
Vice-President, Academic & Provost