OPEN SESSION

3:30 Consent Agenda
Motion: To approve or receive for information by consent items 1-4 below.

1. Minutes of the 27 March 2017 Meeting  
   Decision

2. Reports from Committees and Councils
   a. Graduate & Research Council  
      Information
   b. Undergraduate Council  
      Information

3. Report of the President
   a. Recognition and Commendation  
      Information

4. Reports from the Faculties  
   Information

5. Report of the Vice-President, Academic & Provost re: University Professor Designation  
   Information

Regular Agenda

3:35 6. Business Arising from the Minutes
Report re: Gender  
   Information

7. Presentations  
   Information

   a. Jessica Brake, acting President, Graduate Student Association
   b. Chris Lolas, President, Federation of Students

4:15 8. Reports from Committees and Councils
   a. Executive Committee  
      Decision
   b. Graduate & Research Council  
      Decision
   c. Undergraduate Council  
      Decision

4:35 9. Report of the President  
   Information

4:50 10. Q&A Period with the President  
   Information

5:00 11. Report of the Vice-President, Academic & Provost  
   Information

5:10 12. Report of the Vice-President, University Research  
   Information

5:15 13. Other Business

CONFIDENTIAL SESSION

5:20 14. Minutes of the 27 March 2017 Meeting  
   Decision

27 March 2017
Karen Jack
Secretary to Senate

---

1 This report re: Elections to Senate Committees and Councils and to the Board of Governors will be at members’ places.
OPEN SESSION

The chair recognized those teaching award winners named in the reports provided under item 6. of the agenda present at today’s meeting: Amit and Meena Chakma Awards for Exceptional Teaching by a Student: Alex Huynh, Psychology; Hourman Mehrabian, English Language and Literature; Mohammed Nassar, Electrical and Computer Engineering; Lay Ling Tan, Chemistry; and Distinguished Teacher Awards: Monica Barra, Chemistry; David McKinnon, Pure Mathematics; he noted that Sanjeev Bedi, Mechanical & Mechatronics Engineering and Dan Davison, Electrical & Computer Engineering were not able to attend. Senators gave the winners a round of applause.

Consent Agenda

Senate heard a motion to approve or receive for information the items on the consent agenda, items 1-6 below.

Porreca and Wolczuk.

1. MINUTES OF THE 16 JANUARY 2017 MEETING

Senate approved the minutes of the meeting.

2. REPORTS FROM COMMITTEES AND COUNCILS

Graduate & Research Council

Senate received the report for information.
Undergraduate Council
Senate approved an amendment to the guideline for determining the start of Winter term classes and received the remainder of the report for information.

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

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

5. REPORT OF THE COU ACADEMIC COLLEAGUE
Senate received the report for information.

6. REPORTS FROM THE TEACHING AWARD COMMITTEES
Amit and Meena Chakma Awards for Exceptional Teaching by a Student Committee
Senate received the report for information.

Distinguished Teacher Award Committee
Senators received the report for information.

The question was called, and the motion carried.

Regular Agenda

7. BUSINESS ARISING FROM THE MINUTES
Fall Break 2016 Report. Coniglio introduced Pam Charbonneau, Director, Student Success Office. Charbonneau walked members through her presentation, noting feedback was sought from students regarding its value, how they used their time, and suggestions to help promote success; she reviewed some comments and next steps.

In discussion: two key themes emerged (students would like a full week break, coordination re: timing of exams and assignments is desired); more feedback is being sought; faculty support the initiative, but found there was some confusion; a comment that coordination as proposed will be challenging. Senators understood more information will follow next term.

Slides used in the presentation may be seen here:

8. PRESENTATION – ACADEMIC INBREEDING, A STRATEGIC RISK FOR UNIVERSITIES
The presentation was cancelled.

9. REPORTS FROM COMMITTEES AND COUNCILS
Finance Committee.
Speaking to his presentation, Orchard referenced the proposed 2017-2018 operating budget and the supplementary data set distributed with the agenda. He highlighted several items, including: actual enrollment numbers in November and February mean that some information is estimated; revenues are conservative; a deficit exists, but may be made up as usual as the year progresses; how student differentiation numbers are funded.

Senate heard a motion to recommend that the Board of Governors approve the 2017-2018 Operating Budget.
Orchard and Andrey. Carried unanimously.

Orchard also spoke to the Budget Model information, providing a general description of the process, and details about the Faculty’s base line revenues, research support, the “slip-year”, and the strategic resource fund. He noted that clarity is still to come from the Province re: funding.

In discussion: federal accessibility funding generally has been sufficient to cover expenses each year; the University covers base line salary figures; the deans decide on funds for academic programs; faculty to student ratios are being worked on, but challenges exist; there is more transparency in reporting now.


Graduate & Research Council
Faculty of Engineering, Systems Design Engineering. Senate heard a motion to approve the update of research areas in the MASc and PhD Calendar, and to approve the accompanying plan changes effective 1 May 2017.

Casello and Brake. Carried unanimously.

Undergraduate Council
Office of the Registrar, Final Examination Schedule. Following a brief discussion of the rationale by Jones, Senate heard a motion to approve amendments to the Guidelines on Tests During the Formal Lecture Period.

Coniglio and Wolczuk.

In discussion: in response to a question as to why only the rule only applies to the Faculties of Mathematics and Science, that all Faculty associate deans, undergraduate considered the question and only these Faculties identified the need; some students want midterms to be held on Saturdays, but others do not.

The question was called and the motion carried unanimously.

With regard to the item presented for information re: timing of the distribution of the final examination schedule, Porreca asked Jones if her office will reconsider the matter again in light of new information arising to which she agreed.

10. REPORT OF THE PRESIDENT
Hamdullahpur provided a wide-ranging report, noting: discussions with the Province re: the strategic mandate agreement is underway and an update will follow next month; highlights of the federal budget; 2017 QS subject rankings; recent alumni events; what he’s hearing at the Faculty roundtables and departmental visits, with more information to follow; computational resources and potential improvements; his work as chair of the Leadership Council’s Digital Research Infrastructure group. In response to a question, he advised that the University did not renew its agreements with the Confucius Institutes, and Fletcher noted that Renison has non-degree work on this front following approval from its Board.

Hamdullahpur spoke to Senators about student suicides and the pain these losses cause to the entire community. He advised that the most recent death has spurred heartfelt conversations across the University and that work is being done to consider how the University can help provide a supportive environment. He noted that while suicide is a youth issue that extends to all communities, any suicide is one too many.

In discussion: contact with the family must be done by the University only after local and provincial authorities allow it per legislation; a description of the protocol for informing the community; some families’ preference for the University not to communicate information broadly; Waterloo’s students have demonstrated incredible leadership; information from Campus Wellness Director Walter Mittelstaedt regarding wait times; a request from a student Senator that the conversation continue between students and Wellness about the availability of help; questions from a faculty member about what faculty and instructors can do to help and ways they can avoid worsening things; a suggestion that suicide is sometimes not a mental health issue; more information will follow for the community; remarks from a student Senator on behalf of students, the entirety of which is attached to these minutes.

11. REPORT OF THE VICE-PRESIDENT, ACADEMIC & PROVOST
Graduate Studies Office – Department Name Change. Casello spoke to the memo distributed with the agenda following which Senate heard a motion to approve the name change.

Casello and Porreca. Carried unanimously.

Writing Centre – Department Name Change. Coniglio spoke to the memo distributed with the agenda following which Senate heard a motion to approve the name change.

Coniglio and Willard. Carried unanimously.

13. REPORT OF THE VICE-PRESIDENT, UNIVERSITY RESEARCH
During Dixon’s review he advised that his office is watching for an announcement from the federal government regarding new research chairs and for the federal review of intellectual property strategy.

14. OTHER BUSINESS
There was no other business.

Senate convened in confidential session.

2 April 2017
Karen Jack
Secretary to Senate
CONFIDENTIAL SESSION

Confidential minutes have been removed.

The meeting was adjourned at 5:40 p.m.

27 March 2017

Karen Jack
Secretary to Senate
Addendum

Remarks made by a student Senator during the meeting.

First, I would like to thank the President for his comments today and thank the university for providing two statements to the student body. I believe these were essential in acknowledging the issues at hand and reassured students that the administration is aware of concerns.

Myself and my fellow senators would like to offer our support and assistance in working towards an improved solution on mental health. We believe it is our position, along with the university, to take the lead in fostering an open dialogue surrounding mental health with the hope that the student body will follow. As a community, we need to shape a better understanding of mental health and the broader focus that comes with it.

We would like to express our support for a proactive, long term wellness strategy. The student reality at the University of Waterloo is a highly competitive environment, with personal value determined by class ranking, course grades or secured employment opportunities. While we are all quick to recognize that a challenging education comes with attending an excellent university, we must frame all elements of our student experience through the lens of wellness. In the light of recent events, it has become abundantly clear that the student body is mobilizing and unifying in support of addressing challenges surrounding mental health, on both the undergraduate and graduate level. I would like to offer some considerations to take into account as we move forward in addressing mental health on campus.

UW Mates is a student service run in conjunction between Feds and UW Counselling Services. For those who may be less familiar, MATES is a counselling-based, one-to-one peer support program, providing services to students who are experiencing social difficulties, mental health challenges and transitional challenges adapting to university life or different cultures. During the Fall 2016 term, 45 students were involved in running the service, providing 840 hours of availability and completing 168 sessions with students. This is a significant increase from 62 sessions in the term prior to the partnership with Feds. Over 60 students applied to simply volunteer with the service, with the posting closed early due to the overwhelming response, for only 18 positions. MATES volunteers go through an intensive selection process and receive extensive training in mentorship by Clinical Psychologists from Counselling Services. The program is also under professional supervision by Counselling Services to ensure safety and confidentiality. MATES offers hours through drop in and appointment, with 43 drop in visits and 125 appointments last term. Currently, MATES partners with the Faculty of Engineering to faculty specific programming, with MATES volunteers available within Engineering buildings supervised by Engineering counselling staff. To continue expanding the reach of MATES, all other faculties on campus need to offer the same level of buy-in by providing space for this service to operate and to work with counselling services for the appropriate supervision and training. We feel strongly that we need to continue to amplify services already existing on campus with the university's support to connect students to these services.

Other opportunities on campus to assist students is through the implementation of a training module on Learn or Portal, connecting students to resources both on campus and in the broader community. We would like to see this module give a broad explanation of mental health and help to foster the open dialogue I mentioned earlier. This would ideally remain permanently on the platform throughout a student’s educational career at the university, to ensure no one ever feels isolated and removed from access to services. We believe this could be the basis for a “self serve” model for students to manage challenges that arise and connect with resources as needed.
Another opportunity would be to offer drop-in counselling services within residences once a week, particularly as first year students are coping with the transition to university. Fostering an open dialogue starts with added communications and increased efforts through marketing. This also includes professors and teaching assistants being made aware of resources and ensuring their students are informed.

We would like for the student voice to play a significant role in the development of a mental health focus in the future at UW. A student driven initiative is key for understanding pain points that we can mitigate and be proactive in our approach to preventing future challenges. This can be done through student driven task forces, as well as town halls to make efforts more visible on an institution-wide level.

I hope that each of these opportunities are taken seriously into consideration as we make progress on this issue, as they are simply a starting point for what will be an extensive and important endeavour. I ask that each individual present takes the concerns and ideas expressed today by myself and by my colleagues back to their respective faculties and departments and start a trickle down process for change as we work towards a long term wellness strategy as an institution.
Senate Graduate & Research Council met on 20 March 2017, and on behalf of Senate approved curricular submissions, three new graduate awards and two final assessment reports. Council agreed to forward these items to Senate for information. Council recommends that these items be included in the consent agenda.

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

FOR INFORMATION

CURRICULAR SUBMISSIONS
On behalf of Senate, course revisions, two minor plan changes and one minor program revision were approved for the Faculties of applied health sciences (kinesiology; recreation and leisure studies) and arts (economics; psychology; sociology).

GRADUATE AWARDS
On behalf of Senate, council approved the Catherine and Feridun Hamdullahpur Graduate Scholarship, the Master of Environment and Business Award and the Ronald C. Johnson International Experience Award.

ACADEMIC PROGRAM REVIEW REPORTS
a. Final Assessment Report – Accounting (MAcc and PhD) [Attachment #1].
b. Final Assessment Report – Mechanical Engineering (GDip, MEng, MASc and PhD) [Attachment #2].

/ar  Jeff Casello              George Dixon
     Associate Provost, Graduate Studies       Vice President, University Research
Final Assessment Report
Accounting (MAcc/PhD)
November 2016

Summary of the Program Review:

In accordance with the University Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response and assessments of the programs (MAcc, PhD) delivered by the School of Accounting and Finance. A self-study (Volume I) was submitted to the Associate Provost, Graduate Studies Office on January 21, 2016. The self-study presented the program descriptions and learning outcomes, an analytical assessment of these two programs, and program data including the data collected from a student survey along with the standard data package prepared by the Office of Institutional Analysis & Planning (IAP). Appended were the course outlines for all courses in the program and the CVs (Volume II) for each full-time faculty member in the Department.

Two arm’s-length external reviewers (Volume III), (Dr. Janet Morrill, Associate Professor of Accounting and Finance, University of Manitoba and Dr. S.M Khalid Nainar, Professor and Chair of Accounting and Financial Management Services, DeGroote School of Business, McMaster University) were ranked and selected by the Associate Provost, Graduate Studies, in addition one internal reviewer (Dr. Wei-Chau Xie, Civil Engineering) was selected by the Associate Provost, Graduate Studies.

They reviewed the self-study documentation and then conducted a site visit to the University on May 30-31, 2016. The visit included interviews with the Vice-President, Academic & Provost; Associate Provost, Graduate Studies; Dean of Arts; Arts Associate Dean of Graduate Studies, Program Directors, Faculty Members, and meet with a group of current graduate students as well as the University Librarian.

Program characteristics:

MAcc

The MAcc program started in 1985 with 12 students in the first cohort and is now one of the largest Master’s programs in Ontario. It combines education toward professional career interests in accounting and finance, whether public practice, industry, or government, with preparation for the Chartered Professional Accountant exam. As this is a professional program, it does not serve as a stepping-stone to the PhD.
PhD
The PhD program admitted its first students in 1988 and has graduated more students than most other programs in Canada. The program’s intention is to expose students to a wide range of accounting research and gives them the freedom to find their own areas of research interest and the supervisors best equipped to help them. This produces very well trained academics with a broad range of expertise who have been successful in landing academic positions and fruitful careers.

Summary of strengths, challenges and weaknesses based on self-study:

Overall Strengths

- Top-flight faculty, engaged alumni, an outstanding research environment, and support from professional bodies
- Recognized as one of the best schools in the country in developing and fostering successful graduates

MAcc Strengths

- Allows for students to prepare for the CPA exam while obtaining a “head start” on career specialization or taking advantage of the opportunity to “test the water” in a number of career practice areas
- Wide variety of course offerings taught by a strong core of faculty with vast experience preparing students for professional certification exams (main reason why student undertake the program)
- In each of the seven years under the review, pass rates of MAcc graduates exceeded the Ontario and national pass rates.

PhD Strengths

- Ranked 36th in the world; highest ranked Canadian program
- 92% of graduates hold academic positions at universities and 67% are employed in Canada
MAcc Challenges/Weakness

- Enrollment growth resulted in need for more sections in large exam-preparation courses thus increasing the need for additional faculty to teach these courses. Some new faculty members lack experience in preparing students for professional exams. Efforts may be necessary to better integrate these new instructors into the program’s culture. Passing on knowledge from more-experienced core faculty will be necessary.

- The Provision of regular, individual formative feedback is required for students to determine their competency levels in the various areas of the professional accounting competency map. The size of the program presents challenges for meaningful feedback to occur.

- Competition from CPA Canada’s Professional Education Program which provides students with regular extensive formative feedback throughout the program.

- No longer the only school in Ontario with exemption from the CPA certification process; more competition.

- Other schools with the exemption are less expensive and could become an attractive choice to students.

PhD Weaknesses/Challenges

- Main challenge is centered around the level of minimal guaranteed funding offered to students as several competitors are offering more than the $25,500 offered by UW and some are offering funding for 5 years and/or are waiving tuition.

Summary of key findings from the external reviewers:

The external reviewers, Drs. Morill and Nainar, positively assessed the MAcc and the PhD programs and identified no major problems. The reviewers were very impressed with the willing participation from the faculty, administrators and students which to them indicated “their buy-in and pride in the programs”. Additionally, they noted that “program statistics are favorable and many Waterloo alumni are well known and well respected in the Canadian accounting academic circle”. However, they did suggest a number of recommendations which they believed would add benefit to the two programs.
Program response to external reviewer recommendations:

Recommendations

1. Offer five years of funding to PhD students if possible. Alternatively, offer teaching assignments in the fifth year that provide as much time as possible to complete their thesis and go to interviews.

The PhD Committee will try to make additional funding available to students who require it through teaching opportunities. In the medium term, the Committee will attempt to create formally the same level of funding in the fifth year as the first four years through a commitment to a combination of teaching opportunities or research assistantships in the fifth year.

The PhD Committee may execute this by considering appointing fifth-year PhD students in advanced standing to independently teach on an adjunct basis (prior teaching or TA experience at Waterloo or elsewhere and a successful defense of thesis proposal) by allowing them to teach with full responsibility up to two sections of a three-hour course per week in one academic year - while also providing them with a stipend. Another benefit is the increased employability of these students. The PhD Committee will also consider encouraging faculty members with SSHRCs to employ fifth year PhD students as research assistants.

2. Consider admitting more international students to PhD program if possible.

The School is now admitting students with a clear guideline of 6 students per year, four domestic and a maximum of two international. The School is unable to increase the number of admitted international students as the Government of Ontario does not provide funding for international students unlike some other provincial governments. With respect to recruitment, the School will hold PhD program information sessions for MAcc students, Waterloo students from other programs, and to professional accountants in Ontario.

3. Provide tuition waivers or increase PhD funding if possible to be competitive with other doctoral programs. With respect to resources the Report also advocated for the following items: involve more faculty members in the program, relieve some of the supervisory burden presently on the full professor; and encourage students to widen their choice sets.
The School is aware that all competing universities in Canada and virtually all PhD programs at US universities provide tuition waivers or scholarships. As a result, the School believes that offering tuition scholarships to incoming students is crucial in order to make the PhD program competitive, and the School intends to implement this upon reviewing resource availability and University regulations.

The PhD Committee appreciates the ideas to encourage tenured associate professors to co-supervise PhD students and would consequently introduce an incentive system for supervisory workloads including implementing teaching load reductions.

4. **Ensure students in the MAcc program and other cognate disciplines receive information about careers in accounting academia.**

The MAcc Redesign Committee intends to incorporate some accounting research in the new program. Exposure to accounting research will in turn expose students to academically-oriented careers. Additionally, MAcc alumni who went on to a career in academia will be included in Speaker Series. The Committee is also considering introducing an elective research course titled “Overview of Contemporary Accounting Research” in order to expose students to contemporary research issues and to opportunities in research careers. This course would be a distinguishing feature of the program and would differentiate the MAcc from others similar programs.

The MAcc Redesign Committee has been tasked with reviewing changes that should be made to the MAcc program to address changes in the professional education requirements and competencies of CPAs and the increased competition from other universities in preparing students for professional accreditation. See implementation plan below for proposed follow up.

5. **Continue to evaluate strategic considerations for the MAcc, such as reducing tuition, changing the course structure, and putting in a "soft skills" boot camp in January.**

The MAcc Redesign Committee has been considering incorporating the “soft skills” suggestion into its planned revamp, with the program kicking off with a ten-week foundational term focused on developing students’ enabling competencies, including ethics, problem solving, decision making, teamwork, and collaboration. The Committee agrees that producing students who are able to support their technical expertise with strong soft skills will differentiate the MAcc path to the CPA designation from the other options currently available to students. It should also help to
distinguish the graduate from the undergraduate programs. The Committee is considering other course innovations aimed at developing higher-level professional judgment and decision-making.

6. Consider opening MAcc enrollment to non-University of Waterloo students.

This recommendation is deferred until the new program is accepted and developed at which time it will be reviewed. At present only students from three of SAF’s undergraduate programs can be admitted. This guarantees acceptable common levels of knowledge among MAcc students. It enhances the perceived value of these undergraduate programs as well. The Committee is aware of the benefits and drawbacks. This option will be considered after the curriculum redesign has been completed.

7. Ensure that MAcc students have access to all services offered by the Graduate Students Association, receive all notifications from the GSA, and are invited to all events.

Students in the Master of Accounting program currently have access to all services provided to the wider community of graduate students. Graduate students are advised by email when events are running; however, the program will cross-post notifications to the Master of Accounting community site to increase awareness in light of this feedback.

Starting in the 2017 academic year, the program will include short workshops on career and counselling offerings in order to encourage more student to seek out these services and to better support the transition from undergraduate to graduate studies.

8. Ethics coverage in the MAcc should be systematically monitored to ensure it is sufficient, particularly for students not taking the assurance electives (as other courses may not have as significant and explicit coverage).

The MAcc Redesign Committee has already incorporated an increased emphasis on ethics into its plan for the new program. This emphasis will be achieved by offering a standalone ethics course in the foundation term and by integrating ethics into many of the core and elective courses elsewhere in the program.
9. **Provide more opportunities for MAcc students to connect with alumni.**

Currently, the School intends to connect MAcc students with young alumni through events like the annual CFE prep session held every March, but they are aware that more opportunities are needed. As a result, the School has begun conversations with the Alumni Affairs Office regarding joint MAcc/young alumni events in the Waterloo area to increase the number of connections between current students and alumni. Starting 2017, the School will launch an MAcc Alumni Speaker Series that will bring alumni in to speak to students about their post-MAcc careers.

**Recommendations that were not selected for implementation:**

1. **Continue to evaluate strategic considerations for the MAcc, such as reducing tuition, changing the course structure, and putting in a "soft skills" boot camp in January.**

**Response**

MAcc tuition is comparable to other Graduate Diploma and Masters of Accounting programs in Ontario and is even lower than the undergraduate tuition. While the program is more costly than the CPA PEP program, it offers many benefits not provided by the PEP, including: face-to-face education, more in-depth coverage of key CPA technical competencies, accelerated access to the CFE, a familiar campus environment, and a Master’s degree. Given these factors, as well as the place that the current tuition has within the School’s and the University’s funding model, the School views that a tuition reduction would not be appropriate.

2. **If possible, keep MAcc classes smaller than the undergraduate classes to encourage more interaction and create an environment that looks different than their undergrad experience. We would suggest class sizes from 25-40 students.**

**Response**
MAcc class sizes are capped at fifty, with many electives having fewer than thirty students. MAcc class sizes are significantly smaller than undergraduate classes. Most upper-year undergraduate core classes have around seventy students. Although average class sizes will vary from year to year with program enrolment, it is expected that MAcc course caps will remain as is. Although this will often result in class sizes below fifty, it is not feasible to lower the caps below this number due to classroom availability constraints and the difficulty of finding faculty qualified to teach in the program.
### Implementation Plan:

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Proposed Follow-up</th>
<th>Responsibility for Leading and Resourcing (if applicable) Follow-up</th>
<th>Timeline for addressing Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong> (Objectives) Need for a fifth-year funding.</td>
<td><strong>1A:</strong> Formalize an opportunity for the fifth-year advanced standing Ph.D. students to independently teach one or two in the fifth year.</td>
<td>Associate Director Research and PhD Director and PhD Committee</td>
<td>Starting September 2017</td>
</tr>
<tr>
<td></td>
<td><strong>1B:</strong> Formalize the fifth year funding at the same level as prior years, combining independent teaching and RA opportunities.</td>
<td></td>
<td>Starting September 2018</td>
</tr>
<tr>
<td></td>
<td><strong>1C:</strong> Work with the Faculty of Arts on a fifth year funding model.</td>
<td></td>
<td>Starting September 2017</td>
</tr>
<tr>
<td><strong>2.</strong> Consider admitting more international students to PhD program if possible.</td>
<td><strong>2A:</strong> The SAF is now admitting students with a clear guideline of 6 students per year (4 local and a maximum of 2 international). No change</td>
<td>Associate Director Research and PhD Director and PhD Committee and School Director</td>
<td>Implemented starting the September 2016 admission.</td>
</tr>
</tbody>
</table>

Nov 2016

Page 9 of 17
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>anticipated unless Ontario Government funding includes international</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>2B</strong>: Continue to participate in On-campus Graduate Fairs hosted by the Faculty of Arts and the Graduate school, targeting non-accounting students in related disciplines (Econ., Computer science, Actuarial science), and sensitize Ph.D. in Accounting as an attractive career path.</td>
<td>Starting September 2016</td>
</tr>
<tr>
<td></td>
<td>Hold an information session once a year or a need/invitation basis for non-UW students, including international students.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hold the same session for professional accountants in Ontario on a need/invitation basis</td>
<td>Starting September 2016</td>
</tr>
</tbody>
</table>

Nov 2016

Page 10 of 17
| 3. | Resources  
Offer Tuition Scholarship  
Engage more faculty in PhD program | **3A**: The Associate Director Research working with the PhD Director will review possible revenue sources to create a tuition scholarship. Possibilities include the Excellence Fund or Operating Funds generated by the School.  
**3B**: The Associate Director Research working with the Director should encourage Associate Professors to participate in Ph.D. supervision. Implement teaching reduction policy for chief supervisor and co-supervisor, one course for sole supervisor and proportions of one course for one-half course for co-supervisors for each successful PhD graduate. | Associate Director Research and PhD Director and PhD Committee  
Begin review process now, with possible implementation for September 2018  
2017-18 or 2018-19 We need to be confident of sufficient resources under the new funding model. |
|---|---|---|---|
| 4 | Ensure students in the MAcc program and other cognate disciplines receive | **4** The Associate Director Programs and the MAcc Director and the MAcc  
2018-19 |
information about careers in accounting academia.

redesign team should consider putting in an elective course focused on research in MAcc. This is subject to the MAcc redesign that may stop using normal semester courses. If so research would need to be integrated to the degree possible in the integrated program offerings being considered. The School has not yet passed the new MAcc design that has been proposed.

5 Continue to evaluate strategic considerations for the MAcc, such as reducing tuition, changing the course structure, and putting in a "soft skills" boot camp in January.

5a: Reducing tuition is not being considered as described in the response.

5b: The Macc incorporates significant soft skills within its current structure. The MAcc Redesign Committee is considering putting in a major “soft skills” section at the beginning of the revised integrated program plus other course innovations to enhance judgment and Associate Director Programs, MAcc Director and School Director

Immediate

2019-20

Associate Director Programs, MAcc Director and MAcc Redesign Committee
|   | Consider opening MAcc enrollment to non-UWaterloo students. | 6a: Plan is to make program improvements first  
6b: We will then review the possibility of admitting other students. At present the program is predicated on students doing their undergrad degrees in one of three SAF undergrad programs. Until the redesign in complete, we will not consider whether to change this long standing policy. | Associate Director Programs, MAcc Director and School Director | 2018-19  
2019-20 |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Ensure that MAcc students have access to all services offered by the Graduate Students Association, receive all notifications from the GSA, and are invited to all events.</td>
<td>Students in the Master of Accounting program currently have access to all services provided to the wider community of graduate students. Graduate students are advised by email when events are running. We will cross-post notifications to the Master of Accounting community site.</td>
<td>MAcc Director</td>
<td>2017</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>We will increase visibility of graduate student-specific Career and Counselling offerings by including short workshops on these services during orientation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>8</strong> If possible, keep MAcc classes smaller than the undergraduate classes to encourage more interaction and create an environment that looks different than their undergrad experience. We would suggest class sizes from 25-40 students</td>
<td>MAcc class sizes are capped at fifty, with many electives having fewer than thirty students. Although average class sizes will vary from year to year, we expect to maintain MAcc course caps at fifty.</td>
<td><strong>Associate Director Programs, MAcc Director, and School Director</strong></td>
<td><strong>Immediate</strong></td>
<td></td>
</tr>
<tr>
<td><strong>9</strong> Ethics coverage in the MAcc should be systematically monitored to ensure it is sufficient</td>
<td>The MAcc Redesign Committee has already incorporated an increased emphasis on ethics into its proposed plan for the new program although at present ethics is covered explicitly in our undergrad programs that must be taken before admission and is integrated into MAcc courses. This emphasis will be achieved by offering a standalone ethics material in the new</td>
<td><strong>Associate Director Programs, MAcc Director and MAcc Redesign Committee</strong></td>
<td><strong>2019-20</strong></td>
<td></td>
</tr>
</tbody>
</table>
integrated program in the foundation term. The Plan still requires School approval.

| 10 | Provide more opportunities for MAcc students to connect with alumni | Currently, we connect MAcc students with young alumni through events like our annual CFE prep session held every March. We will try and increase the number of opportunities. We have begun conversations with our Alumni Affairs office about running joint MAcc/young alumni events in the Waterloo area to increase the number of connections our current students have with the alumni community each year. In addition, we plan to launch an MAcc Alumni Speaker Series in 2017 that will bring alumni in to speak to students about their post-MAcc careers. MAcc students coming directly from our undergraduate programs have relationships with | MAcc Director | 2017 and ongoing |
alumni during the undergraduate programs.

The Department Chair/Director, in consultation with the Dean of the Faculty shall be responsible for monitoring the Implementation Plan.
Date of next program review: ________________________ 2022
                                Date

Signatures of Approval:

Chair/Director ________________________ Date

AFIW Administrative Dean/Head (For AFIW programs only) ________________________ Date

Faculty Dean ________________________ Date

Associate Vice-President, Academic
(For undergraduate and augmented programs) ________________________ Date

Associate Provost, Graduate Studies
(For Graduate and augmented programs) ________________________ Date
Final Assessment Report
Mechanical Engineering (GDip/MASc/MEng/PhD)
June 2016

Summary of the Program Review:

In accordance with the University Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response of the graduate programs (MEng, MASc, PhD) in Mechanical Engineering. A self-study report (Volume I) was submitted to the Associate Provost, Graduate Studies Office in August 2014. The self-study presented the program descriptions and learning outcomes, an analytical assessment of the three graduate programs, and program data including the data collected from a student survey along with the standard data package prepared by the Office of Institutional Analysis & Planning (IAP). Appended were the course outlines for all courses in the program and the CVs (Volume II) for each full-time faculty member in the Department.

Two arm’s-length external reviewers, Dr. Zouman Dong, Professor & Chair, Department of Mechanical Engineering, University of Victoria and Dr. Patrick Oosthuizen, Professor Emeritus, Department of Mechanical & Materials Engineering, Queen’s University, were selected by the Associate Provost, Graduate Studies, from a list of arm’s length reviewers provided by the department (Volume III). The Associate Provost, Graduate Studies, also selected the internal member of the review team, Dr. Peter Hall, Associate Professor, Department of Kinesiology.

The review team reviewed the self-study documentation and conducted a site visit at the University of Waterloo on January 28 & 29, 2015. The visit included interviews with the Vice President & Provost, Associate Provost, Graduate Studies, the Dean and Associate Dean, Graduate Studies, for the Faculty of Engineering, Chair and Associate Chair, Graduate Studies, of the department, faculty members, administrative and technical staff and a group of 25 current graduate students and support staff. The review team also had an opportunity to visit eight research laboratories covering the five major academic areas in the department: Automation & Controls, Fluid Mechanics, Materials Engineering & Processing, Solid Body Mechanics & Mechanical Design and Thermal Engineering.
Program characteristics:

The MME graduate programs last were reviewed in 2007 and classified as “Good Quality”. The MME graduate program has continued its growth in the last seven years, and today it is one of the largest graduate programs in North America. The department continues to focus research efforts around five major fields of Mechanical and Mechatronics Engineering as follows: 1) Automation and Controls (A&C), 2) Fluid Mechanics (FM), 3) Materials Engineering & Processing (MEP), 4) Solid-body Mechanics & Mechanical Design (SMMD) and 5) Thermal Engineering (TE).

The MME Department offers MEng, MASc, and PhD programs, as well as 3 type II graduate diplomas. The department also participates in the collaborative PhD and MASc programs in Nanotechnology, along with other departments in Faculty of Engineering and Science. Within the MEng program, the department offers type II graduate diplomas in Green Energy, Design and Fire Safety; the three diploma programs were approved in 2012.

MEng.

The MEng program aims to provide greater breadth of understanding of engineering principles and recent technology arising from engineering research to solve problems in industry. This objective is achieved through courses only; a thesis is not required. The MEng program is enhanced by three type II graduate diplomas, which can be completed in parallel with the MEng degree by electing specified courses. The graduate diplomas aim to provide students with greater depth of expertise in the areas of Green Energy, Design and Fire Safety.

MASc.

The MASc program aims to provide a deeper understanding of the theoretical principles and analytical methods necessary to permit effective cutting edge research and development. The MASc provides a foundation in advanced engineering research for those who wish to pursue a PhD. This objective is achieved mainly through courses and a thesis requirement. The MASc also prepares graduates to function as highly-skilled engineers in industry, giving them the capability to effectively use the literature, to conduct complex long term projects and to direct large engineering projects that have a significant research component.

PhD.

The PhD program aims to provide the required theoretical and experimental knowledge and research methodology to conduct cutting-edge independent and original research. This objective is achieved through courses, a comprehensive examination and a thesis requirement. The PhD prepares graduates for careers in academia, industrial and government research centres, and entrepreneurship.
Summary of strengths, challenges and weaknesses based on self-study:

Strengths

- University of Waterloo has the largest MME program in Canada and is home to nearly 2000 undergraduates, graduate students, faculty and staff

- The MME graduate program at Waterloo is one of the strongest in terms of graduate student enrollment in Canada

- MME has secured close to $129M of research funds since 2007

- These research funds have provided for the creation of excellent research facilities (some of which are unique in Canada and even North America) and provide a research environment conducive to excellence

- MME has achieved an international reputation for its research activities and its graduate/undergraduate programs and attracts excellent students from all over Canada and the world

Challenges

- Finding methods for reducing the financial burden on supervisors in recruiting graduate students

- Not having enough space to accommodate all graduate students, PDF’s and visiting scholars and the poor quality of some graduate offices

- Ways to increase constructive interactions among their graduate students

Weaknesses

- MME currently has 9 (17.3%) female faculty members out of a complement of 52 faculty
Summary of key findings from the external reviewers:

The report of the review team was very positive. They found that the “MME graduate program is of very high quality and is providing an excellent educational experience to students enrolled in the four graduate degree and diploma programs” They further noted “Since the last academic program review in 2007, the program has made substantial progress in both the quality and scope of the research program and the infrastructure that facilitates world-class graduate learning and research”.

“Overall, the MME graduate program and department are running smoothly and have been continuing to strive for excellence in every aspect. The Department continuously enjoys high national and international reputation in research and education. Faculty, support staff and students are enthusiastic, devoted, and collegial. The continuous success of the MME program can be credited to the strong and visionary leadership of the Graduate Program, the MME Department, and the Faculties of Engineering and Graduate Studies, the collective effort of very competent and passionate faculties, as well as the effective open and inclusive management structure (or the distributed decision making process)”.

There are a few areas in the program that the department needs to consider modifying or improving … but these involve only a small portion of the program and do not negate the conclusion that the program is of very high quality. Among these, an alternative space expansion plan in case the construction of the new E7 building is delayed is relatively important.

“The review committee has noticed that a plan for continued improvement of research and graduate student working space is unfolding over the next two years, and the committee strongly encourage full implementation of the plan developed by the MME Department and Faculty of Engineering to ensure continued success of the excellent graduate program and the planned expansion of the undergraduate programs at MME”.

Program response to external reviewer recommendations:

The review committee offered recommendations on specific aspects of the program and its operation that fall into three categories:

1) Space issues
2) Recommendations that will require minor changes to the programs
3) Recommendations that may lead to major changes in the programs
Space

1) The review committee expressed the opinion that the quality and quantity of some graduate space and certain research labs was sub-standard. This finding was in line with the Self-Study report on the poor quality of some graduate offices and not having enough space to accommodate all graduate students, PDF’s and visiting scholars. The external assessors suggested that since “the construction of E7 largely relies on the university receiving funding from the provincial government it may be wise to do some contingency planning in the event that the building does not become available as soon as originally anticipated”.

Our contingency plan is the scheduled provision in October 2015 of ~1400 NASM in EC4. This space includes 27 faculty and research offices, open-plan carrel seating for 86 graduate students, and several research labs and a seminar room. This is expected to address the current space issues and to accommodate new faculty and graduate students, and allow the existing sub-standard space to be renovated and reconfigured. E7 will provide the additional lab and office space required to accommodate the new faculty and graduate students as the department reaches steady state in 2021 and beyond.

Recommendations that will require minor changes to the programs

2) The review committee offered the following recommendations that the MME Dept. believes would need minor changes to our current programs. These are:

- “The time to completion for MASc and PhD degrees in MME is slightly longer than the set targets. A number of graduate students remain in their program beyond the duration of government support to the university. The present department policies and reward mechanism are encouraging degree completion on time, while additional efforts may be made to address the special issues of the students with timely completion challenges”.

MME plans: Completions by Academic Year for MEng students in the past seven years (2007-2014) is 1.6 (the same as Faculty average); for MASc this is 2.4 (the Faculty average is 2.3) and for PhD is 4.4 (Faculty average is 4.6). To reduce the time to completion for MASc and PhD degrees to set targets, the MME Graduate Studies Office (GSO) will monitor the progress of its graduate students through Student Activity Reports (SAR), and proactively inform students of their interim time limits (e.g.,
comprehensive exam time limit). In the cases of low SAR progress evaluation, the graduate associate chair will meet with the student and their supervisor(s) to review the circumstances leading to the underperformance of the student. The student will then be asked to submit a plan/timeline to graduation. The Department will more actively pursue completion of the comprehensive exam by the end of fourth term by requesting an extension request beyond term four. The importance of meeting program completion targets was discussed with faculty, as they are the best immediate monitors of student progress, in June 22, 2015 department meeting.

- "It appears that many MEng students would like to know what the graduate course offerings will be in the three year period following their first registration. This would allow them to better plan their course selections”.

Due to the program expansions at the undergraduate level and the associated hiring of new faculty planned over a 7-year period, MME has not been able to project its graduate and undergraduate teaching schedules for much more than one year ahead, and in some cases, schedule changes have had to be made a few months before the start of term. As such, providing a 3-year graduate teaching schedule before the department reaches steady state in 2018 will be difficult. However, MME is currently targeting one-year advance scheduling for graduate courses. Since fall 2016 the department is providing a list of core graduate courses and their routine yearly offering sequence for all graduate students. The list includes 20 graduate courses.

- "Graduate students undertaking experimental research should be encouraged to obtain more help from the staff in the departmental machine/workshop and from the Lab technician”.

This comment was discussed at the Department meeting to ask supervisors to encourage their grads to seek more help from staff and technicians. The Department has recently revised the technical staff reporting structure to facilitate research assistance, and has also created an on-line list of the expertise of each technical staff member, available to graduate students through the MME grad studies website.

- “The department should probably continue to offer a workshop for newly enrolled students seeking a Teaching Assistantship”.

Besides the ExpecTAtion workshop run by the Faculty, the MME department with the help of CTE has arranged a focused workshop on ‘successful TAing of ME courses’. The workshop is open to all MME grad students including newly enrolled students.
“In the meeting with graduate students the view was expressed that when there were a significant number of MEng students in a 600 or 700 level course that was also being taken by MASc and/or PhD students the instructor often found it to be necessary, in order to meet the needs of the MEng students, to simplify the lecture materials and to cover background material that was well-known and understood by the MASc and PhD students with stronger academic backgrounds. As a result of this the course descriptions often failed to describe what was actually being taught in the courses and the courses themselves were often at a level that was below that needed by the MASc and PhD students. Many students felt that the listed prerequisites for 600 and 700 level courses needed to be more rigorously applied and that more courses intended purely for MEng students needed to be offered. It was also noted that having more courses intended purely for MEng students would allow these courses to be offered in the evening which would make it easier for many of the MEng students who had full-time jobs to take them. Expansion of the MEng program and enrollment may help to solve this problem."

The Department is offering a total of 10 graduate courses that are mainly for MEng students (also open to other graduates). These courses are all in association with our graduate diplomas that are offered within our MEng program. In the past, a course was developed beyond the GDip’s programs and offered in the popular area of Finite Elements for the MEng students. However, due to a lack of resources, further offerings of this course was not possible. With current teaching resources and demands, developing new MEng-specific courses seems improbable.

The issue has been discussed by the MMEGSC and the following solutions are now in place: a) ten graduate core courses have been identified (two per research group) that follow a common course syllabus irrespective of who is the course instructor. The course syllabus is followed closely in all offerings; b) the MEng students are encouraged to participate in the courses that are specifically designed for them (GDip core courses). Starting Fall 2016, MME has an additional orientation for new MEng students where the GDips and courses offered specifically for them is introduced.

“Some students felt that when a graduate student is promoted directly to the PhD program without completing their MASc thesis they are faced with having to take the comprehensive examination too soon after entering the PhD program. As a result they felt that they are not given enough time to prepare a good thesis proposal”.

MME has requested that the timeline for PhD comprehensive for student transferring from MASc to PhD be changed from 4 terms after starting graduate studies to four terms after transferring to PhD. This request has been approved by the Engineering Graduate Studies Committee.
Recommendations that may lead to major changes in the programs

3) The review committee had the following two recommendations that MME Dept. believes would need major changes to our current programs and hence should be included in the long-term planning of the department. These are:

- “Exploring and documenting the pros and cons of allowing international students to enroll in its MEng program are encouraged”.

- “MME may want to examine its Ph.D. Comprehensive Examination procedure. The present procedure in which the student submits a thesis proposal and is then, in a single examination, first questioned about the proposal and then questioned about their background knowledge may need modification. Two separate examinations, one dealing with background knowledge and one dealing with a thesis proposal, may have to be considered”.

Both recommendations were discussed at Department meeting and further considered by the MMEGSC. The department has approved admission of visa MEng students starting fall 2016.

A single comprehensive exam is common practice across Faculty of Engineering. The advantages and disadvantages of two separate background and proposal comprehensive exam is an ongoing discussion in MMEGSC. The logistics burden (exam chair, committee members, and exam question bank) of conducting two separate exams is considerable and beyond department’s jurisdiction (Faculty provides examination Chair, and internal external examiner is required).

Additionally, and after the self-study assessment, the Department has enhanced its MEng program by:

a) To ensure that extensive knowledge and understanding of the fundamental concepts embodied in mechanical, materials and/or mechatronics engineering is gained through the program, MEng students are now required to take two of their courses from the list of the MME graduate core courses.

b) A ‘Seminar Milestone’ in the form of participation in four of department research seminars and workshops has been added to the MEng program requirements.

**Recommendations that were not selected for implementation:** None
Senate Undergraduate Council met on 21 March 2017, and on behalf of Senate approved course submissions, minor plan changes, faculty regulation changes, and three academic program review reports. Council agreed to forward the following items to Senate for information. Council recommends that these items be included in the consent agenda.

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

FOR INFORMATION

CURRICULAR MODIFICATIONS
Course submissions and minor plan changes were approved for Renison University College (English for multilingual speakers) and for the Faculties of arts (accounting and financial management; anthropology; arts; course cross-listing regulations; East Asian studies; graduate courses regulation; history; Indigenous studies; residency requirement; religious studies; social development studies; sociology), engineering (architecture; business, entrepreneurship and technology; complementary studies electives), environment (environment, resources & sustainability), mathematics (admissions regulations; combinatorics and optimization; communication skills requirements; computer science; computer science – business option; data science; mathematics; statistics and actuarial science), science (physics and astronomy), and for the joint program in computing and financial management offered by arts and mathematics.

ACADEMIC PROGRAM REVIEW REPORTS
2. Two-Year Report for applied language studies (Attachment #2).
3. Two-Year Report for political science (Attachment #3, augmented report).

Mario Coniglio
Associate Vice-President, Academic
Final Assessment Report
Economics (BA/MA), Applied Economics (PhD)
September 2016

Summary of the Program Review:

In accordance with the University Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response and assessments of the programs (BA, MA, PhD) delivered by the Department of Economics. A self-study (Volume I) was submitted to the Associate Vice-President, Academic and the Associate Provost, Graduate Studies Office on August 4, 2015. The self-study presented the program descriptions and learning outcomes, an analytical assessment of these three programs, and program data including the data collected from a student survey along with the standard data package prepared by the Office of Institutional Analysis & Planning (IAP). Appended were the course outlines for all courses in the program and the CVs (Volume II) for each full-time faculty member in the Department.

Two arm’s-length external reviewers selected from the list provided in Volume III of the Academic Program Review, Dr. Hugh Neary, from the University of British Columbia, and Dr. Sam Bukovetsky from York University, were ranked and selected by the Associate Provost, Graduate Studies and the Associate Vice-President, Academic. In addition, one faculty member, Christina Vester from Classical Studies at the University of Waterloo, accompanied the external reviewers.

Self-study documentation was sent to the reviewers in advance and the site visit was conducted on December 10-11, 2015. The visit included interviews with the Associate Provost, Graduate Studies; Associate Vice President, Academic; Manager of Quality Assurance; Dean of Arts; Chair of Economics, Acting Chair of Economics for the fall term\(^1\), faculty members, staff and meetings with a group of current graduate and undergraduate students.

Program characteristics:
The Department of Economics was established as an independent unit in the Faculty of Arts, offering a Bachelor of Arts degree in 1969. A Master of Arts (MA) program in Economics was approved in 1970 and has been operating successfully since then. The Department began its PhD in Applied Economics in the fall of 2004.

\(^1\) There was an Acting Chair of Economics in the fall term of 2015 while the Chair was on sabbatical.
Summary of strengths, challenges and opportunities based on self-study:

Strengths

- Significant number of faculty members have been hired in the last 15 years
  - At the time of the 2008 academic review, there were 23 faculty members (including one continuing lecturer). From 2009 to 2014 ten new probationary or tenured appointments were appointed in the Department as well as two continuing lecturers. There were also five retirements and a number of other departures. By 2014 there were 27 assistant, associate and full professors and three continuing lecturers. Since the review was completed, an additional associate professor has joined the Department.
- Well-balanced expertise of faculty with significant strength in econometrics, theory and applied research
- Faculty pursue research at the frontiers of economics and are publishing in excellent quality journals
- Ability to teach a large number of courses at the undergraduate level is enhanced by a number of lecturers (3 continuing, 3 definite term)
  - Economics has approximately 13 thousand course enrollments. There were 480 students registered in one of the three Economics Major plans in 2014/15. In 2015, 121 students graduated with an Economics Major and 180 with a minor. Approximately 160 course sections are taught annually.
- Undergraduate students receive rigorous training in econometrics, theory and applied courses

Challenges

- The Department seeks to improve its international research ranking
  - Higher research ranking should be achieved as the research of faculty hired over the past decade increases in impact.
- Additional expertise in macroeconomics and finance needed
- Higher ratio of classes taught by sessionals than desirable
  - Data reported in Volume I shows 55 sections out of a total of 160 taught by sessional lecturers in 2014.
  - We are addressing this issue by considering reforms in the delivery model of first and second year undergraduate classes.
• Due to large class size, instructors are relying on teaching and assessment methods that are not ideal in terms of student learning or student experience (e.g., multiple choice exams in first year).
  o The Department is addressing this issue by increasing support for students. We have already instituted tutorials for three core courses, and as noted above, will consider reforms in the delivery model of other classes.
• Addressing the needs of students who are not bound for graduate school and who struggle with the quantitative nature of many economics classes (e.g., scheduling formal tutorials in courses students find difficult)
• Ensuring adequate resources for student success (e.g., having adequate number of TAs for tutorials)
• Recruitment of Canadian graduate students to the graduate programs
• Lack of space
• Budget restrictions affect the department in various ways such as the ability to provide an adequate seminar series to support the department’s research mission and the ability to support student success through tutorials, etc.

Opportunities

• Further development of international partnerships with Chinese universities (e.g., 2+2 program, as well as the 1+1+1 programs for Master’s students)
• Reform of the undergraduate program was initiated at the same time as the recent Arts standardization plan. The Department hopes to better meet the diverse needs of students whether they are seeking employment immediately upon graduation or heading to graduate school
• Focus on skill development of MA students through coaching on professional skills

Summary of key findings from the external reviewers:

The reviewers found that “all programs within the Department of Economics were consistent with the discovery, application and communication of knowledge, all of which is a central tenet of the mission statement of the Faculty of Arts.” They were also very impressed with “the clarity with which the department communicated its degree requirements at all three levels”
Program response to external reviewer recommendations:

Recommendations

1. Carefully monitor the consequences of the undergraduate curriculum reform.

Response
The Undergraduate Associate Chair will closely monitor trends in undergraduate enrollments and majors as well as learning outcomes and student experience. The Undergrad Committee will consider whether any further curricular changes are warranted, and in consultation with the Department will take the appropriate steps for implementation.

2. Carefully monitor work demands on staff and resources.

Response
The Department (the Chair and Associate Chairs) will continue to monitor work flow, particularly those arising out of new responsibilities (i.e. the Management Studies Minor), changes to university procedures (i.e. course scheduling), and extra advising required with the transition to the reformed undergraduate curriculum. Furthermore, the Department will request additional resources and/or changes to work load in order to ameliorate the situation. However, the Department does state that particular aspects of staff responsibilities and their remuneration is determined by the Human Resources Department and not the Department. Nonetheless, the Department recognizes the volume and complexity of the work conducted by Economics staff.

3. Conduct an ad hoc review of the questions raised about the graduate programs – in particular, the balance between theory and application.

Response
The Department reviewed these questions at their Departmental retreat in August 2016. Further discussion will take place at subsequent graduate committee meetings throughout 2016-17. Once the consultation phase is over, the Graduate Committee will be responsible for implementing any recommendations.

4. Monitor the success of formal tutorials scheduled for the first time for Fall 2016 in Econ 211, Econ 221, and Econ 322.

Response
The Department will review effectiveness of tutorials at the end of every term with respect to student feedback and student success. This will be closely monitored by the Associate
Chair, Undergraduate Studies. The tutorials will be considered a success if we receive positive student and instructor feedback.

5. **Pursue closer ties with current 2+2 partnerships and expand to additional universities.**

**Response**
The Department will maintain regular communication with partner universities, including visiting partner universities once per year if budget allows. The Department will also push through additional agreements that were initiated in 2015. Representatives from the Department visited China in Fall 2016 and plan to have additional 2+2 agreements in place by early 2017.

6. **Consider developing international partnerships with institutions outside of China.**

**Response**
The Department recognizes that it is preferable to have partnerships with universities from diverse nations. As a result, the Chair will request Waterloo International to notify the Department of potential new international partnerships. The Department views this as a long term goal and will revisit this recommendation in Fall 2018.

7. **Work with alumni network through Arts Advancement to look for additional sources of funds for lecture series.**

**Response**
The Department will continue to seek ways to engage alumni and intends to plan special events for alumni and current students as resources permit. It is hoped that some of our Economics alumni will be willing to provide financial support for our annual Distinguished Lecture.

8. **Assist PhD students to find a thesis supervisor more quickly.**

**Response**
The Department has implemented a new requirement whereby PhD students must complete a second year research paper under the supervision of a faculty member. The Department hopes that this will assist students in finding a supervisor by building relationships with students and faculty members. In Economics, PhD students do not normally choose a supervisor until their second year.
9. Address concerns of MA students that they are not adequately prepared for co-op interviews in January.

Response
The Department has introduced more applied, policy courses in the fall of 2017 that should better prepare students for job interviews and the job itself. The department now offers the opportunity to sit through mock interviews with faculty members to prepare for specific jobs in economics.

External reviewer recommendations that were not selected for implementation:

1. If qualified foreign applicants are willing to pay the higher foreign fees, they should be admitted.

Response
The reviewers suggest that it may be worthwhile to admit foreign graduate students without any financial support. However, it is university practice to off-set the international tuition differential and to offer graduate students the same funding no matter their origin. Hence implementation of this suggestion lies outside the purview of the Department.

2. Delegation of more responsibility for admission decisions to the departmental level might help attract a better mix of graduate students.

Response
Responsibility for ensuring that admissions criteria are followed lies with the GSO. While offers to non-standard candidates are allowed with sufficient rationale, the judgement as to what is qualifies as a valid rationale lies with admissions specialists in the GSO. The Department would appreciate more flexibility in justifying the admission of exceptional cases.

3. “Space constraints continue to be a problem within the department (and within the Faculty of Arts). If it can be accommodated within the university’s resource allocation framework, an increase of 20% is needed in the (combined) space used for faculty, graduate students and staff offices, seminar rooms, and computing facilities throughout the Faculty of Arts.”

Response
September 2016
Inadequate space is an on-going challenge for Economics and for the Arts Faculty. Office space for graduate students, better space for the Economics Undergrad Society, computer lab space for undergraduate teaching and research lab space are of particular concern. The Chair and Associate Chairs will do their best to continue to raise these issues in the appropriate venues in hopes that a solution can be found.
## Implementation Plan:

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Proposed Actions</th>
<th>Responsibility for Leading and Resourcing (if applicable) the Actions</th>
<th>Timeline for addressing Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Carefully monitor the consequences of the undergraduate curriculum reform.</td>
<td>Watch trends in undergraduate enrollments and majors, make changes as needed</td>
<td>Undergraduate associate chair</td>
<td>Report at the end of each term</td>
</tr>
<tr>
<td>2. Carefully monitor work demands on staff resources</td>
<td>Check in at monthly staff meetings. Deal with problems as they arise.</td>
<td>Department Chair</td>
<td>Monthly basis</td>
</tr>
<tr>
<td>3. Conduct an ad hoc review of the questions raised about our graduate programs – in particular, the balance between theory and application.</td>
<td>Departmental retreat in August 2016</td>
<td>Department Chair and Graduate Associate Chair</td>
<td>Retreat in August 2016 and at subsequent graduate committee meetings throughout 2016 -2017. If changes are deemed to be desirable, we would begin the process in 2018.</td>
</tr>
<tr>
<td>4. Monitor the success of formal tutorials scheduled for the first time for Fall 2016 in Econ 211, Econ 221, and Econ 322.</td>
<td>Review success at the end of every term with respect to</td>
<td>Undergraduate Associate Chair</td>
<td>Review will be conducted every term.</td>
</tr>
<tr>
<td></td>
<td>Pursuing closer ties with current 2+2 partnerships and expand to additional universities.</td>
<td>Maintain regular communication with partner universities, visiting once a year as budget allows. Push through additional agreements which have been started.</td>
<td>Chair of International Programs Committee</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>6.</td>
<td>Consider developing international partnerships with institutions outside of China.</td>
<td>Ask Waterloo International to keep us aware of potential new international partners.</td>
<td>Chair of International Programs Committee</td>
</tr>
<tr>
<td>7.</td>
<td>Work with our alumni network through Arts Advancement to look for additional sources of funds for our lecture series.</td>
<td>Continue to seek ways to engage alumni. Plan special</td>
<td>Chair of the Alumni and Student Relations Committee</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>events for alumni and students as resources permit.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Assist PhD students to find a thesis supervisor more quickly.</td>
<td>Implementation of the new requirement that PhD students complete a second year research paper under the supervision of a faculty member.</td>
<td>Graduate Associate Chair</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Change has been implemented. Review success in summer 2017.</td>
</tr>
<tr>
<td>9.</td>
<td>Address concerns of MA students that they are not adequately prepared for co-op interviews in January.</td>
<td>Offer more applied, policy oriented courses in the fall. Provide the opportunity to participate in mock job interviews.</td>
<td>Graduate Associate Chair</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Change has been implemented for fall 2016. Review success in spring 2017.</td>
</tr>
</tbody>
</table>

The Department Chair/Director, in consultation with the Dean of the Faculty shall be responsible for monitoring the Implementation Plan.
Two Year Progress Report
Applied Language Studies (Minor and Diploma)
November 2016

Background:
The first Program Review of Applied Language Studies (APPLS) was completed in December 2014. In March 2015, a Response to the External Reviewers’ Report was submitted to the Associate Vice-President, Academic’s office. The present document is the Two Year Progress Report written to track progress in meeting the recommendations of the external reviewers.

Progress on Implementation Plan:
The external reviewers made six recommendations, which are recorded below. A response follows each recommendation indicating to what extent the recommendation has been acted upon since the submission of the External Reviewers’ Report.

Recommendations

1. The reviewers recommended that the APPLS program define a clear discrete identity from the English Second Language (ESL) program. Although the program greatly benefits from its close association with the teaching activities of the English Language Institute (ELI), APPLS is too often seen in a supporting role. The reviewers believe that APPLS has the potential to further develop into a distinct “brand,” focusing on the links between second-language acquisition, multilingualism, and the global economy.

Status: Ongoing.

Details:
At Renison, a restructuring has occurred that brought the Applied Language Studies program into the new department of Culture and Language Studies. This restructuring places APPLS in the same department as professors in East Asian Studies, who offer courses in Chinese, Korean, and Japanese. Furthermore, Culture and Language Studies is preparing to offer courses in American Sign Language. This new departmental affiliation associates APPLS more closely with other second language teaching programs that are not ESL programs, and makes the multilingual focus of APPLS more explicit.

We have used the vehicle of a cornerstone assignment in APPLS 304R: Second Language Teaching Methodology to connect more explicitly with other language departments on campus. In the main assignment for the course, students observe professors teaching in
second language classrooms in order to apply theoretical frameworks to observed classroom contexts. In the past, the majority of these observations were completed in ESL classes offered through the ELI. Over the last two years, students have observed in German, French, Spanish, Russian, Latin, Chinese, and Korean language classes. We sincerely appreciate the generosity of the hosting professors who are supporting APPLS students in this way. These placements build connections between language teaching departments and the APPLS program, and enhance on-campus awareness of APPLS.

In addition, the practice of pairing APPLS students with English language learners for the purposes of guided conversational interaction has moved from being an arrangement between individual APPLS and ESL professors to an integral part of the Conversation Partner Program run through Renison’s International Office. English language learners who participate in this program may still be students in the ELI, but increasing numbers of participants are international students studying in a variety of faculties across campus. This defining feature of the first APPLS course (APPLS 205R: Second Language Acquisition) lends greater institutional support to the APPLS program and brings the course into the mainstream of Renison’s international activities.

2. The reviewers recommended that students gain earlier enrolment in the program to ensure an adequate timeline for completion of the requirements. This may be achieved through marketing the course more deliberately in 100-level courses.

**Status:** In progress.

**Details:**

The APPLS marketing material has been updated to reflect the new program structure (which took effect in 2015), and the brochures have been distributed to undergraduate academic advisors.

At the time the APPLS Program Review Report was completed (December 2014), Renison was intending to restructure its marketing team to provide more focused promotion of all of its programs. This restructuring has not yet occurred, so a more systematic promotion of the APPLS program at a college-wide level has not been achieved. However, the College has recently completed the interview process required to hire a marketing manager. We anticipate that the successful candidate will develop a college-wide plan for program promotion that will benefit APPLS.
3. The reviewers recommended that the APPLS program be promoted in a more systematic way. Recruitment and program promotion are mostly concentrated internally, focusing mainly on students already in an APPLS course. Most students first hear about APPLS in a language course, but there are students in other programs (particularly Psychology) and other Faculties who are pursuing the minor. Ensuring that the program is well promoted at Waterloo should raise the profile of the program and make it available to students from any discipline. The beautiful brochure, recently developed by Renison, is a first step in that direction.

**Status:** Ongoing.

**Details:**
Since the APPLS program review, the APPLS promotional brochures have been updated and distributed to undergraduate advisors. APPLS participated in the Social Development Studies Information Session (March 2015), the University of Waterloo Open House (March 2015), and the ARTS Declare Your Minor Day (November 2015). Participation in these university-wide marketing events will continue.

4. The reviewers recommended that the Renison administration and the APPLS Coordinator review staffing needs for the APPLS program and consider establishing a dedicated part-time position to handle administrative tasks.

**Status:** Completed.

**Details:**
In May 2015, Renison hired a full-time assistant whose responsibilities include administrative tasks and marketing support for the Applied Language Studies minor. With the repositioning of APPLS within the new Department of Culture and Language Studies, this assistant now provides support for all departmental publicity activities, with a strong emphasis on APPLS. This addition to the unit has increased the capacity of the APPLS program to establish and increase its visibility on campus and plan events for APPLS students. Additionally, the department has a part-time special events administrative assistant who is available to provide further support to APPLS events.

5. The reviewers recommended that the APPLS program connect more systematically with existing Renison language programs and other Renison programs (e.g., Social Work,
Social Development Studies) and collaborate more closely with other Waterloo departments, especially Germanic and Slavic Studies, French, and Spanish.

**Status:** In progress.

**Details:**
The restructuring at Renison that brought APPLS into the new Department of Culture and Language Studies makes the connections between the other language units at Renison (Chinese, Korean, and Japanese) explicit through shared administration. APPLS works closely with the undergraduate advisor in French to ensure major courses do not conflict, and the connection with Germanic and Slavic Studies is maintained as a faculty member in that department teaches one of the APPLS core courses. In addition, foundational APPLS assignments are used to build awareness of the APPLS program in other language departments across campus. (Please see response to #1 recommendation above for further details).

In the meantime, APPLS works closely with administrators from other language departments to ensure the timing of APPLS courses does not conflict with that of major required courses in those departments. For example, in winter 2017, APPLS 306R (one of the core courses for the minor) was originally scheduled at a time that conflicted with FR 473 (a core course for students in the French Teaching Specialization [FTS] stream). Once this was discovered, we were able to reschedule the APPLS class to permit the FTS students to attend the course. Our flexibility ensures students are able to complete the minor prior to graduation.

6. The reviewers recommended that the APPLS Co-ordinator continue to discuss an APPLS major program with Renison administration, Faculty of Arts administration, and Language departments (especially Germanic and Slavic Studies, French, and Spanish). Under the existing funding formula, it is unlikely that the College would be able to resource the program. More tenured and tenure-track faculty would be needed for the increased teaching and administrative load. There are two factors that might make the major more viable: 1) the reduction of Arts Honours BA requirements to a 16-course minimum and the interdisciplinary nature of APPLS; 2) if the BIUs for Honours APPLS majors could be transferred to Renison, it would make the program more cost-effective.

**Status:** The possibility of turning APPLS into a major program is an appealing prospect that continues to be discussed at Renison from time to time. However, moving the APPLS to a major program is not economically feasible at this time.
Details:
As the reviewers noted, increased financial resources are required to grow the APPLS program to a major, and the College is not able to designate these. Renison is committed to the success of the APPLS minor and will continue to search for opportunities to grow the program. The process of securing permission to hire a new tenure-track professor in APPLS (shared with the English for Multilingual Speakers unit of the Culture and Language Studies department) is underway, with an anticipated hire in 2018.

Explain any circumstances that have altered the original implementation plan:
As noted above, we had hoped that Renison would hire a marketing manager to engage in a more systematic promotion of the APPLS program earlier. However, the interview process to hire a candidate is now complete, and we anticipate the individual will begin work in spring 2017.

Address any significant developments or initiatives that have arisen since the program review process, or that were not contemplated during the review:
There are none.
**Updated Implementation Plan:**

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Proposed Actions</th>
<th>Responsibility for Leading and Resourcing (if applicable) the Actions</th>
<th>Timeline for addressing Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Define a clear discrete identity from the ESL program.</td>
<td>Ongoing.</td>
<td>Director, English Language Studies Chair, Culture and Language Studies</td>
<td>Continue to the next program review.</td>
</tr>
<tr>
<td>2. Encourage earlier enrolment in the program to ensure students have adequate time to complete the minor requirements.</td>
<td>Marketing efforts are ongoing.</td>
<td>Director, English Language Studies Chair, Culture and Language Studies</td>
<td>Continue to the next program review.</td>
</tr>
<tr>
<td>3. Promote the program in a more systematic way.</td>
<td>Marketing efforts are ongoing.</td>
<td>Director, English Language Studies Chair, Culture and Language Studies</td>
<td>Continue to the next program review.</td>
</tr>
<tr>
<td>4. Establish a dedicated position to handle administrative tasks.</td>
<td>Recommendation acted upon. No further action is required.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>5. Connect more systematically with existing Renison language programs and other Renison programs (e.g., Social Work, Social Development Studies) and collaborate more closely with other universities.</td>
<td>Collaborative efforts have begun and are ongoing.</td>
<td>Director, English Language Studies Chair, Culture and Language Studies</td>
<td>Continue to the next program review.</td>
</tr>
</tbody>
</table>
Waterloo departments, especially Germanic and Slavic Studies, French and Spanish.

6. Continue to discuss a Major program with Renison administration, Faculty of Arts administration, and Language departments (especially Germanic and Slavic Studies, French and Spanish).

|                          | Continued possibilities remain in discussion at Renison. | Director, English Language Studies Chair, Culture and Language Studies | Continue to the next program review. |

The Department Chair/Director, in consultation with the Dean of the Faculty is responsible for monitoring the Implementation Plan.

**Report on anything else you believe is appropriate to bring to Senate concerning this program:**

We have nothing further to report at this time.
Two-Year Progress Report
Political Science (BA/MA/MPS)
October 2016

Background:
The Department of Political Science submitted their self-study to Office of the Associate Vice-President, Academic (AVPA) on June 27, 2014 with a site visit by external reviewers conducted on October 7-8, 2014. The external reviewers’ report was received on November 25, 2014 and the Department’s response and implementation strategy, with timelines, responsibilities and resource needs assessment, was unanimously approved at a Department of Political Science (PSCI) meeting on December 11, 2014, received on December 18, 2014 and approved by the Dean of Arts on December 27, 2014. The self-study was approved in March 2015 by the Senate Undergraduate Council and was subsequently approved by Senate in April 2015.

In September 2016, the recommendations from the Final Assessment Review approved by Senate were referred to the Political Science Department’s Undergraduate Committee, Graduate Committee and MPS Advisory Committee for consideration and updating. Each committee provided written responses which were collated and presented to a Departmental meeting for discussion and approval on October 20, 2016.

Progress on Implementation Plan:

General Recommendations

1. The priority of the Department in the coming years should be to consolidate the changes implemented in recent years rather than making additional major changes.

Status: Completed
Details:
The Department strongly endorses this recommendation. The main focus of the Department is indeed to consolidate both the new specializations/plans as well as the new pathways (e.g. experiential learning.) Please see below for further specific completed action items in this regard.
BA POLITICAL SCIENCE PROGRAM RECOMMENDATIONS

2. We strongly support the Department’s efforts to encourage the shift from the General BA option toward the Honours BA and believe that eventual elimination of the General BA option would be a good idea.

Status: Not pursuing

Details:
The Associate Chair, Undergraduate Studies and Chair met with the Associate Dean of Arts, Undergraduate Studies to discuss this recommendation in February 2015. In light of the Plan Standardization changes across the Faculty of Arts, the Department determined that an elimination of the General BA was no longer optimal, particularly since no other department in the Faculty of Arts was pursuing an Honours-only BA offering. Instead, through the plan standardization process, the Department determined that it would demand the same requirements of students pursuing the Honours BA and the 4Yr General BA (the remaining difference is the 70% average needed to graduate with Honours and 65% with a 4Yr BA). The impact of this is twofold: first, all Political Science majors require training in research methods or theory, that they pursue experiential learning through one of our pathways, and that they take at least two courses at the 400 level. This means that the majority of students will intend to pursue an Honours degree, and the 4Yr BA will be a fallback option, not an opt-in. A second, and related, impact is the Department’s ability to retain students in our major who want to pursue political science but who have major averages between 65 and 69%.

3. The distinction between International Relations and Global Governance is not clear and the Department is not able to consistently offer all courses required for each specialization. More work needs to be done on streamlining these offerings.

Status: Completed

Details:
The Department agreed with this recommendation and ensured that a stronger differentiation between the International Relations and Global Governance specialization was completed for the 2016-2017 academic calendar. The new specializations include the successful completed of six courses. The Department of Political Science long-term staffing plan makes explicit provisions that the required courses in each of the specializations are offered at least once a year or more.
Global Governance Specialization

<table>
<thead>
<tr>
<th>Old Global Governance Specialization:</th>
<th>New Specialization (2016-2017 Academic Calendar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Specialization in Global Governance requires successful completion of four academic course units (eight courses):</td>
<td>PSCI 281 (World Politics)</td>
</tr>
<tr>
<td>• PSCI 281 (World Politics)</td>
<td>PSCI 283 (Int'l Political Economy)</td>
</tr>
<tr>
<td>• HIST 268 (Comparative History of Empires)</td>
<td>PSCI 387 (Globalization)</td>
</tr>
<tr>
<td>• six of PSCI 369 (Politics of Decolonization), 387 (Globalization), 389 (Global Governance), 428 (State &amp; Economic Life), 432 (Global Enviro Gov), 439 (Global Social Policy), 480 (China &amp; GG), HIST 266 (British Empire)</td>
<td>PSCI 389 (Global Governance)</td>
</tr>
<tr>
<td>Two of: PSCI 369/HIST 369 (Decolonization), PSCI 375 (Transnational Migration), PSCI 404 (Globalization, Business, Development); PSCI 432 (Global Environmental Gov); PSCI 439 (Global Social Policy); PSCI 480 (China &amp; GG); PSCI 486 (Diplomacy); PSCI 488 (Global Food &amp; Agri)</td>
<td></td>
</tr>
</tbody>
</table>

The International Relations specialization is a joint specialization with History. The Associate Chair, Undergraduate met with the Association Chair, Undergraduate in History and an agreement was made regarding requirements for a new specialization. The Department of Political Science long-term staffing plan makes explicit provisions that required courses will be taught at least once a year or more. For students following requirements under earlier calendars, the Faculty of Arts will allow “mix and matching”, which means that students who are following the requirements of earlier calendars can take advantage of these streamlined specializations offered by the Department.
## International Relations Specialization

### Old International Relations Specialization

The specialization in International Relations requires successful completion of four academic course units (eight courses):

- **Two of:** PSCI 281 (World Politics), PSCI 282 (Foreign Policy), HIST 311 (International Relations 1890-1951)

- **Three of:** HIST 220 (The Vietnam War and American Society), HIST 230 (Introduction to the Modern Middle East), HIST 268 (A Comparative History of Empires), HIST 275 (The Modern World in Historical Perspective), HIST 282 (History of Modern South Asia), HIST 315 (US and the World), HIST 350 (Canada and the Americas), HIST 389 (Canada in World Affairs)

- **Three of:** PSCI 355 (Politics Among the Soviet Successor States), PSCI 369 (The Politics of Decolonization), PSCI 375 (Transnational Migration), PSCI 382 (Politics of Canadian Foreign Policy), PSCI 383 (no longer offered), PSCI 481 (Interstate War), PSCI 482 (Critical Security Studies), PSCI 486 (Special Topics in International Diplomacy), PSCI 487 (International Relations Theory)

### New Specialization (2016-2017 Academic Calendar)

- PSCI 281 (World Politics)
- PSCI 282 (Foreign Policy)

- **Three of:** HIST 220 (The Vietnam War and American Society), HIST 230/PSCI 257 (Introduction to the Modern Middle East), HIST 268 (A Comparative History of Empires), HIST 275 (The Modern World in Historical Perspective), HIST 282 (History of Modern South Asia), HIST 311 (International Relations 1890-1951), HIST 315 (US and the World), HIST 350 (Canada and the Americas), HIST 389 (Canada in World Affairs)

- **One of:** PSCI 402 (International Trade), PSCI 481 (Interstate War), PSCI 482 (Critical Security Studies), PSCI 486 (Special Topics in International Diplomacy), PSCI 487 (International Relations Theory).
4. Responsibility for the experiential learning stream should be assigned to someone with strong community linkages in the Waterloo area. We also recommend that the Faculty of Arts provide support for programs developing experiential learning components to their programs.

Status: Completed

Details:
The experiential learning pathways have been developed and are in effect for the 2016-2017 academic calendar. The Department has assigned two faculty members to oversee the implementation of its experiential learning requirements. The first is the Experiential Learning Coordinator, who teaches the new required course PSCI 299 (Political Science Beyond the Classroom) and advises our new majors on their experiential learning options within the degree. The Experiential Learning Coordinator also develops much of the content for the experiential learning courses offered at the fourth year level within the Civic Engagement Pathway (PSCI 497A, 497B, 498A, 498B, and 498C). The second faculty member is the Experiential Learning Instructor, who oversees, advises, and evaluates students within the Civic Engagement Pathway. The other two experiential learning experiences that our students can choose from are the Co-op Pathway (students apply in their 2A term and are accepted into the departmental co-op at the beginning of their 2B term) or the Research Pathway (where students write an Honours Essay by taking 499A and 499B).

Through the work of the Department of Political Science, the PSCI 299 (Political Science Beyond the Classroom) course has engaged with the broader university for support from Cooperative Education and Career Action Centre, Waterloo International, and the Student Success Office in order to prepare our new majors for the experiential learning opportunities within their PSCI degree. Each of these partners is linked to PSCI 299 through presentations, assignment requirements, and reflective learning components. The Faculty of Arts has created a new EDGE certificate (Experiential Education Certificate), of which PSCI 299 and some of the civic engagement experiential learning courses count as “experience” towards that certificate. This will give our PSCI majors an advantage if they want to work towards that designation during their undergraduate degree.

While both of the faculty members who are largely responsible for experiential learning have some community linkages, the Department is involving all of our faculty members in this regard. We are continually compiling a list of potential civic engagement opportunities for students through our own networks. CECA also allows all students to use their databases for volunteer job searches. Students have already shown themselves adept at using their
community contacts to create volunteer opportunities that relate to government and politics. The department has been clear to students that, while we will offer resources and supports, they have to find their own community placements if they wish to pursue a direct community placement. The students who want that particular experience appear ready to rise to that challenge. Other students have expressed interest in earning their experiential learning credit through research apprenticeships, study abroad opportunities, or pursuing independent study on a current issue in politics.

The opportunity for experiential learning can also be found in two of our field courses. Model Arab League is a course that includes as a component a five-day trip to Washington, DC where students participate as delegates in a Model Arab League. Our Cultural Literacy and Trade course focuses on international trade, entrepreneurship, and culture in Israel. The course culminates in a two-week trip to Israel where students meet, among others, business leaders and ambassadors, while also visiting and learning about key cultural and historic places in that country.

5. The Department should move toward requiring a half credit methods course for all undergraduate majors in Political Science.

**Status:** Completed

**Details:**
All Honours and 4Yr General PSCI BA students are required to take a course (equivalent to 0.5 units) in either research methods or political theory. The change was approved by the department and implemented in the 2016-2017 academic calendar. The Political Science Department long-term staffing plan is explicit in ensuring one or more of the listed PSCI courses in this requirement are offered each year. Additionally, ARTS 280 (Statistics for Arts Students) is offered at least twice a year, with the spring offering usually online (making it a convenient option for PSCI majors).

6. The undergraduate committee should consider how it can be ensured that students are introduced to political theories and ideologies at an early point in their degrees.

**Status:** Completed
Details:
With the requirement of a methodology or theory course as part of the 4Yr General and Honours BA we are ensuring that students are introduced to theories and ideologies at an early point in their degree. It is also notable that the required course PSCI 299 is deliberately designed to, among other things, introduce students to the evolution of political science as a discipline, and to what separates it from other social sciences. This course (along with the required theory courses) also introduces the logic and tools used by political scientists to ask both normative and empirical questions.

7. The Department may wish to consider introduction of fully online or blended learning teaching methods in coming years. In particular, blended learning strategies and online assessments have been shown to be highly effective in improving student learning in recent research.

Status: In progress

Details:
The Department is progressing on its commitment to increase the amount blended learning and online assessments. A number of these strategies are already in use by many department faculty members including intensive use of LEARN course management system of online assessments, quizzes, electronic dropboxes, discussion boards, etc., including both of its large introductory first year courses (PSCI 100 and PSCI 150). PSCI 299, offered for the first time in Fall 2016, was designed to include intensive use of blended learning. All assignments are submitted and graded online, it is making extensive use of the Discussion Board for students to earn their participation marks, and next fall students will also be using the e-portfolio (the PSCI 299 class should have an average of 45-50 students going forward, but this fall, because of the popularity of plan standardization across the Faculty of Arts, PSCI 299 has close to 90 students enrolled, making it more difficult to employ the e-portfolio function in the course’s first iteration).

The experiential learning courses within the Civic Engagement Pathway are entirely online (PSCI 497A, PSCI 497B, PSCI 498A, PSCI 498B, and PSCI 498C). While students will be meeting with each other and the Experiential Learning Instructor throughout the term, their writing reflections, sharing of experiences through discussions, and final projects will all occur through the LEARN management system. As these courses are implemented (the first offering will occur in Winter 2017), the Department will continue to monitor their success for blended learning and make improvements and revisions where required to optimize the students’
experiential learning opportunity. It is also worthy to note that, in the past, International Studies 101 has been offered as an online course (before the Department took on the International Studies minor). While the course itself would have to be completely rebuilt to reflect a political science approach, there is an online shell available to us to begin this process.

8. There are very small numbers of international students registered in the undergraduate program and the Department may wish to discuss with university administration how it can do a better job in recruiting strong international students.

**Status:** In progress

**Details:**
Please see #9 below. It continues to be the case that political science is not a direct entry plan for Arts students and, as a result, recruitment of international students can only take place incidentally through recruitment of students to the Faculty of Arts more generally. The Department does take part in Faculty-sponsored activities such as the Fall Open House and Declare Your Major, as well as internal department events such as the Political Science Major Information Session. Through these events we do try to reach out to all students who are interested in pursuing a major in Political Science, including students who are attending the university from abroad.

9. The Department is working to enhance the internationalization of its programs, by working to create dedicated exchange opportunities for Political Science students. It would be helpful if more resources were available to support Political Science students who wish to take advantage of these exchanges. The Department could also take advantage of the numerous international connections of the Balsillie School to increase the visibility of its programs.

**Status:** In progress

**Details:**
The Department continues to encourage our students to take advantage of existing exchange opportunities. In addition to what the Department has already done (including identifying strong political science departments and working to identify course equivalencies in advance which is anticipated to increase uptake of such opportunities by UW students, creating a
webpage dedicated to international exchange opportunities open to students in Political Science and currently highlighting six exchange opportunities - Warwick, Graz, Hong Kong, Queensland, Oslo, and Sussex - which are of particular relevance to students of political science with listings of specific political science relevant courses) we have also created “Travel Abroad” as one of the experiential learning opportunities that PSCI students can undertake to fulfill the experiential learning requirement of the PSCI 4Yr and Honours degree. PSCI 497A and PSCI 497B were deliberately designed to encourage our students to take an academic term abroad. While they are away, students will be writing reflections about their experience. When the students return to Waterloo, they will take PSCI 497B and complete a final project about their experience in a different country. PSCI 299 introduces this experiential learning possibility to our new majors which includes a presentation by Waterloo International, the conduit through which students arrange their international exchange. It is our expectation that many more students will opt in to the travel abroad experience since it will also count towards their experiential learning requirement. The Department will be keeping track of this data.

10. We recommend that representatives of the Department, particularly the Associate Chair, Undergraduate, meet directly with the Coop office in order to discuss the needs and skills of Political Science students with respect to placement and possibilities for improving the types of placements these students receive.

Status: Ongoing

Details:
Plan standardization within the Faculty of Arts has provided the Department with an opportunity to invigorate its co-op programme. With the Honours major average lowered to 70% (from 75%) the department anticipates a greater number of PSCI students opting to apply to the Co-op pathway as their experiential learning requirement in the degree. Co-op is also something faculty members hear a lot about from interested students during the Fall Open House, the Ontario Universities Fair, Declare Your Major, and the department’s own Co-op Information Session.

As a result, the Department has formally uncoupled the Co-op Advisor role from the responsibilities of the Associate Chair, Undergraduate Studies. The Department now has a dedicated Co-op Officer, Professor Dan Henstra, who oversees our current co-op students and actively works to recruit and approve new PSCI majors into the co-op stream. Through an in-class presentation by UW Co-op, our new majors in PSCI 299 are introduced to co-op and the
role of CECA more broadly. Professor Henstra also makes a presentation to the students about the details of the PSCI co-op programme, and he holds a second, stand-alone co-op information session at the end of October each year. Professor Henstra has developed a PSCI-specific co-op handbook and is tracking the kinds of jobs that our students get through the co-op competition. He will continue to work closely with CECA and Rachel Jenson, the new manager of Co-op for the Faculty of Arts, to assess the types of jobs that are attractive to our students. It is also important to note that in PSCI 299 students engage in a serious, reflective exercise in which they assess their own skills, values, and goals. Students use this exercise to think about the kinds of jobs they may want to pursue, the kinds of skills they still require to successfully compete for those jobs, and then design a plan (through course planning, volunteering, etc.) for how they can develop those skills and achieve their goals.

The co-op office has identified to us that the more students we can attract to the PSCI co-op, the more likely the supply of appropriate and attractive jobs will be available to them. The Department continues to move forward on strengthening our co-op for the benefit of our majors.

ADDITIONAL NOTES – UNDERGRADUATE PROGRAM

Explain any circumstances that have altered the original implementation plan:

Plan Standardization, as spearheaded by the Faculty of Arts, changed the Department’s plan with regard to elimination of the 4Yr General BA. This is no longer a recommendation that the Department will be pursuing. Doing so would put us at a disadvantage vis-à-vis other departments in the competition to keep and retain majors. It is worth reiterating that, as a result, the Department has made the requirements for the Honours and the 4Yr General BA identical, save for the major average required to be conferred a Honours degree. In either case, a PSCI major will have training in either political theory or methodology, they will have finished an experiential learning pathway, and they will have completed at least two 400 level PSCI courses. Most students will aim to graduate with Honours, and the General degree will act more as fallback rather than as an “opt in”.
Address any significant developments or initiatives that have arisen since the program review process, or that were not contemplated during the review:

The most significant development since the review has been the implementation of experiential learning in the PSCI degree. The University of Waterloo is an international leader of experiential learning through its co-op program. The fact remains, however, that not all students want to be in the co-op programme but there is wide agreement that students should still have some kind of “experience” in order to successfully compete for jobs when they are finished their undergraduate degrees.

In the 2016-2017 academic calendar (and all calendars that will follow), the PSCI department requires their majors to choose an experiential learning pathway. Three are offered: the co-op pathway (where students gain experience through the co-op program), the research pathway (where student have experience researching and writing a major piece of scholarship at the undergraduate level), and the civic engagement pathway (where students have a choice of studying abroad, following a current issue in politics for a term, providing research assistance to a PSCI faculty member, or through volunteering in a community placement that has to do with politics and government). All of these opportunities – and the reflective learning and writing that accompanies them – are taught in PSCI 299 “Political Science Beyond the Classroom”. PSCI 299 is a required course and it teaches our students a variety of objectives, including the ability to identify learning goals, skill gaps, and create a plan to achieve them; recognize, adopt and practice deep-learning strategies for political science; demonstrate an understanding of the basic logic and tools used by political scientists to explain the political world; and finally to develop effective skills for reading, writing and presentation in political science. It promises to be a deeply valuable course for students in Political Science.

While the new experiential learning courses in the Civic Engagement Pathway have not yet been offered (start date of Winter 2017), our students are already excited about them. The Department is committed to tracking the data associated with those courses, including the numbers of students who select each one, the placements they go on, the quality of research they do for faculty members, the kinds of issues they wish to follow, and the number and location of international exchange experiences. Among the departments within the Faculty of Arts, Political Science is taking experiential learning very seriously and our plan is to have smart, knowledgeable, engaged, and experienced students graduating with our degree.
MA Political Science Program Recommendations

1. Collect data on the level of funding offered to MA students by other universities in southern Ontario. If Waterloo is indeed more generous, it should make it known

**Status:** Completed

**Details:**
In spring 2015, the Associate Chair for Graduate Studies gathered data on funding offered by political science programs at other universities in Ontario and beyond. From the information we could obtain, it appeared that our regular funding package was generally competitive. Our financial offers were more competitive when we were able to offer top-up funding from the research grants of individual faculty members. As recommended, our revised website highlights the details of our funding packages much more than it did in the past.

2. Narrowing the enrolment range to 20-30. Improve take up rate.

**Status:** Completed

**Details:**
We have narrowed the range to 13-18, targeting around 15 each year. In response to the last program review, we have taken a number steps to improve the take up rate: 1) identify top-up funding and convey this to students at the time of admission, 2) have professors contact each admitted student, encouraging them to join our program, 3) survey incoming and current students on an ongoing basis to see what have attracted them to our program, and 4) reach out more to undergraduates with the graduate school info session (with excellent attendance). We believe these efforts have paid off. In the last two years we have had very good take-up rates among admitted students. This year, over 60 percent of our offers were accepted.
3. The Department should encourage more students to choose the coop option and invest in its relationship with the Cooperative Education program to improve the opportunities for Political Science students.

Status: Completed

Details:
For the last two years we included a presentation by the university’s co-op office (CECA) in new graduate student orientation. We have carried out the commitment made in response to the last review to reinstate the “Departmental Co-op officer” position, which is now occupied by Professor Dan Henstra. He has provided further assistance to students interested in learning more about co-op. For the last two years, we have had two MA students participating in the co-op program each year. All of them report very good educational experiences through their placements in private, public and non-profit organizations. This year an unprecedented eight students have been accepted into the co-op program.

4. In order to recruit international students, the Department should continue to develop close partnerships with foreign institutions, as the Department is currently undertaking with the University of Warwick Department of Politics and International Studies. It is important that the Department receives support from the Faculty of Graduate Studies in attracting foreign students.

Status: Ongoing

Details:
We are interested in bringing international students to our program. We see two ways to do so. One is to directly encourage international applicants. We receive many inquiries from international applicants and continue to encourage them to apply. The department has been told by the Associate Dean of Arts, Graduate Studies, that we could only fund 1-2 international students each year. As noted in the original response to the reviewers’ recommendation, “In the past three years, the Department has either met or surpassed this target. Given the strong pool of international applicants in the current graduate application round, the Department is confident that it will again meet this target.” The other way to recruit international students is through exchange programs with foreign institutions, which does not include funding provided by UW. Given the short duration of our MA program (one year), there are practical difficulties in arranging for exchange students with other programs, including the one at the University of
Warwick. However, we have been very supportive of the initiative of the MA program in Global Governance (with which we are closely affiliated and on whose program committee the department is represented) to proceed with a formal exchange relationship with Warwick and we have been happy to see Warwick students now in our MA classes. We continue to be open to exploring possibilities for formal exchange relationships that fit with our program structure.

MPS PROGRAM RECOMMENDATIONS

1. The University should keep investing in the MPS program.

Status: Ongoing

Details:
UW has continued to invest in the program in many ways and champion it in externally and internally. We have worked with media relations in the University, and there have been two recent articles that have noted the opportunities as a student and the general growth in the program. It is now the largest grad co-op program in the university. The articles can be found here [https://uwaterloo.ca/arts/news/master-public-service-co-op-student-works-parliament-hill](https://uwaterloo.ca/arts/news/master-public-service-co-op-student-works-parliament-hill) and here [https://uwaterloo.ca/stories/co-op-education-prepares-graduate-students-public-service](https://uwaterloo.ca/stories/co-op-education-prepares-graduate-students-public-service).

We have also invested significant resources in building a dedicated alumni network which regularly attends social events in Toronto and Ottawa. MPS alumni are enthusiastic champions of the program and are vital resources by acting as mentors to incoming students, providing help on resumes, conducting mock interviews, and offering detailed advice and knowledge on how the public service works, and qualities which are necessary to become a successful public servant. This engagement is important as these are skills that cannot be taught in a classroom. The appointment of John Milloy, former Ontario cabinet minister and member of provincial parliament for Kitchener Centre, as a lecturer, has reaped significant dividends for the program. He has managed to bring a real world perspective, which is mandatory for a professional program and has also successfully spearheaded some key initiatives. First, he manages a mentorship program in which fifteen of our top students are matched to highly placed individuals in municipal, provincial and the federal governments. The program
encourages networking and allows students to understand the skills required to succeed as professional public servants.

A second investment facilitated by Dr. Milloy, has been the creation of an Advisory Group consisting of former reputed public servants. The primary responsibility of a Group member is to offer career advice to MPS students on the culture of the public service and key ingredients for success. The existence of the Advisory Group is also a branding initiative, which should generate more awareness and interest in the program as well as networking and employment opportunities for MPS students.

Perhaps the most important investment has been the creation of a new program space on campus. This will enable students to forge stronger relationships with graduate students from other programs and professors, and take advantage of considerable resources, which are difficult to access at the current space. The opening of the new program space (August-September 2017) also provides and important opportunity to highlight and showcase the MPS program both within the University community, the broader local community, and the wider public service community. Plans for the opening will be developed in spring 2017 under the direction of the program Director, the internal UW MPS Advisory committee, and the external Advisory Group.

2. The main challenge in terms of MPS enrollment involves space. Were the University to decide not to renew the lease in 2017, moving the program will have to be planned with extreme care. Ideally, the University would accept leasing more space (enough to enable an enrollment range of 45-55) for the program in a professional environment. Given the revenues generated for the University by the program, we believe this latter solution to be a valuable one. If the University decides to renew the lease, the enrollment problem caused by the lack of space (discussed above) would continue. The enrollment target of 48 would then have to be reduced to a more realistic figure.

Status: Completed

Details:
It has been conclusively determined that the MPS Program is moving back to main campus into one of the former Blackberry buildings. The plans have been approved by the Program Director and Program Officer and is very similar to the existing space. The new space can accommodate 54 students which will enable more flexible enrollment targets. The space also has a state of
the art theatre that is conducive to hosting guest lectures. Another difference in the new facilities is the construction of three offices in addition to separate spaces for the Program Director, Officer, and Assistant. The additional offices will allow associated faculty to spend longer time periods at the MPS space, which would be extremely beneficial to students and enable the program to potentially host visiting public servants on exchange programs. Our objective is to have an annual Scholars in Resident program, which hosts distinguished public servants who have been granted a sabbatical.

3. We strongly support the Department’s argument for an additional staff person to support the MPS program.

**Status:** Completed

**Details:**
A two-year limited term Program Assistant was approved in January 2015. The Program Assistant has been invaluable and has facilitated an efficient allocation of duties among the Program Director, Program Officer, and Program Assistant. The creation of a Program Assistant responsible for ensuring that program guidelines and administrative requirements are strictly adhered to by current as well as co-op students, has allowed the Program Officer to focus on student well-being, and branding initiatives, marketing, and recruitment. The effort spent by the Program Assistant on administrative responsibilities is absolutely critical as it opens more time for the Program Officer for outreach and awareness, and ensuring that we maintain our enrollment targets. We look forward to this position becoming permanent once the program returns to main campus.

4. The program should in fact aim to have all of its courses taught by regular professors, especially that students pay higher tuition to be in this program (note that all the MA courses in the Department are offered by regular professors). Other departments, however, could be encouraged to contribute to the program (through some form of compensation), thereby reducing the number of sessional teachers in the program.

**Status:** Not pursuing

**Details:**
This is an area on which the MPS directorship has spent considerable effort. Currently, there are five tenured or tenure stream professors from Political Science (Daniel Henstra, Angela
Carter, Emmett MacFarlane), English (Ashley Kelly), and Economics (Anindya Sen) who teach in the program as part of their regular course load and are expected to continue doing so for the foreseeable future. Currently, there are also three sessionals who are making a long-term and continuing contribution to teaching in the program: Rosemary McGowan (School of Business and Economics, Wilfrid Laurier University); Augie Fleras (Sociology, University of Waterloo); and Corey Van De Waal (Economics, University of Waterloo). The MPS advisory committee has decided to continue to retain these specific sessional lecturers as they are experts in their fields and have received very strong teaching reviews and praise from former students. While having regular faculty is important, our view is that students also benefit from sessional lecturers who happen to be outstanding teachers and who fit the program needs. It should also be noted that all of our sessional lecturers happen to be respected researchers who have published in well ranked peer reviewed journals.
**Updated Implementation Plan:**

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Proposed Actions</th>
<th>Responsibility for Leading and Resourcing (if applicable) the Actions</th>
<th>Timeline for addressing Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. More blended learning in course offerings</td>
<td>Increase blended learning in all courses; monitor the blended learning implemented in PSCI 299 and the PSCI 49X Experiential Learning Courses.</td>
<td>Associate Chair, Undergraduate Studies Experiential Learning Coordinator Experiential Learning Instructor</td>
<td>Review of PSCI 299 and PSCI 49X courses in Spring 2017, and again each term.</td>
</tr>
<tr>
<td>2. Internationalization of programs</td>
<td>Monitor whether an increase of international exchanges through PSCI 497A/B brings more students to UW PSCI; continue discussions with BSIA about potential for affiliated programs.</td>
<td>Associate Chair, Undergraduate Studies</td>
<td>Review exchanges each Spring (because of timeline for arranging international exchanges); BSIA?</td>
</tr>
<tr>
<td>3. Co-Op and improved placements for PSCI students.</td>
<td>Greater intake of PSCI co-op students; continue to work closely with CECA vis-à-vis desirable jobs for PSCI students</td>
<td>Associate Chair, Undergraduate Studies Co-op Officer</td>
<td>Review in Spring 2017 and Spring 2018 of job placements by the new cohorts; annual review of jobs taken by PSCI students in upper cohorts.</td>
</tr>
<tr>
<td>4. MA PSCI – Recruit international students through contacts with international institutions</td>
<td>Stronger international recruitment efforts and enhanced contacts with international institutions</td>
<td>Associate Chair, Graduate Studies</td>
<td>Review international recruitment efforts (Spring 2017) following graduate application and admissions cycle; examine and propose potential</td>
</tr>
</tbody>
</table>

October 2016 Page 18 of 20
The Department Chair/Director, in consultation with the Dean of the Faculty shall be responsible for monitoring the Implementation Plan.
FOR INFORMATION

Recognition and Commendation

Nineteen researchers at the University of Waterloo will receive a total of $1.4 million for infrastructure to support research. The funds are awarded through the John R. Evans Leaders Fund (JELF) by the Canada Foundation for Innovation (CFI), and will provide researchers with the foundational research infrastructure necessary to lead in their field. The following Waterloo researchers and projects are receiving funding through the JELF awards: 

**Applied Health Sciences**: James Wallace (School of Public Health and Health Systems); **Arts**: Heather Henderson (Department of Psychology), Lennart Nacke (Department of Drama and Speech Communication), Marcel O’Gorman (Department of English Language and Literature), Neil Randall (Department of English Language and Literature), Mathias Schulze (Department of Germanic and Slavic Studies); **Engineering**: Ning Jiang (Systems Design Engineering), Giovanni Montesano (Mechanical and Mechatronics Engineering), Kevin Musselman (Mechanical and Mechatronics Engineering), Rebecca Saari (Civil and Environmental Engineering), David Simakov (Chemical Engineering), Thomas Willett (Systems Design Engineering), Evelyn Yim (Chemical Engineering), Alfred Yu (Electrical and Computer Engineering); **Environment**: Andrew Trant (Environment and Resource Studies); **Mathematics**: Christopher Bauch (Applied Mathematics), Marek Stastna (Applied Mathematics); **Science**: Jan Kycia (Physics and Astronomy). (adapted from the Daily Bulletin, 6 March 2017)

On March 4, Team EPOCH from the University of Waterloo won the London Regional Finals of the Hult Prize, beating out sixty-one other teams from universities around the world (including MIT, Cambridge, the London School of Economics, and many more). The Hult Prize, backed by the Clinton Global Initiative, is the world’s largest social entrepreneurship competition. Every year it challenges student teams to build scalable startups to address the world’s biggest problems. EPOCH is one of five regional finals winners, selected from a total of 2,000 teams from universities all over the world. They have earned a two-month stay in the Hult Prize accelerator and the chance to pitch for $1M in seed funding at the finals in September. Team EPOCH, composed of Science and Business student Lisa Tran, Accounting and Financial Management student Jade Choy, and Masters of Accounting alumnus Keith Choy, developed a mobile application designed to bring together refugees and community members through the exchange of skills, talents, and services. “As a team, we have seen firsthand the challenges that newcomers face in Canada,” says Lisa. “Our solution gives access to community support and gives newcomers a way to contribute as well.” Through the app, users can earn and redeem time credits to give and receive help according to their abilities and resources. (adapted from the Daily Bulletin, 6 March 2017)

The winners of the 2017 HeForShe writing contest have been selected, and their work has been published in a special anthology presented in support of the HeForShe 10x10x10 IMPACT framework. There were 65 entries in the writing competition. Each entry was reviewed by a panel of judges, who also selected a number of pieces that have been collected in an anthology presented by the Book Store and the Writing Centre. “Through poetry, fiction, and creative non-fiction, members of our community reflected on the challenges they have faced, and they shared their hopes, dreams, and directions for the future” says the introduction to the anthology, entitled Equity In/Action. “The submissions selected for this anthology reveal a wide range of experiences with equity. While each voice is unique, the pieces have much in common. The writers move from individual and personal stories towards the possibility of a more equitable reality. They invite the reader to move through reflection and into action.” The winner in the **Creative Non-Fiction** category was Michelle Presse of the Office of Research, with an untitled entry. There were two co-winners in the **Poetry** category: an anonymous, untitled entry, and a poem by Sarasvathi Kannan, a Waterloo alumna, entitled “The Sword and the Pen.” The winner in the **Fiction** category was Jessica Needham, a Waterloo alumna, with an untitled short story. A poem by Emily Schroeder, a staff member in the Secretariat, was an additional winner. (adapted from the Daily Bulletin, 8 & 14 March 2017)
Sun Life Financial Asia (Sun Life Asia) and University of Waterloo have announced Professor Ken Seng Tan as the recipient of the Sun Life Fellowship in International Actuarial Science. As the Sun Life Fellow in International Actuarial Science, Professor Tan will serve as the Chief Actuarial Advisor for the READI project (Risk Management, Economic Sustainability and Actuarial Science Development in Indonesia) that University of Waterloo is currently implementing with the Government of Canada, the Financial Services Authority of Indonesia and other partners. Sun Life partnered with University of Waterloo and donated CAD$500,000 to establish the fellowship last year. A primary focus of the fellowship is the READI project which aims to establish Indonesia as a regional center of actuarial excellence in Southeast Asia by engaging education, government and industry. (adapted from the Daily Bulletin, 9 March 2017)

The Waterloo Warrior’s women’s hockey team’s historic season came to an end this month in Guelph as the Gryphons got the better of the Warriors 4-1 in game 3 of the OUA semifinals. It was a season to remember for women’s hockey and when the 24 Warriors look back on the season they will all have fond memories of their magical run. “It was a fantastic season, we were one bounce away from forcing overtime in game 3 against the top team in the country,” said head coach Shaun Reagan. It was the first time in program history the Warriors advanced past the second round and as coach Reagan mentioned, they were one or two bounces away from reaching the OUA McCaw Cup. The Gryphons will now host Nipissing for the McCaw Cup with the winner advancing to the U SPORTS Championship in Kingston. (adapted from Warrior Women’s Hockey News, 5 March 2017)

The Waterloo men’s volleyball team has had a roller coaster of a season but found their stride at the perfect time. In February, in a home contest with the No. 3 McMaster Marauders, Waterloo did what no other team was able to do in Ontario University Athletics (OUA), taking the Marauders to five sets. Despite falling in the fifth set 15-12, it was a turning point for the black and gold and they haven’t looked back since. The Warriors went on to win their final three regular season games to finish 9-8, good for fourth in the OUA west, setting up a matchup with the top-seeded York Lions from the east in the OUA quarters. Despite the rankings, Waterloo was not intimidated by the Lions and took them out in four sets to punch their sixth straight ticket to the OUA Final Four, where they would meet up with the Guelph Gryphons with a spot to the national championship on the line. The Warriors were simply too much for the Gryphons, taking them out in three sets as they established the net play early and often, advancing to the OUA gold medal match while solidifying their third straight berth at the U SPORTS Championship. The black and gold met the Marauders in the OUA gold medal contest and got off to a brilliant start, holding a 16-12 lead into the first technical timeout but the pesky Marauders battled back to take the set 25-21 and didn’t look back en route to a 3-0 gold medal victory. Waterloo will take on the number one seed and defending national champions, Trinity Western University on 17 March.
A. APPOINTMENTS

Adjunct Appointments

Graduate Supervision

LAGARDE, Emmanuel, Professor, School of Public Health and Health Systems, February 21, 2017 – August 31, 2017.

MANSON, Heather, Assistant Professor, School of Public Health and Health Systems, February 1, 2017 – April 30, 2018.

MARRONE, Diano, Associate Professor, School of Public Health and Health Systems, February 13, 2017 – February 28, 2018.

McMILLAN, Colleen, Assistant Professor, School of Public Health and Health Systems, March 1, 2017 – August 31, 2018.

Special Appointments

HYNDMAN, Brian, Lecturer, School of Public Health and Health Systems, March 1, 2017 – August 31, 2017.

Postdoctoral Fellow to Research Appointments

MILICIC, Sandra, Faculty of Applied Health Sciences, Propel Centre for Population Health Impact, March 1, 2017 – February 28, 2018.

PAROKARAN VARGHESE, Jessy, Department of Kinesiology, March 1, 2017 – February 28, 2018.

B. ADMINISTRATIVE APPOINTMENTS

QUADRILATERO, Joseph, Associate Chair, Graduate Studies, Department of Kinesiology, May 1, 2017 – April 30, 2020.

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

A. APPOINTMENTS

Probationary Term Appointments - Change in Dates
SAIY, Sasan, Assistant Professor, Accounting & Finance, from January 1, 2016 to June 30, 2019 to January 1, 2016 to June 30, 2020.

Definite Term Reappointments
DEVEAU, Danielle, Lecturer, Department of English Language & Literature, July 1, 2017 to June 30, 2020.

Adjunct Appointments – Instruction
XIANG, Will, Lecturer, School of Accounting and Finance, May 1, 2017 to August 31, 2017.

Adjunct Appointments – Graduate Supervision
DE PEUTER, Greig, Associate Professor, Department of Religious Studies, January 1, 2017 to August 31, 2017.

Adjunct Reappointments – Miscellaneous (research, consultations, etc.)
KERTON, Robert, Professor, Distinguished Professor Emeritus, Department of Economics, July 1, 2017 to June 30, 2018.

B. ADMINISTRATIVE APPOINTMENTS

LO, Adrienne, Associate Chair, Graduate Studies, Department of Anthropology, July 1, 2017 to June 30, 2018.

SINGH, Rashmee, Associate Chair, Undergraduate Studies, Legal Studies, Department of Sociology and Legal Studies, February 1, 2017 to June 30, 2018.

Administrative Appointments – Change in Dates
LIU, Jennifer, Associate Chair, Graduate Studies, Department of Anthropology, from July 1, 2016 to June 30, 2019 to July 1, 2016 to June 30, 2017.

Administrative Reappointment
AURINI, Janice, Associate Chair, Undergraduate Studies, Sociology, Department of Sociology and Legal Studies, July 1, 2017 to June 30, 2018.

COOKE, Martin, Associate Chair, Graduate Studies, Department of Sociology and Legal Studies, July 1, 2017 to June 30, 2018.

Douglas M. Peers
Dean, Faculty of Arts
For information:

A. **APPOINTMENTS**

**Visiting Appointments**

DAS, Taylan, Scholar, Department of Mechanical & Mechatronics Engineering, June 30, 2017 – June 29, 2018.

ISLAM, Md Moinul, Assistant Professor, Department of Electrical & Computer Engineering, January 1, 2017 – December 30, 2017.

KHOSHNEGAR SHAHRESTANI, Milad, Scholar, Department of Electrical & Computer Engineering, March 1, 2017 – March 1, 2019.


LIU, Yangshuai, Researcher, Department of Chemical Engineering, March 1, 2017 – May 31, 2017.


MOHAMMADI, Mohammad Reza, Associate Professor, Department of Chemical Engineering, June 28, 2017 – June 27, 2018.


**Visiting Reappointments**


**Special Appointments – Undergraduate Instruction**

COMEAU, Patricia, Lecturer, Department of Systems Design Engineering, January 1, 2017 – April 30, 2017.

DEHART, Brandon, Lecturer, Department of Mechanical & Mechatronics Engineering, January 1, 2017 – April 30, 2017.

SABISTON, Trevor, Lecturer, Department of Mechanical & Mechatronics Engineering, January 1, 2017 – April 30, 2017.
Adjunct Appointments – Graduate Supervision and Research
KE, Ginger, Assistant Professor, Department of Management Sciences, March 1, 2017 – February 28, 2020.

SIM, Ki Seob, Professor, Department of Civil & Environmental Engineering, April 1, 2017 – March 31, 2019.

SMITH, William, Professor, Department of Chemical Engineering, March 1, 2017 – February 28, 2019.

Adjunct Reappointments – Research
BAKA, Mohmed, Associate Professor, Department of Management Sciences, May 1, 2017 – April 30, 2020.

Cross Appointments
MANN, Stephen, Professor, School of Computer Science to Department of Mechanical & Mechatronics Engineering, March 1, 2017 – February 28, 2020.

PANDEY, Mahesh, Professor, Department of Civil & Environmental Engineering to Department of Systems Design Engineering, January 1, 2017 – December 31, 2019.

Cross Reappointments
BANSAL, Harvir, Associate Professor, Conrad Business, Entrepreneurship and Technology Centre to Department of Management Sciences, March 1, 2017 – February 28, 2020.

ADMINISTRATIVE APPOINTMENTS
WEST, Jeff, Chair, Department of Civil & Environmental Engineering, January 1, 2017 – December 31, 2020.

ADMINISTRATIVE REAPPOINTMENTS
HUSSOON, Jan, Chair, Department of Mechanical & Mechatronics Engineering, January 1, 2018 – December 31, 2020.

SHEPPARD, Lola, Associate Director, Undergraduate Studies, School of Architecture, July 1, 2016 – June 30, 2018.

J. Richard Culham
Acting Dean, Faculty of Engineering
FOR INFORMATION

A. APPOINTMENTS

Adjunct Appointments

Graduate Supervision

BROWN, Andrea, Associate Professor, Department of Geography and Environmental Management, March 1, 2017 to April 30, 2021.

LEVKOE Charles, Assistant Professor, Department of Geography and Environmental Management, March 1, 2017 to April 30, 2021.

RILEY, Liam, PhD Committee Member [Postdoctoral Fellow], Department of Geography and Environmental Management, March 1, 2017 to April 30, 2021.

ROBSON, Laura, M.E.S. Committee Member [Professional], School of Environment, Resources and Sustainability, February 15, 2017 to February 30, 2018.

WALEY, Paul, Associate Professor, School of Planning, December 1, 2016 to November 30, 2017.

Graduate Supervision and Research

KETCHESON, Scott, Postdoctoral Fellow, Department of Geography and Environmental Management, March 1, 2017 to April 30, 2021.

Special Appointments

Instruction

BALSDON, Jennifer, Lecturer, School of Environment, Resources and Sustainability, May 1, 2017 to August 31, 2017.

HERTEL, Sean, Lecturer, School of Planning, May 1, 2017 to August 31, 2017.

McKENZIE, Ian, Lecturer, Department of Geography and Environmental Management, May 1, 2017 to August 31, 2017.

RICHARDSON, Paul, Lecturer, School of Environment, Resources and Sustainability, May 1, 2017 to August 31, 2017.

SEMENOVYCH, Olga, Lecturer, School of Planning, May 1, 2017 to August 31, 2017.

Graduate Students Appointed as Part-Time Lecturer

ESMAIL, Shefaza, School of Environment, Resources and Sustainability, May 1, 2017 to August 31, 2017.

PULVER, Nina, School of Planning, May 1, 2017 to August 31, 2017.

SABOONIAN, Sara, School of Planning, May 1, 2017 to August 31, 2017.

B. ADMINISTRATIVE APPOINTMENT

COURTENAY, Simon, Associate Director, Graduate Studies, School of Environment, Resources and Sustainability, July 1, 2017 to June 30, 2020.
ADMINISTRATIVE REAPPOINTMENT
McCARthy, Dan, Associate Director, Undergraduate Studies, School of Environment, Resources and Sustainability, January 1, 2017 to June 30, 2018.

C. SABBATICAL LEAVES
For Approval by the Board of Governors
PLAISANCE, Kathryn, Associate Professor, Department of Knowledge Integration, July 1, 2017 to December 31, 2017, at 85% salary.

SCHWEIZER, Vanessa, Assistant Professor, Department of Knowledge Integration, July 1, 2017 to December 31, 2017, at 100% salary.

Jean Andrey
Dean
FOR INFORMATION

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

Probationary-Term Appointments

GHOSSOUB, Mario (BS, 2004, Notre Dame University; MS, 2006, University of Michigan; PhD, 2011, University of Waterloo), Assistant Professor, Department of Statistics and Actuarial Science, May 1, 2017 – June 30, 2020. Dr. Ghossoub is currently the Director of Enterprise Risk Management at Great West Life in Toronto. His research spans insurance mathematics, insurance economics, actuarial science, mathematical economics, decision theory, robust statistics, and finance. More specifically he studies the effects of ambiguity and model uncertainty on optimal insurance design, risk measurement and management, capital allocation, quantitative behavioral finance, the theory of risk sharing, and the valuation of Insurance-Linked Securities. With his broad interests Dr. Ghossoub will enhance existing connections between actuarial science and finance research activities in the department.

TRAN, Giang (BSc, 2007, Nanoi National University of Education; MS, 2009, University of Strasbourg; PhD, 2015, University of California, Los Angeles), Assistant Professor, Dept. of Applied Mathematics, July 1, 2017 – June 30, 2020. Dr. Tran is currently a R.H. Bing Research Fellow in the Department of Mathematics, at the University of Texas at Austin. Dr. Tran was the winner in 2015 of a prestigious SIAM Student Paper Prize for some of her research related to compressed sensing, published in the SIAM Journal of Applied Mathematics. Dr. Tran's area of research ranges from analytical aspects of PDEs and ODEs to computational methods for PDEs. In particular, she is currently interested in "data-driven" dynamical systems and the general area of "big data".

Definite Term - Reappointments


Visiting Appointments

LI, Zicheng (Wuhan Institute of Technology), Research Associate, Dept. of Applied Mathematics, September 1, 2017 – August 31, 2018.

LUO, Mengzhuo (Guilin University of Technology), Research Associate, Dept. of Applied Mathematics, September 1, 2017 – August 31, 2018.

MARZOUK, Mirette, Research Associate, David R. Cheriton School of Computer Science, March 1, 2017 – August 31, 2017.


Adjunct Reappointments

Instructor

ALWAN, Mohamad, Lecturer, Dept. of Applied Mathematics, January 9, 2017 – August 31, 2017.
CHEN, Yangang, Lecturer, David R. Cheriton School of Computer Science, May 1, 2017 – August 31, 2017.

HOLTBY, Dan, Lecturer, David R. Cheriton School of Computer Science, May 1, 2017 – August 31, 2017.

Research
RICHMOND, Bruce, Professor Emeritus, Dept. of Combinatorics & Optimization, July 1, 2016 – June 30, 2019.

Cross Reappointments

Postdoctoral Fellows appointed as Part-time Lecturers


B. ADMINISTRATIVE APPOINTMENTS


ADMINISTRATIVE REAPPOINTMENTS


C. DEATHS

LOPEZ-ORTIZ, Alejandro, Professor, David R. Cheriton School of Computer Science, March 1, 2017.
D. SABBATICALS (for approval by the Board of Governors)

**BATTY, Christopher** (Assistant Professor), David R. Cheriton School of Computer Science, July 1, 2017 – December 31, 2017 with 100% sabbatical. This is a special early sabbatical.

**DAVIDSON, Kenneth** (Professor), Dept. of Pure Mathematics, January 1, 2018 – June 30, 2018 at 100% salary. This is an early sabbatical.

**LI, Johnny** (Associate Professor), Dept. of Statistics and Actuarial Science, July 1, 2017 – June 30, 2018, with 100% salary.

**NISHIMURA, Naomi** (Associate Professor), David R. Cheriton School of Computer Science, July 1, 2017 – December 31, 2017 with 85% salary. This is an early sabbatical.

**RUBINSTEIN, Michael** (Professor), Dept. of Pure Mathematics, July 1, 2017 – June 30, 2018 at 85% salary. This is an early sabbatical.

**STRUTHERS, Cynthia** (Associate Professor), Dept. of Statistics and Actuarial Science, July 1, 2017 – December 31, 2017 at 85% salary. This is an early sabbatical.

**STINSON, Douglas** (Professor), David R. Cheriton School of Computer Science, September 1, 2017 – August 31, 2018, with 85% salary.

**TUNCEL, Levent** (Professor), Dept. of Combinatorics and Optimization, September 1, 2017 – February 28, 2018 at 100% salary. This is an early sabbatical.

E. SPECIAL LEAVE

**LANK, Edward** (Associate Professor), David R. Cheriton School of Computer Science, September 1, 2017 – February 28, 2018. This is an unpaid leave.

[Signature]

Stephen M. Watt
Dean
For information:

A. **APPOINTMENTS**

**New Definite Term – Full-Time**

NAGAPATNAM SUBBARAMAN, Lakshman, Research Associate Professor, School of Optometry and Vision Science, March 1, 2017 to February 28, 2019.  [B.Sc., Elite School of Optometry (India) (2002); M.Sc., University of Waterloo (2005); Ph.D., University of Waterloo (2009).] Dr. Lakshman Subbaraman is a Senior Clinical Scientist and the Head of Biological Sciences at the Centre for Contact Lens Research in the School of Optometry and Vision Science. He has authored over 60 peer-reviewed and professional articles in the areas of contact lens discomfort, tear film biochemistry and ophthalmic biomaterials and has presented at numerous conferences in twelve different countries. He is a two-time recipient of the American Optometric Foundation’s prestigious William Ezell Fellowship. He serves as a member of the American Academy of Optometry’s Research Committee, is on the editorial board of British Contact Lens Association’s peer-reviewed journal, Contact Lens & Anterior Eye and is a topical editor for the journal Optometry & Vision Science. He also serves as a referee for several Ophthalmology & Optometry journals and international research granting agencies. Lakshman is a Fellow of the American Academy of Optometry and a Member of the International Society for Contact Lens Research, Tear Film & Ocular Surface Society and the Association for Research in Vision & Ophthalmology.

**Adjunct Appointments**

**Graduate Supervision**

WELLEN, Christopher, Assistant Professor, Department of Earth and Environmental Sciences, February 1, 2017 to January 31, 2020.

**Adjunct Reappointments**

**Graduate Supervision and Research**

WINTER, Jennifer G., Assistant Professor, Department of Biology, May 1, 2017 to April 30, 2020.

**Undergraduate Instruction, Graduate Supervision and Research**

OSEI, Ernest, Professor, Department of Physics and Astronomy, January 1, 2017 to December 31, 2020.
Graduate Instruction, Graduate Supervision and Research

HARRIS, Gretchen L., (Professor Emeritus) Associate Professor, Department of Physics and Astronomy, January 1, 2017 to December 31, 2022.

Special Appointments

Undergraduate Instruction

FENG, Lucy, Lecturer, School of Pharmacy, May 1, 2017 to August 31, 2017.

Special Reappointment

Undergraduate Instruction

GILBERT, Dara E., Lecturer, Department of Chemistry, May 1, 2017 to August 31, 2017.

WONG, Jeffrey, Lecturer, School of Pharmacy, May 1, 2017 to August 31, 2017.

FOR APPROVAL BY THE BOARD OF GOVERNORS

B. Sabbatical Leaves

McMAHON, Terrance, Professor, Department of Chemistry, Sabbatical, September 1, 2017 to August 31, 2019, 100% salary arrangement and 4 for 4 Administrative Leave, September 1, 2019 to December 31, 2019, 100% salary arrangement.

MEIERING, Elizabeth, Professor, Department of Chemistry, May 1, 2017 to April 30, 2018, 86.4% salary arrangement.

UNGER, Andre, Associate Professor, Department of Earth and Environmental Sciences, September 1, 2017 to August 31, 2018, 85% salary arrangement.

R.P. Lemieux
Dean
University of Waterloo
SENATE
Report of the Vice-President, Academic & Provost
April 17, 2017

FOR INFORMATION

University Professor Designation
The 2017 University Professor designations: Xuemin (Sherman) Shen (electrical and computer engineering); Joanne Wood (psychology).

Waterloo has awarded this distinction to 23 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 and Douglas Stinson (computer science) in 2013; William Cook (combinatorics and optimization), and William Coleman (political science) in 2015; Linda Nazar (chemistry) in 2016.

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
### Full-time Faculty

#### Full-time, Regular Faculty Members (by Gender and Rank)

<table>
<thead>
<tr>
<th></th>
<th>Full</th>
<th>Associate</th>
<th>Assistant</th>
<th>Lecturer</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
<td>#</td>
<td>%</td>
<td>#</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>63</td>
<td>16.4%</td>
<td>110</td>
<td>29.6%</td>
<td>73</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>322</td>
<td>83.6%</td>
<td>262</td>
<td>70.4%</td>
</tr>
<tr>
<td>Fall 2013</td>
<td>71</td>
<td>17.9%</td>
<td>120</td>
<td>30.5%</td>
<td>82</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>325</td>
<td>82.1%</td>
<td>274</td>
<td>69.5%</td>
</tr>
<tr>
<td>Fall 2014</td>
<td>74</td>
<td>18.4%</td>
<td>128</td>
<td>32.2%</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>328</td>
<td>81.6%</td>
<td>270</td>
<td>67.8%</td>
</tr>
<tr>
<td>Fall 2015</td>
<td>84</td>
<td>19.5%</td>
<td>128</td>
<td>31.9%</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>347</td>
<td>80.5%</td>
<td>273</td>
<td>68.1%</td>
</tr>
<tr>
<td>Fall 2016</td>
<td>90</td>
<td>20.5%</td>
<td>127</td>
<td>31.4%</td>
<td>105</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>350</td>
<td>79.5%</td>
<td>278</td>
<td>68.6%</td>
</tr>
</tbody>
</table>

#### Full-time, Regular Faculty Members (by Gender and Faculty)

<table>
<thead>
<tr>
<th>Faculty</th>
<th>AHS</th>
<th>ART</th>
<th>ENG</th>
<th>ENV</th>
<th>MAT</th>
<th>SCI</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2012</td>
<td>26</td>
<td>113</td>
<td>45</td>
<td>23</td>
<td>40</td>
<td>47</td>
<td>294</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>40</td>
<td>160</td>
<td>250</td>
<td>49</td>
<td>180</td>
<td>142</td>
</tr>
<tr>
<td>% Female</td>
<td>39.4%</td>
<td>41.4%</td>
<td>15.3%</td>
<td>31.9%</td>
<td>18.2%</td>
<td>24.9%</td>
<td>26.4%</td>
</tr>
<tr>
<td>Fall 2013</td>
<td>30</td>
<td>123</td>
<td>50</td>
<td>27</td>
<td>39</td>
<td>51</td>
<td>320</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>39</td>
<td>163</td>
<td>245</td>
<td>50</td>
<td>186</td>
<td>136</td>
</tr>
<tr>
<td>% Female</td>
<td>43.5%</td>
<td>43.0%</td>
<td>16.9%</td>
<td>35.1%</td>
<td>17.3%</td>
<td>27.3%</td>
<td>28.1%</td>
</tr>
<tr>
<td>Fall 2014</td>
<td>33</td>
<td>134</td>
<td>53</td>
<td>28</td>
<td>44</td>
<td>53</td>
<td>345</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>41</td>
<td>165</td>
<td>243</td>
<td>53</td>
<td>188</td>
<td>139</td>
</tr>
<tr>
<td>% Female</td>
<td>44.6%</td>
<td>44.8%</td>
<td>17.9%</td>
<td>34.6%</td>
<td>19.0%</td>
<td>27.6%</td>
<td>29.4%</td>
</tr>
<tr>
<td>Fall 2015</td>
<td>32</td>
<td>139</td>
<td>60</td>
<td>28</td>
<td>43</td>
<td>57</td>
<td>359</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>44</td>
<td>166</td>
<td>254</td>
<td>53</td>
<td>197</td>
<td>138</td>
</tr>
<tr>
<td>% Female</td>
<td>42.1%</td>
<td>45.6%</td>
<td>19.1%</td>
<td>34.6%</td>
<td>17.9%</td>
<td>29.2%</td>
<td>29.6%</td>
</tr>
<tr>
<td>Fall 2016</td>
<td>36</td>
<td>144</td>
<td>61</td>
<td>32</td>
<td>48</td>
<td>59</td>
<td>380</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>50</td>
<td>169</td>
<td>264</td>
<td>49</td>
<td>207</td>
<td>140</td>
</tr>
<tr>
<td>% Female</td>
<td>41.9%</td>
<td>46.0%</td>
<td>18.8%</td>
<td>39.5%</td>
<td>18.8%</td>
<td>29.6%</td>
<td>30.2%</td>
</tr>
</tbody>
</table>

**Notes:**
1. Source: Full-time faculty data submission to Statistics Canada (UCASS)
2. Includes full-time, regular faculty members with appointments of at least one year
### Academic Support Staff

**Full-time and Part-time, Regular Staff in Operating Complement positions (by Gender and Faculty/Non-Faculty)**

<table>
<thead>
<tr>
<th></th>
<th>AHS</th>
<th>ART</th>
<th>ENG</th>
<th>ENV</th>
<th>MAT</th>
<th>SCI</th>
<th>Non-Faculties</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>27</td>
<td>83</td>
<td>103</td>
<td>24</td>
<td>63</td>
<td>78</td>
<td>638</td>
<td>1,016</td>
</tr>
<tr>
<td>Male</td>
<td>6</td>
<td>17</td>
<td>81</td>
<td>11</td>
<td>30</td>
<td>48</td>
<td>321</td>
<td>514</td>
</tr>
<tr>
<td>% Female</td>
<td>81.8%</td>
<td>83.0%</td>
<td>56.0%</td>
<td>68.6%</td>
<td>67.7%</td>
<td>61.9%</td>
<td>66.5%</td>
<td>66.4%</td>
</tr>
<tr>
<td>Fall 2013</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>29</td>
<td>91</td>
<td>108</td>
<td>27</td>
<td>67</td>
<td>86</td>
<td>669</td>
<td>1,077</td>
</tr>
<tr>
<td>Male</td>
<td>6</td>
<td>17</td>
<td>86</td>
<td>13</td>
<td>31</td>
<td>46</td>
<td>345</td>
<td>544</td>
</tr>
<tr>
<td>Unknown</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>% Female</td>
<td>82.9%</td>
<td>84.3%</td>
<td>55.7%</td>
<td>67.5%</td>
<td>68.4%</td>
<td>65.2%</td>
<td>65.8%</td>
<td>66.4%</td>
</tr>
<tr>
<td>Fall 2014</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>28</td>
<td>87</td>
<td>106</td>
<td>29</td>
<td>63</td>
<td>88</td>
<td>691</td>
<td>1,092</td>
</tr>
<tr>
<td>Male</td>
<td>7</td>
<td>19</td>
<td>87</td>
<td>13</td>
<td>30</td>
<td>47</td>
<td>366</td>
<td>569</td>
</tr>
<tr>
<td>% Female</td>
<td>80.0%</td>
<td>82.1%</td>
<td>54.9%</td>
<td>69.0%</td>
<td>67.7%</td>
<td>65.2%</td>
<td>65.4%</td>
<td>65.7%</td>
</tr>
<tr>
<td>Fall 2015</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>28</td>
<td>93</td>
<td>117</td>
<td>31</td>
<td>67</td>
<td>103</td>
<td>761</td>
<td>1,200</td>
</tr>
<tr>
<td>Male</td>
<td>11</td>
<td>19</td>
<td>94</td>
<td>14</td>
<td>34</td>
<td>46</td>
<td>386</td>
<td>604</td>
</tr>
<tr>
<td>% Female</td>
<td>71.8%</td>
<td>83.0%</td>
<td>55.5%</td>
<td>68.9%</td>
<td>66.3%</td>
<td>69.1%</td>
<td>66.3%</td>
<td>66.5%</td>
</tr>
<tr>
<td>Fall 2016</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>34</td>
<td>89</td>
<td>121</td>
<td>34</td>
<td>68</td>
<td>97</td>
<td>815</td>
<td>1,258</td>
</tr>
<tr>
<td>Male</td>
<td>11</td>
<td>22</td>
<td>97</td>
<td>14</td>
<td>38</td>
<td>45</td>
<td>397</td>
<td>624</td>
</tr>
<tr>
<td>% Female</td>
<td>75.6%</td>
<td>80.2%</td>
<td>55.5%</td>
<td>70.8%</td>
<td>64.2%</td>
<td>68.3%</td>
<td>67.2%</td>
<td>66.8%</td>
</tr>
</tbody>
</table>

**Notes:**

1. Source data from October 1 staff and faculty extracts (HR)
2. Includes staff in operating complement positions only (part-time and full-time); University of Waterloo staff; regular appointments
3. Excludes AFIW; ancillary staff; positions not in complement; temporary staff
Students

Total Students (Headcounts by Gender and Undergraduate/Graduate)

<table>
<thead>
<tr>
<th></th>
<th>Undergraduate</th>
<th>Graduate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
<td>#</td>
</tr>
<tr>
<td><strong>Fall 2012</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>13,443</td>
<td>44.6%</td>
<td>2,059</td>
</tr>
<tr>
<td>Male</td>
<td>16,690</td>
<td>55.4%</td>
<td>3,111</td>
</tr>
<tr>
<td><strong>Fall 2013</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>13,881</td>
<td>44.8%</td>
<td>2,218</td>
</tr>
<tr>
<td>Male</td>
<td>17,123</td>
<td>55.2%</td>
<td>3,114</td>
</tr>
<tr>
<td><strong>Fall 2014</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>14,151</td>
<td>45.2%</td>
<td>2,199</td>
</tr>
<tr>
<td>Male</td>
<td>17,162</td>
<td>54.8%</td>
<td>3,114</td>
</tr>
<tr>
<td><strong>Fall 2015</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>14,608</td>
<td>45.9%</td>
<td>2,265</td>
</tr>
<tr>
<td>Male</td>
<td>17,192</td>
<td>54.1%</td>
<td>3,045</td>
</tr>
<tr>
<td><strong>Fall 2016</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>15,294</td>
<td>46.6%</td>
<td>2,420</td>
</tr>
<tr>
<td>Male</td>
<td>17,543</td>
<td>53.4%</td>
<td>3,045</td>
</tr>
</tbody>
</table>

Undergraduate Students (Headcounts by Gender and Faculty)

<table>
<thead>
<tr>
<th>Faculty</th>
<th>AHS</th>
<th>ART</th>
<th>ENG</th>
<th>ENV</th>
<th>MAT</th>
<th>SCI</th>
<th>Other*</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall 2012</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1,188</td>
<td>4,647</td>
<td>1,403</td>
<td>1,231</td>
<td>2,132</td>
<td>2,561</td>
<td>281</td>
<td>13,443</td>
</tr>
<tr>
<td>Male</td>
<td>764</td>
<td>2,592</td>
<td>5,182</td>
<td>1,027</td>
<td>4,372</td>
<td>2,143</td>
<td>610</td>
<td>16,690</td>
</tr>
<tr>
<td>% Female</td>
<td>60.9%</td>
<td>64.2%</td>
<td>21.3%</td>
<td>54.5%</td>
<td>32.8%</td>
<td>54.4%</td>
<td>31.5%</td>
<td>44.6%</td>
</tr>
<tr>
<td><strong>Fall 2013</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1,301</td>
<td>4,684</td>
<td>1,409</td>
<td>1,193</td>
<td>2,230</td>
<td>2,748</td>
<td>316</td>
<td>13,881</td>
</tr>
<tr>
<td>Male</td>
<td>799</td>
<td>2,591</td>
<td>5,258</td>
<td>1,040</td>
<td>4,472</td>
<td>2,328</td>
<td>635</td>
<td>17,123</td>
</tr>
<tr>
<td>% Female</td>
<td>62.0%</td>
<td>64.4%</td>
<td>21.1%</td>
<td>53.4%</td>
<td>33.3%</td>
<td>54.1%</td>
<td>33.2%</td>
<td>44.8%</td>
</tr>
<tr>
<td><strong>Fall 2014</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1,393</td>
<td>4,496</td>
<td>1,616</td>
<td>1,246</td>
<td>2,349</td>
<td>2,776</td>
<td>275</td>
<td>14,151</td>
</tr>
<tr>
<td>Male</td>
<td>798</td>
<td>2,476</td>
<td>5,233</td>
<td>1,058</td>
<td>4,619</td>
<td>2,330</td>
<td>648</td>
<td>17,162</td>
</tr>
<tr>
<td>% Female</td>
<td>63.6%</td>
<td>64.5%</td>
<td>23.6%</td>
<td>54.1%</td>
<td>33.7%</td>
<td>54.4%</td>
<td>33.2%</td>
<td>45.2%</td>
</tr>
<tr>
<td><strong>Fall 2015</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1,450</td>
<td>4,362</td>
<td>1,796</td>
<td>1,276</td>
<td>2,458</td>
<td>2,966</td>
<td>300</td>
<td>14,608</td>
</tr>
<tr>
<td>Male</td>
<td>803</td>
<td>2,374</td>
<td>5,171</td>
<td>1,040</td>
<td>4,680</td>
<td>2,564</td>
<td>651</td>
<td>17,192</td>
</tr>
<tr>
<td>% Female</td>
<td>66.4%</td>
<td>64.8%</td>
<td>25.8%</td>
<td>55.1%</td>
<td>33.7%</td>
<td>54.5%</td>
<td>31.6%</td>
<td>45.9%</td>
</tr>
<tr>
<td><strong>Fall 2016</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1,592</td>
<td>4,375</td>
<td>2,022</td>
<td>1,279</td>
<td>2,661</td>
<td>3,047</td>
<td>318</td>
<td>15,294</td>
</tr>
<tr>
<td>Male</td>
<td>811</td>
<td>2,421</td>
<td>5,178</td>
<td>1,055</td>
<td>4,680</td>
<td>2,564</td>
<td>651</td>
<td>17,543</td>
</tr>
<tr>
<td>% Female</td>
<td>64.4%</td>
<td>64.8%</td>
<td>25.8%</td>
<td>55.1%</td>
<td>33.7%</td>
<td>54.5%</td>
<td>31.6%</td>
<td>45.9%</td>
</tr>
</tbody>
</table>

* "Other" includes programs that aren't administered by a single Faculty: Software Engineering, Computing and Financial Management, Renison Programs, and Theology

Graduate Students (Headcounts by Gender and Faculty)

<table>
<thead>
<tr>
<th>Faculty</th>
<th>AHS</th>
<th>ART</th>
<th>ENG</th>
<th>ENV</th>
<th>MAT</th>
<th>SCI</th>
<th>Other**</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall 2012</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>368</td>
<td>403</td>
<td>469</td>
<td>288</td>
<td>254</td>
<td>241</td>
<td>36</td>
<td>2,059</td>
</tr>
<tr>
<td>Male</td>
<td>127</td>
<td>314</td>
<td>1,477</td>
<td>207</td>
<td>593</td>
<td>361</td>
<td>32</td>
<td>3,111</td>
</tr>
<tr>
<td>% Female</td>
<td>74.3%</td>
<td>56.2%</td>
<td>24.1%</td>
<td>58.2%</td>
<td>30.0%</td>
<td>40.0%</td>
<td>52.9%</td>
<td>39.8%</td>
</tr>
<tr>
<td><strong>Fall 2013</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>474</td>
<td>427</td>
<td>445</td>
<td>344</td>
<td>268</td>
<td>231</td>
<td>29</td>
<td>2,218</td>
</tr>
<tr>
<td>Male</td>
<td>146</td>
<td>337</td>
<td>1,405</td>
<td>223</td>
<td>595</td>
<td>374</td>
<td>34</td>
<td>3,114</td>
</tr>
<tr>
<td>% Female</td>
<td>76.5%</td>
<td>55.9%</td>
<td>24.1%</td>
<td>60.7%</td>
<td>31.1%</td>
<td>38.2%</td>
<td>46.0%</td>
<td>41.6%</td>
</tr>
<tr>
<td><strong>Fall 2014</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>481</td>
<td>444</td>
<td>457</td>
<td>307</td>
<td>271</td>
<td>228</td>
<td>11</td>
<td>2,199</td>
</tr>
<tr>
<td>Male</td>
<td>140</td>
<td>320</td>
<td>1,365</td>
<td>224</td>
<td>586</td>
<td>388</td>
<td>22</td>
<td>3,045</td>
</tr>
<tr>
<td>% Female</td>
<td>77.5%</td>
<td>58.1%</td>
<td>25.1%</td>
<td>57.8%</td>
<td>31.6%</td>
<td>37.0%</td>
<td>33.3%</td>
<td>41.9%</td>
</tr>
<tr>
<td><strong>Fall 2015</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>500</td>
<td>446</td>
<td>465</td>
<td>324</td>
<td>280</td>
<td>234</td>
<td>16</td>
<td>2,265</td>
</tr>
<tr>
<td>Male</td>
<td>153</td>
<td>309</td>
<td>1,345</td>
<td>235</td>
<td>596</td>
<td>377</td>
<td>11</td>
<td>3,026</td>
</tr>
<tr>
<td>% Female</td>
<td>76.6%</td>
<td>59.1%</td>
<td>25.7%</td>
<td>58.0%</td>
<td>32.0%</td>
<td>38.3%</td>
<td>59.3%</td>
<td>42.8%</td>
</tr>
<tr>
<td><strong>Fall 2016</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>526</td>
<td>458</td>
<td>536</td>
<td>326</td>
<td>313</td>
<td>244</td>
<td>17</td>
<td>2,420</td>
</tr>
<tr>
<td>Male</td>
<td>166</td>
<td>289</td>
<td>1,336</td>
<td>234</td>
<td>627</td>
<td>378</td>
<td>15</td>
<td>3,045</td>
</tr>
<tr>
<td>% Female</td>
<td>76.0%</td>
<td>61.3%</td>
<td>28.6%</td>
<td>58.2%</td>
<td>33.3%</td>
<td>39.2%</td>
<td>53.1%</td>
<td>44.3%</td>
</tr>
</tbody>
</table>

** "Other" includes Theology offered at AFIW and visiting graduate students

Source: IAP Count date database (fall terms, Nov 1st). Excludes inactive graduate students
Senate Graduate & Research Council met on 20 March 2017, and considered a proposal to update one program field. Council agreed to forward the following item to Senate for approval. Council recommends this item be included in the regular agenda.

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

**FOR APPROVAL**

---

**CHANGES TO AN ACADEMIC PLAN**

**Faculty of Arts**

**Psychology**

1. **Motion:** To approve the update of research areas in the Master of Arts in Psychology, keeping only the research area of “Industrial/Organizational Psychology”, effective 1 May 2017.

   (strike-through = deleted text)

<table>
<thead>
<tr>
<th>Current Graduate Studies Academic Calendar Content:</th>
<th>Proposed Graduate Studies Academic Calendar Content:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fields (areas of research)</td>
<td>Fields (areas of research)</td>
</tr>
<tr>
<td>• Developmental Psychology</td>
<td>• Industrial/Organizational Psychology</td>
</tr>
<tr>
<td>• Industrial/Organizational Psychology</td>
<td></td>
</tr>
</tbody>
</table>

**Rationale:** The only MASc degree offered in Developmental Psychology is the “Master of Applied Science (MASc) in Psychology – Developmental and Communication”, which has its own entry in the Graduate Studies Academic Calendar. The listing of Developmental Psychology as a field for the MASc in Applied Psychology was an arrangement that preceded the development of the MASc DCS degree and has been made obsolete by it.

/ar Jeff Casello
Associate Provost, Graduate Studies

George Dixon
Vice President, University Research
Senate Undergraduate Council met on 21 March 2017 and will meet on 11 April 2017, and has/will have considered proposals for two new academic plans, changes to three academic plans, and inactivation of five academic plans. Council agreed to forward the following items to Senate for approval, and for items #1 and #3 this recommendation is subject to Council approval at its 11 April 2017 meeting. Council recommends these items be included in the regular agenda.

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

FOR APPROVAL

NEW ACADEMIC PLAN

Co-operative Education
Co-op Certificates

1. **Motion:** To approve the creation of co-op certificates as described in Attachment #1 and effective 1 September 2018, subject to approval by Senate Undergraduate Council at its meeting on 11 April 2017.

   **Rationale:** The new certificates will advance the recognition of research-intensive work-term experiences for undergraduate students, and will help to support the continuous and evolutionary innovation in co-operative education to ensure that our program remains aligned with the needs of stakeholders. The certificates also align with and promote the progress of the University’s strategic plan to lead and differentiate in the areas of transformational research and experiential education.

Faculty of Science
Physics and Astronomy

2. **Motion:** To approve a new minor plan in astrophysics as described and effective 1 September 2018.

   Advisors: See Faculty of Science, Academic Advisors.

   The Minor in Astrophysics is available to students in Honours and General plans, except those enrolled in Honours Physics and Astronomy.

   Successful completion of this minor requires:
   1. 5.0 units that include:
      - PHYS unit: PHYS 121 and PHYS 122
      - 2.0 PHYS elective units selected from: PHYS 175, PHYS 270, PHYS 275, PHYS 375, PHYS 474, PHYS 475, or PHYS 476
      - 2.0 PHYS elective units
   2. A minimum cumulative average of 60% in all PHYS courses

   **Notes**
   1. At least 1.5 PHYS lecture units must be 300-level or higher.
   2. No more than 1.0 PHYS lab unit can count toward this minor.
   3. A Minor in Astrophysics will not be awarded with an Honours Major in Physics and Astronomy.

   **Rationale:** The minor replaces the astrophysics specializations proposed for inactivation in motions 6-9, and will allow students in programs that had those specializations to obtain an equivalent credential by taking the minor. Students outside these programs will now have the opportunity to take a minor in astrophysics, with the exception of those enrolled in Honours Physics and Astronomy.
CHANGES TO ACADEMIC PLANS

Co-operative Education
Co-op Degree Designation

3. **Motion:** To approve amendments to the co-op degree designation as described in Attachment #2 and effective 1 September 2018, subject to approval by Senate Undergraduate Council at its meeting on 11 April 2017.

**Rationale:** These amendments will allow students to pursue flexible work terms, and the amendments to the calendar text will better reflect current practice and add reference to work-term indicators and co-op certificates. The accreditation body for Canadian co-op programs dictates a minimum of three work terms for a university undergraduate degree program, and so the university will require that students complete three work terms according to existing standard work-term criteria; students may choose to complete their additional work terms according to either the standard work-term criteria or the new flexible work-term criteria. The calendar will include reference to work-term indicators, which will be required to track flexible work terms and work terms contributing to co-op certificates. Work-term indicators would be assigned by CECA, applying criteria set in consultation with the Faculties and approved by the Co-operative Education Council.

While it is expected that the majority of students will still complete standard work terms, there will be many students who benefit from greater flexibility which recognize students’ diverse goals in an ever-changing world of work and formally acknowledging opportunities that do not fit within the standard work-term criteria. By formally recognizing an increasing number of experiences, the University will be able to foster relationships with new employers and lend its voice in additional spheres. While it may entail some risk to widen the co-op framework, this is balanced by the increased differentiation of Waterloo’s co-operative education program and maintaining its prominence. Further, it is not intended that the introduction of flexible work-term criteria would expand unpaid opportunities – this is to be mitigated with the expansion of a rigorous alternative remuneration framework that will seek input from each Faculty where opportunities exist, in areas that are otherwise not advantageous for University of Waterloo co-op students because a specific industry lacks a culture of compensating students through traditional remuneration. It is anticipated that, over time, such industries will see the value of the co-op model and migrate more towards paid opportunities for students.

Faculty of Mathematics
Computing Technology Option

4. **Motion:** To amend the plan name of the “computing technology option” to “computing option” effective 1 September 2018.

**Rationale:** The new name for the option more accurately identifies the material found in the option. It also was perceived that the current name does not make clear that the material is university-level study and makes the option unappealing to students outside the Faculty.

Faculty of Mathematics
Mathematics / Business

5. **Motion:** To amend the mathematics/financial analysis and risk management plan as described and effective 1 September 2018.

(underline = new text)

Students in this plan must fulfill all the requirements in Table I and Table II and the following specific requirements along with four academic milestones which must be completed at or before specified times:
Two additional non-math courses (1.0 units).

**Milestones**
- Students receive $1,000,000 CAD in a virtual brokerage account and they use this cash during their study to manage a portfolio which includes stocks, bonds, options, futures, currencies and other securities from over 55 exchanges in over 30 countries. Students will be required to trade various securities, engage in various trading strategies and portfolio allocation strategies. Each milestone comes with explicit deliverables that students must submit electronically and meet to receive credit. The first milestone cannot be completed before eight months from the date of their first trade has elapsed. The last milestone must be completed in the student’s final 4B term, not less than two months prior to the end of the term. No milestone can be submitted within six months of the most recent milestone submission date.

**Rationale:** Adding these new milestones will give students real-life exposure to the financial markets. Upon completion of the simulation, students will have graduated with up to five years of trading and portfolio management experience.

**INACTIVATION OF ACADEMIC PLANS**

**Faculty of Science**

**Physics and Astronomy**

6. **Motion:** To inactivate the honours physics (astrophysics specialization) plan effective 1 September 2018.

**Rationale:** The approval of the new minor in astrophysics displaces the plans in motions 6-9, and so it is recommended that Senate inactivate these plans.

7. **Motion:** To inactivate the honours co-operative physics (astrophysics specialization) plan effective 1 September 2018.

**Rationale:** See rationale for motion #4.

8. **Motion:** To inactivate the honours mathematical physics (astrophysics specialization) plan effective 1 September 2018.

**Rationale:** See rationale for motion #4.

9. **Motion:** To inactivate the honours co-operative mathematical physics (astrophysics specialization) plan effective 1 September 2018.

**Rationale:** See rationale for motion #4.

10. **Motion:** To inactivate the joint honours bachelor of science and bachelor of independent studies plan effective 1 September 2018.

**Rationale:** With Senate’s previous inactivation of the bachelor of independent studies plan, the inactivation of the joint plan would appropriately reflect this change.

Mario Coniglio
Associate Vice-President, Academic
Co-operative Education & Career Action

Co-operative Degree Designation

Co-op Certificates

While pursuing a co-operative degree designation, some students choose to pursue work-term experiences that allow them to develop a deeper exposure to certain skill sets or industries. Co-op certificates are offered through Co-operative Education & Career Action (CECA) to formally recognize these specialized experiences.

To be eligible to receive a co-op certificate, students must complete all the specified requirements listed for the certificate in question and meet all of their program’s requirements for a co-op degree designation. Note that an individual work term may not be counted toward more than one co-op certificate.

Co-op Research Certificate

Students will be eligible to receive a Co-op Research Certificate if they complete the following requirements:

1. Receive credit for at least three work-term experiences with a research work-term indicator (i.e., “RES” indicator).
2. Receive credit for a professional development course focusing on research, which can also count toward the PD requirements for the Co-operative Degree Designation.
3. Complete the Co-op Research Certificate capstone activity or event. Students can earn this requirement through successful completion of an approved workshop or an online module.

For additional details, visit the Co-operative Education website.
Co-operative Education & Career Action

Co-operative Degree Designation

Graduates completing the Co-operative Education system requirements will receive a "Co-operative" degree designation. Co-operative registration, work term requirements, and internal transfer of work terms credits can be found in the Co-operative Education website. Both the completion of Waterloo Professional Development Program (WatPD) courses and a minimum number of work reports are requirements of a Co-operative degree designation. Work reports are administered by your faculty.

Revised Calendar Text – new text for inclusion in Calendar

(Note: Hyperlinks attached to blue text).

Co-operative Education & Career Action

Co-operative Degree Designation

Graduates completing the co-operative education degree requirements will receive a "Co-operative" degree designation. These requirements, determined by the Faculty, include completion of:

- Co-op work terms and receiving credit for the corresponding COOP courses. Work terms are administered by Co-operative Education & Career Action (CECA), with requirements developed in conjunction with each Faculty.

- Professional development courses that are administered by the Waterloo Professional Development Program (WatPD).

- Work reports and/or reflections that are administered by the degree-granting Faculty.

The required number of work terms, professional development courses, and work reports/reflections for each program is detailed in the Study/Work Sequence table.

To be eligible to count toward a co-operative degree designation, employment must meet standard or flexible work-term requirements. These criteria are set jointly by CECA and the Faculties, and allow for the degree designations to be eligible for Canadian Association for Co-operative Education (CAFCE) accreditation.
Students must complete at least three work terms meeting standard work-term requirements and must complete additional work terms (standard or flexible work-term requirements) as specified by their program (see Study/Work Sequence table).

The University also offers credentials attached to co-op degree designations. These credentials are detailed under co-op certificates.

**Work-Term Indicators**

Students wishing to obtain co-op certificates or other University of Waterloo credentials may wish to pursue work-term experiences with a specific focus. For example, students wishing to obtain a co-op research certificate would pursue a work term flagged as a research experience.

The following indicator(s) can be applied to a work-term experience and will be displayed on a student’s academic transcript.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Work-Term Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>RES</td>
<td>Research Work-Term Indicator</td>
</tr>
</tbody>
</table>

Work-term indicators can only be applied to work terms with the approval of CECA. Details on the requirements and procedures for adding a work-term indicator can be found on the co-operative education website.

In addition to the above indicators, work terms approved under flexible work-term requirements will be tracked in Quest, though will not have the associated work-term indicator displayed on a student’s academic transcript.
Possible ‘Standard or Flexible Work-Term Requirements’
Co-operative Education Landing Page

(Note: Hyperlinks attached to blue text).

Work-Term Requirements

Work terms must meet a number of criteria to be eligible to count toward a co-operative degree designation. These criteria are set jointly by Co-operative Education & Career Action (CECA) and the Faculties, and allow for the degree designations to be eligible for Canadian Association for Co-operative Education (CAFCE) Accreditation.

At least three of a student’s co-op work terms must meet standard work-term requirements. The remaining work terms can meet either standard or flexible work-term requirements. (Refer to Co-op Degree Designation in calendar for more details)

Standard Work-Term Requirements

Students seeking credit for a work term experience must normally:

- Receive remuneration for the work performed.
- Be working full-time (35 – 40 hours per week).
- Work for a period of 16 continuous weeks during the term in question.
- Be working for a single employer.
- Be supervised by an impartial third-party (e.g., not related to the student) who will submit an evaluation of the student’s performance during the work term.
- Be working in an area related to the student’s program of study, as determined by criteria set jointly by CECA and the student’s Faculty.

Exceptions to the above requirements can be granted when circumstances exist to support such accommodation. For example, exceptions are routinely granted to ensure that students with disabilities have equal access to co-operative education programming.

Flexible Work Terms

Flexible work terms are work terms in which one or more of the standard work-term requirements are fully or partially waived. Flexible work terms can only be counted toward a Co-operative Degree Designation and/or Co-op Certificate if a student has enough work terms remaining to complete and receive credit for at least three work-term experiences that meet the standard work-term requirements.

Approval of work terms under flexible work-term requirements is at the complete discretion of CECA. Not all of the standard work-term requirements are negotiable and the types of work-term experiences that will be accepted as flexible work terms are dependent on criteria set by each Faculty. As a starting point for approval, students seeking credit for a flexible work-term experience must normally:

- Arrange their own employment, with a rationale provided for how the work term meets their specific career goals.
- Include a minimum of 420 hours of work, normally within the standard 16-week term.
- Not include extended breaks or periods off.
- Be working for a single employer, or combine work from two employers.
• Have a supervisor(s) submit an evaluation of the student’s performance during the work term. When two evaluations are received, they will be consolidated by CECA.
• Receive compensation or meet the requirements of an alternative remuneration arrangement which may differ by Faculty and are approved by CECA on a case by case basis.