University of Waterloo
SENATE
Notice of Meeting

Date: Monday 21 November 2016
Time: 3:30 p.m.
Place: Needles Hall, room 3407

	OPEN SESSION	
3:30	1. Conflict of Interest	Declaration
	Consent Agenda	
	Motion: To approve or receive for information by consent items 2-7 below.	
	2. Minutes of the 17 October 2016 Meeting	Decision
	3. Reports from Committees and Councils	
	a. Executive Committee	Information
	b. Graduate & Research Council	Information
	c. Undergraduate Council	Information
	4. Report of the President	
	a. Recognition and Commendation	Information
	5. Reports from the Faculties	Information
	6. Report from the COU Academic Colleague	Information
	7. Committee Appointments (report at members' places)	Decision
	Regular Agenda	
3:35	8. Business Arising from the Minutes	
	a. PhD Gender Information	Information
3:45	9. Graduate Student Presentation – Rosanne Abdulla, PhD candidate, French Studies	Information
	10. Reports from Committees and Councils	
4:00	a. Joint Report from Graduate and Research Council and Undergraduate Council	Decision
4:10	b. Graduate and Research Council	Decision
4:20	c. Undergraduate Council	Decision
4:30	11. Report of the President	Information
4:45	12. Q&A Period with the President	Information
	13. Report of the Vice-President, Academic & Provost	
5:00	a. Composition of Nominating Committee for the Dean of Engineering	Decision
5:05	b. Campus Space Update	Information
5:15	c. Campus Wellness Update	Information
5:25	14. Report of the Vice-President, University Research	Information
5:30	15. Other Business	
	CONFIDENTIAL SESSION	
5:35	16. Conflict of Interest	Declaration

5:40	17. Minutes of the 17 October 2016 Meeting	Decision
5:45	18. Business Arising from the Minutes	
	19. Reports from Committees and Councils	
5:50	a. Honorary Degrees	Decision
6:00	20. Report of the Vice-President, University Research Nominating Committee	Decision
	21. Other Business	

14 November 2016
JLA/kjj

Logan Atkinson
University Secretary & General Counsel

University of Waterloo
SENATE
Minutes of the Monday 17 October 2016 Meeting

Present: Jean Andrey, Sandra Banks, Katherine Bergman, Catherine Booth, Jessica Brake, Robert Bruce, Carmen Bruni, Jeffrey Bunn, Lutz-Alexander Busch, Jeff Casello, Jennifer Clapp, Andrew Clubine, Mario Coniglio, Simon Courtenay, Douglas Cowan, Ray Darling, David DeVidi, George Dixon, Michael Drescher, Bernard Duncker, Fraser Easton, Marlene Epp, Mavis Fenn, Wendy Fletcher, Sacha Forstner, Robert Gorbet, Sally Gunz, Feridun Hamdullahpur, Dennis Huber, Mike Hudson, Pallavi Hukerikar (telephone), Marios Ioannidis, Beth Jewkes, Spiro Karigiannis, Scott Kline, Alysia Kolentsis, Greta Kroeker, Robert Lemieux, Christos Lolas, Mungo Marsden, Robin Mazumder, Barb Moffatt, Michele Mosca, Richard Myers, Daniel O'Connor, Ian Orchard, James Pankratz, Diana Parry, Douglas Peers, David Perrin, David Porreca, Christopher Pugh, Neil Randall, James Rush, Mark Seasons, Samantha Shortall, James Skidmore, Richard Staines, Pearl Sullivan, Thomson Tran, Stephen Watt, Ross Willard, Dan Wolczuk, Alexander Wray

Guests: Bruce Campbell, Carleen Carroll, Mahejabeen Ebrahim, Donna Ellis, Kim Gingerich, Sarah Hildebrandt, Alexis Hunt, Peggy Jarvie, Jennifer Kieffer, Derek Madge, Bruce Muirhead, Alice Raynard, Chris Read, Ian Rowlands, Kate Rybczunski, Daniela Seskar-Hencic, Allan Starr, Maria Strack, John Thompson

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

Absent: Hannah Beckett*, Brian Cepuran*, Tara Collington*, Eric Croiset*, David Edwards*, Samir Elhedhli, Paul Fieguth*, Murray Gamble*, Shikha Gandhi*, John Garcia*, Mark Giesbrecht*, Craig Janes*, Tom Jenkins*, Karim S. Karim*, Shoufa Lin, Paul Murphy, Mohammad Nasif, Angela Pereira*, Tristan Potter, Bruce Richter*, Erin Sargeant Greenwood*, Michael Stork*, Gordon Stubley*, Neil Thomson*, Hamid Tizhoosh*, Johanna Wandel*, William Watson*

*regrets

Organization of Meeting: Feridun Hamdullahpur, chair of Senate, took the chair, and Logan Atkinson, secretary of Senate, acted as secretary. Atkinson advised that due notice of the meeting had been given, a quorum was present, and the meeting was properly constituted.

The chair welcomed James Pankratz, the interim president at Conrad Grebel University College, and Douglas Cowan, new representative from Renison University College, attending their first meetings of Senate.

OPEN SESSION

1. DECLARATIONS OF CONFLICT OF INTEREST

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

Consent Agenda

Senate heard a motion to approve or receive for information the items on the consent agenda, being items 2-5 below.

Skidmore and Lolas.

It was agreed to move the Final Assessment Report for Society, Technology and Values appearing in the report from Senate Undergraduate Council to the regular agenda.

During discussion of the motion, some questions were raised about items two and three in the responses to recommendations appearing in the Final Assessment Report for Environment and Resource Studies and

Social and Ecological Sustainability brought forward by Senate Undergraduate Council, especially with respect to apparent non-essential tasks currently being performed by faculty members. Clapp advised that the department is in the process of reviewing and revising its committee structure to reduce overlap, in the hope that this will free up some time for greater availability for student advising.

2. MINUTES OF THE 19 SEPTEMBER 2016 MEETING
Senate approved the minutes of the meeting.

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

Undergraduate Council
Faculty of Science, Conditional Standing
Senate approved changes to the Faculty's regulation on conditional standing.

Senate received the remainder of the report for information.

4. REPORT OF THE PRESIDENT
Recognition and Commendation. Senate received the report for information.
Tenure and Promotion. Senate received the report for information.

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

The question was called, and the motion carried.

Regular Agenda

6. BUSINESS ARISING FROM THE MINUTES
PhD Enrollment. Casello referred to data assembled by faculty to summarize PhD enrolments, applications and confirmation rates. About 35% of graduate students are international students. Comparable data is available on enrolments from the U15, although not on admissions. Work continues on assessing the comparative quality of PhD applicants at this University to other universities continues.

Completion rates of students who enter with averages of 95% or greater. Allan Starr of the University's office of Institutional Analysis and Planning informed Senators that those entering the University in fall 2008 had completion rates of 76% for those with an entering average of less than 90%, 87.3% for those with entering averages between 90% and 94.9%, and 91.6% for those with entering averages of 95% and above.

7. RESEARCH PRESENTATION
MARIA STRACK, NSERC CANADA RESEARCH CHAIR: ECOSYSTEM AND CLIMATE, ASSOCIATE PROFESSOR IN THE DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL MANAGEMENT
Dr. Strack was introduced by Andrey. Strack informed senators about her work investigating the potential impact of climate change on peatlands through plot to ecosystem scale manipulation of temperature and water table and evaluating the subsequent changes in soil properties, plant community and greenhouse gas fluxes. In response to questions, Strack discussed how climate change will affect the peatland carbon stock, and how land use affects the behavior of those peatlands. She discussed the implications of harvesting peat for both horticultural purposes and for fuel.

8. REPORTS FROM COMMITTEES AND COUNCILS

Graduate & Research Council

Senate heard motions to the following effects:

Faculty of Applied Health Sciences, Recreation and Leisure Studies. To approve changes to the curricular requirements for the doctoral plan.

Casello and Rush. Carried.

Survey Research Centre. To approve amendments to the constitution of the Survey Research Centre.

Casello and Bruce.

During debate, it was agreed to amend the motion to read as follows: "To approve amendments to the constitution of the Survey Research Centre, and to note the practice that, where two directors are appointed, one is appointed from the Faculty of Arts and one is appointed from the Faculty of Mathematics."

Carried, as amended.

Undergraduate Council

Office of the Registrar, DRNC Grade. Senate heard a motion to approve "DRNC" as a new grade designation on the official transcript for undergraduate plans.

Darling and Forstner.

It was agreed that the word "new" was to be removed from the motion by way of amendment.

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

The Final Assessment Report on Society, Technology and Values. This item was brought forward from the consent agenda.

Forstner pointed out that a number of inconsistencies and contradictions appeared in the report, and referred to the lack of attention to the program's potential for growth relative to its current capacity. He suggested that, because of the nature of the program, consideration ought to be given to moving it from engineering to philosophy or knowledge integration.

Coniglio responded. The points raised have been discussed through the generation of the final assessment report. There is no doubt that there are contradictions in the report, and the idea of the proper location of the program has been canvassed thoroughly. There will never be a perfect fit, and positioning in the Faculty of Engineering is likely the best situation. According to Sullivan, the Faculty of Engineering would like its students to take greater breadth in their programs, but at the moment students are constrained to some extent. The Science, Technology and Values program teaches a large number of engineering students each year, and we ought to be careful about disrupting that.

While there are two research chairs in philosophy working in related areas, we must be very careful with disturbing the relationships that already exist due in some measure to the location of the program. Discussions on this point are ongoing.

Coniglio reminded Senate that, in two years, the program must report back to Senate to document the progress made in responding to the report. That will give Senate an opportunity to ask some of these questions once again.

Senate heard a motion to approve the Final Assessment Report for Society, Technology and Values.

Coniglio and Porreca. Carried.

9. REPORT OF THE PRESIDENT

Hamdullahpur reported on a number of items, including: the "Stop and Talk" initiative by the president to increase engagement with students; discussions with the deans on the relationship between teaching and research; reunion weekend; formal openings of the AHS building extension and the Toby Jenkins Applied Health Research building naming; update on the provincial funding formula review, and the relationship with funding connected to student satisfaction, and with possible funding of special projects; significance of the number of PhD students at the University and its impact on certain international rankings, especially with respect to the numbers of PhDs awarded, and the number of PhDs awarded per faculty member (both of which tend to adversely affect our ranking); renewed mandate letters from the premier to all ministers, with consistent reference to the need to improve numbers in the highly skilled workforce.

Hamdullahpur briefly spoke to the Fall 2016 Update to the Strategic Plan 2013-2018, and invited Orchard to say a few words. Orchard thanked Daniela Seskar-Hencic and the various theme leads for their continued excellent work in implementing the strategic plan. He referred to documents distributed to senators to assist in the mid-cycle update, and provided some detail on the work of each of the theme groups. He referred in particular to the issue of undergraduate research, which has been added as a multiple theme group collaboration as the strategic plan evolves.

Slides used in Orchard's presentation may be viewed here: https://uwaterloo.ca/secretariat-general-counsel/sites/ca.secretariat-general-counsel/files/uploads/files/9.a.strategic_plan_-_orchard.pdf.

10. Q&A PERIOD WITH THE PRESIDENT

In response to questions on the strategic plan update, it was noted that the HeforShe target for percentage of women faculty relates to tenure and tenure-track faculty.

Graduate student enrolments can be broken down by gender, and Casello agreed to bring that information back to Senate. The point is that the percentage of women in graduate studies generally is growing, and it would be helpful to know if this University is keeping pace.

There was some discussion of the metrics used in the update, including the percentage of student space, the earnings of co-op students and the need to normalize those numbers and some others, some concern with the student satisfaction measurements. On student space, Orchard observed that, while we are below the standard set by the Council of Ontario Universities, we are comfortably ahead of the sector average.

Co-op 2.0 was pointed out as a defining trait of this University that must be considered very carefully in the face of increasing competition and apparent government support for the wide expansion of co-op programs generally.

Senators discussed student study space, and were informed that work is ongoing to improve both study space and social space, and the metrics on this item ought to improve over the near and medium term. We must be careful to measure not just the amount of space available for these

purposes, but also the precise ways in which these spaces are used. This remains a high priority for the University.

Some concern was expressed about mental health on campus and the integration of health and counselling services under "Campus Wellness." This is a very important area of focus operationally, and the "campus wellness" model has allowed for the integration of services. Wait times continue to decrease, a single medical record is in place, and a single circle of care has been implemented. Read agreed to bring back a report on this work.

Casello agreed to bring forward a comprehensive report on graduate student enrolments, both generally and in relation to the strategic plan.

Senate was advised that the province has not yet indicated what metrics will be used in measuring student satisfaction for the purposes of a renewed funding formula.

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

a. Budget Model Update. Orchard advised that the new model is very close to finalization. He led Senate through examples to suggest how the model will work in practice. More detail will be brought forward to a future Senate meeting.

Orchard was asked whether there is a way to see to cost effectiveness among academic support units. He advised that yes, the Accountability Board will oversee the use of funds allocated to academic support units to ensure that resources are deployed properly and efficiently.

A question was raised as to why space costs are not allocated based on actual expenses rather than on a proportionate sharing. Huber advised that this solution is much fairer than an actual cost allocation, given that it is virtually impossible to precisely allocate costs to building operation.

Orchard noted that the model would be reviewed again in three years, at which point adjustments may be made.

Slides used in the presentation may be seen here: https://uwaterloo.ca/secretariat-general-counsel/sites/ca.secretariat-general-counsel/files/uploads/files/item_11.a_-_orchard_budget_model.pdf.

b. Degrees, Diplomas and Certificates. Senate heard a motion to approve the lists of candidates for degrees, diplomas and certificates as recommended by the Faculty Councils and the associate provost, graduate studies, and to authorize the chair, on behalf of Senate, to add to or change the lists of candidates for degrees, diplomas and certificates as approved at this meeting, provided that such additions or changes are based on the recommendation of the Registrar or (in the case of graduate students) the associate provost, graduate studies, and provided that the chair report back to Senate to advise of any such additions or changes.

Darling and Pugh. Carried.

c. Policy 42 – Prevention and Response to Sexual Violence. Orchard invited Mahejabeen Ebrahim, Director of Equity, to inform Senators about the coming policy. Ebrahim advised Senate on the status of the new policy.

Orchard thanked the Director, the working group of the Provost's Advisory Committee on Equity ("PACE"), and PACE itself, for their very strong work on this initiative. He mentioned as well that the position of sexual violence response coordinator will be located in the Provost's office. Trained external investigators will be used where investigations are required. The

educational and communication components will be key to the implementation of the policy. A review of the policy and the relevant procedures will be initiated in January to confirm that they are appropriate for this institution. He emphasized the commitment to work with all stakeholders to ensure that the continued development of the policy and procedure, and the implementation, will be done with all constituents involved.

The Director of Equity was asked to check the definition of "sexual harassment" in the policy for consistency with the Occupational Health and Safety Act.

In response to a question about who has supervisory authority, the Director of Equity advised that the policy has applied a well-established model in human rights practice. She further explained the opportunity to "disclose" an experience of sexual violence without the requirement to generate a formal report.

On behalf of the Faculty Association, Gunz thanked those involved on behalf of FAUW for the progress that had been made on this matter.

Slides used in the Director's presentation may be seen here: https://uwaterloo.ca/secretariat-general-counsel/sites/ca.secretariat-general-counsel/files/uploads/files/11.c.policy_42_mahejabeen.pdf.

12. REPORT OF THE VICE-PRESIDENT, UNIVERSITY RESEARCH

[Secretary's note: there was no report from the Vice-President, University Research. However, he provided notes to the secretary, highlights of which are as follows:

NSERC Strategic Projects 2016 Competition results: 14 submitted, 4 funded, 1 rejected, total funding – $2,429,223 over three years.

SSHRC Connection Grant September 2016 Competition results: 4 submitted, 2 awarded, total funding – $49,892, one application placed on the supplemental list (formerly the 4A list).

Ontario Research Fund – Research Excellence results: 9 submitted, 3 awarded, total funding – $9,214,243.

CFI John R. Evans Leaders Fund results: 5 submitted, 5 awarded, total funding – $488,715.

CFI – Innovation Fund 2017: 21 applications have been submitted, aligning to our maximum allocation of $36,500,000.]

13. OTHER BUSINESS

Student senators thanked the president for his engagement with students as the term opened.

Senate convened in confidential session.

18 October 2016

Logan Atkinson
University Secretary & General Counsel
Secretary to Senate

CONFIDENTIAL SESSION

Confidential minutes have been removed.

The meeting was adjourned at 6:20 p.m.

18 October 2016

Logan Atkinson
University Secretary & General Counsel
Secretary to Senate

University of Waterloo
SENATE EXECUTIVE COMMITTEE
Report to Senate
21 November 2016

The Senate Executive Committee met on 7 November 2016 and agreed to forward the following item to Senate for information.

FOR INFORMATION

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December Meeting of Senate
Although there currently appears to be insufficient agenda to warrant a December meeting, the committee will hold its December meeting date and advise Senate to do likewise. The secretary will advise the Executive Committee within a week of its December meeting whether a meeting is warranted and Senate will be so advised. [Process instituted by the Executive Committee in November 2006.]

4 November 2016

Logan Atkinson
University Secretary & General Counsel
Secretary to the Committee

University of Waterloo
SENATE GRADUATE & RESEARCH COUNCIL
Report to Senate
21 November 2016

Senate Graduate & Research Council met on 17 October 2016, and on behalf of Senate approved membership recommendations for research ethics committees and the renewal of two Senate-approved centres. 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-graduate-research-council

FOR INFORMATION

RENEWAL OF SENATE-APPROVED CENTRES AND INSTITUTES

Centre for Bioengineering and Biotechnology
Under the current direction of Catherine Burns, the Centre for Bioengineering and Biotechnology was established in 2011 and today boasts 150 faculty members from four faculties at the university, along with more than 100 student members. Among the centre's many activities, it has: served to increase research funding; fostered deep relationships with healthcare organizations, as well as international relationships; provided support and a platform to display student talent in this area; enhanced industry partner engagement with 162 companies; and brokered more academic partnerships. This is in addition to strengthening government partnership relationships and broad-based communications support.

In light of the centre's significant research impact and strengths in developing partnerships to advance work in the field, council renewed the centre for an additional five year term to October 2021.

Heritage Resources Centre
Under the current direction of Michael Drescher, the Heritage Resources Centre was established in 1980 and in the past five years has been involved in research projects, tours and heritage conservation activity touching hundreds of people in the academic sphere, professionals and other external stakeholders. The centre is recognized for its outstanding work in research, conservation and education activities, and this work has been recognized in the form of awards and support both internal to the university and from the heritage community at large.

In light of the centre's continued strength in this important space, council renewed the centre for an additional five year term to October 2021.

CURRICULAR MODIFICATIONS
New courses, course changes, course inactivations and minor plan changes were approved for the Faculties of engineering (electrical and computer engineering; nanotechnology) and environment (environment, resources and sustainability; geography and environmental management; local economic development; sustainable management; planning).

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

/mg Jeff Casello
Associate Provost, Graduate Studies

George Dixon
Vice President, University Research

University of Waterloo
SENATE UNDERGRADUATE COUNCIL
Report to Senate
21 November 2016

Senate Undergraduate Council met on 11 October 2016 and on behalf of Senate approved course submissions, minor changes to plans and regulations, and one academic program review report. 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: *uwaterloo.ca/secretariat/committees-and-councils/senate-undergraduate-council*

FOR INFORMATION

CURRICULAR MODIFICATIONS

Course submissions and minor plan/regulation changes were approved for the Faculties of applied health sciences (co-op requirements; kinesiology; recreation and leisure studies; School of Public Health and Health Systems), arts (legal studies), engineering (architecture; biomedical engineering; electrical and computer engineering; general engineering; work report courses), environment (environment, resources & sustainability; environmental studies; geography & environmental management; knowledge integration; planning; environment, School of Environment, Enterprise & Development), mathematics (academic standing regulation; actuarial science; business administration & computer science double degree; computer science; degree requirements regulation; mathematics/economics; statistics) and science (biotechnology/chartered professional accountancy; chemistry; environmental science; general science; honours science; non-numerical grades).

ACADEMIC PROGRAM REVIEW REPORT

1. Two-Year Report for physics & astronomy (BSc) (Attachment #1).

Mario Coniglio
/mg Associate Vice-President, Academic

UNIVERSITY OF WATERLOO

Two Year Progress Report
Physics and Astronomy (BSc)
January 2016

1. **Aging facilities in the Department of Physics and Astronomy.**

   The Physics and Astronomy building is among the oldest buildings on campus and was built 57 years ago. It currently houses 4/5 of staff and faculty offices, undergraduate teaching laboratories and research laboratories. Because of the deteriorating condition, accidents, such as water leakage, have damaged research and office equipment and continue to be a constant threat to experimental research in some faculty laboratories.

   As planned in the past years, a partial solution has been achieved. Two teaching laboratories and two staff offices were moved to the new Science Teaching Complex in December 2015. These are showcasing undergraduate labs that service our students and can be used for outreach purposes. The Dean's Office provided a $240,000 budget for upgrading equipment and fresh new supplies for the two laboratories.

   Plans have been made to move some faculty laboratories to the proposed Science-2 building, which will be ready in approximately 3 years. The Physics Building itself, however, remains a challenge to maintain. We have started to plan modernization and maintenance of the Physics building, but currently there is no central funding for renovation projects at this time. Many of these decisions will depend on the new budget scheme.

2. **Few women represented among faculty members.**

   The reviewers noted that women only comprise 10% of the faculty in the department, well below the number one sees looking at current graduate populations in physics and astronomy in North America.

   We are anxious to increase the percentage of women in our faculty. Due to the hiring freeze the timeline for achieving a more respectable ratio is disappointingly long. We will do whatever we can with the few exceptional opportunities that do present themselves to us. In the past two years, we have made a concerted effort to identify strong women candidates and bring them in for interviews. Noted examples are: (i) a woman was selected for the final consideration during a 2014 search for a junior faculty

member in the quantum computing area, (ii) an outstanding female astrophysicist was offered the Distinguished Research Chair in Astrophysics position in 2015 (although she turned down the offer). In 2016 we did make two hires through IQC, one of whom is an outstanding woman. This year we have restarted our searches for the two Distinguished Research Chairs, in Condensed Matter and Astrophysics. Both committees will undergo equity training, with particular focus on addressing unconscious bias. Special attention, at all levels, is being paid to ensure that the strongest possible women candidates appear on the short list.

In the meantime, there is work we can do to make women feel more welcome within a male-dominated department; ultimately this will lead to improved success for hiring women as well. In March 2016 we invited a site visit from the American Physical Society Committee on Women in Physics. We received a thoughtful report with useful recommendations for how to improve the climate within the department, and ultimately address the gender balance. It is a priority to act on as many of these recommendations as possible.

We have been supportive of the student group FemPhys, which runs events aimed at promoting and educating about equity issues. We provide them with newly renovated space within the Physics building, a faculty mentor, and help to advertise and promote their activities. We are proud that the FemPhys cofounders, Emma McKay, Jennifer Reid and Sarah Kaiser, received SWEC's Equity and Inclusivity award in 2016.

Our Department is actively participating in the HeForShe initiative, by developing workshops for grade 7-8 girls, together with Science Outreach. By boosting participation of women in STEM experiences we are directly addressing one of the three pillars of Waterloo's commitment to participate in the Impact 10x10x10 framework. Of course this is just a start.

We have requested to have the women's washroom on the third floor of physics expanded, to address the clear need for a better balance in washroom facilities within the building.

We continue to appreciate the contributions from current female faculty members to our Departmental life. We nominated Melanie Campbell for her 2015 Status of Women Award of Distinction by the Ontario Confederation of University Faculty Association (OCUFA) for her work on improving the position of academic women through organizational, policy and educational leadership. We provide financial support (travel and accommodation) to Donna Strickland for her leadership activities at Canadian Association of Physicists and American Optical Society.

We recognize that the activities described above represent the first small steps that need to be taken to address the serious problem of not only gender imbalance within our department, but also of improving the climate so that all who work and study here feel welcome and comfortable.

3. **Employment data of our undergraduate students, six months to two years after graduation.**

The reviewers noted that there is a lack of employment data of our undergraduate students, six months to two years after graduation.

This data is collected by the Alumni Advancement Office in the Faculty of Science. The office maintains contact with Physics alumni, but they have difficulty receiving information from students after graduation. In 2014 the data received from alumni reveals that 17 % of them are working, 15 % enrolled in professional schools (Medical School, Pharmacy, Optometry, Nursing, Teaching, Respiratory, other), 63 % enrolled in graduate school and 5 % travel. In 2015 the data reveals that 36 % are working, 12 % enrolled in professional schools (Medical School, Pharmacy, Optometry, Nursing, Teaching, Respiratory, other), 44 % enrolled in grad school and 8% are travelling.

Looking at choices former students made when applying to Graduate Schools in Ontario, statistics shows that 52 % apply to University of Waterloo, followed by 15 % University of Toronto, 8 % Western University, 6 % University of Guelph and other.

Moving forward, the Alumni Office will provide information from Physics alumni on a regular, annual basis.

4. **Financial position - budget cuts to the Department.**

The reviewers noted that there were severe budget cuts to the Department.

In keeping with the institution's model for resource allocation, the budget cuts to the Department started in 2002. Cumulatively, a total of $1,092,972 budget cuts were made to the departmental budget annually. this represents approximately 20% reduction of budget, where the total faculty salary in the Department is used as the basis. Consequently, we no longer have funding to direct towards non-salary operating expenses. We continue to function on an operating deficit.

In the past few years, we have taken some steps to increase funding by expanding undergraduate programs and course offerings. We currently receive short-term funding from the Dean for two Lecturers and one Lab Demonstrator. We are working with the Dean's office for a viable future plan to resolve the Physics budget

deficit problem. Once the new activity-based budget becomes clear, we will take steps to balance the departmental budget versus teaching activities. This may translate into reduction of course offerings.

5. **Launching a quantum information science undergraduate program.**

The reviewers commented on the possibility of launching a quantum information science undergraduate program.

Launching a new program requires careful planning based on a financial feasibility study. The Department, in collaboration with the Institute for Quantum Computing, is interested in creating a quantum information specialization, within the existing Honours Physics Program. The next step will be to discuss this idea among stakeholders, at both Department and Faculty levels, within the next year.

6. **Developing a new program in Computational Physics with Computer Science.**

The reviewers commented on the possibility of developing a new program in Computational Physics with Computer Science.

There was a Computational Science program in the Faculty of Science and Physics was an active partner. Due to weak enrollment, the program was inactivated in 2012. The idea of re-developing a similar program needs to be re-evaluated according to University/Provincial guidelines in creating a new program, also in light of the new activity-based budget scheme. The re-evaluation will take place in the current year.

7. **Cross-listing of graduate courses with undergraduate courses.**

The reviewers suggested the possibility of cross-listing of graduate courses with undergraduate courses. This is an excellent idea that will allow our undergraduate students to have access to our graduate courses, which are at an advanced level. The bottleneck here is avoiding using the same course for two degrees --- BSc and MSc. The Department of Chemistry has figured out a solution to this problem. Within the current academic year, our Department will connect with Chemistry to find out their solution, in order to realize this idea in near future.

8. **Participation of the Department in international exchanges for undergraduates.**

The reviewers commented that there is modest participation of the Department in international exchanges for undergraduates.

The Department is one of the most active players in the Faculty of Science to host the international 2+2 program. The number of Chinese partner universities in the

program has grown to 23. Here is a snapshot of activity in 2015: (i) As a single event, 49 Beijing Jiaotong University (BJTU) students entered into the Materials and Nano Science Program; (ii) about 10 students from other universities entered into regular Physics and Mathematical Physics programs. There are currently 120 foreign universities that have signed exchange agreements with the University of Waterloo. Our undergrad advisors currently promote and will continue to promote these existing opportunities and encourage exchange activities.

9. **"Islanding" of department members, in particular, groups of faculty members are assigned spaces in different buildings.**

The reviewers commented on the current "islanding" of department members, in particular, groups of faculty members are assigned spaces in different buildings.

As explained in the Reply to Report, this was a misunderstanding of the reviewers, perhaps based on their own observations No complaints have been made to the Department Chair since the establishment of the new building. Some of our Quantum Computing faculty are located in a different building. However, our IQC members actively participate in all aspects of departmental life. Some of them are assigned major departmental service tasks and they are among the best citizens in the department. We do not see that the physical separation has any effects in "islanding" our department.

10. **Comments on "Colloquia are often specialized and do not draw the interest of people outside a given sub-discipline".**

Moderate colloquium attendance has been a long standing problem in the department. As per the Chair's decision, the 2015-2016 colloquium series is suspended until a viable new program is designed. We have now re-initiated a 2016-2017 colloquium and seminar series with fewer talks; the idea is to draw more attention to these talks with more advertisement time and preparation.

11. The reviewers commented on the extensive use of teaching relief for select faculty and believed that this has a negative impact on morale.

The reviewer's comment is not that the teaching relief in itself is excessive, or a bad thing, but that it "*could* have a corrosive effect on morale", *if* "a significant number of faculty members feel a consequent extra teaching burden with little benefit to them".

We are confident that the teaching relief is not excessive in any way. It is normally given to faculty members who have an award (Steacie, Killam etc.) that directly requires it, to CRCs who are given some teaching relief according to Waterloo's usual practice, and to IQC/Perimeter joint hires where multiple positions were leveraged from original Waterloo FTEs. Since we are a successful, research-intensive department, it is natural therefore that we have several faculty on reduced teaching loads.

The normal teaching load of 3 courses per year is indeed heavier than other research-intensive Physics Departments in Canada. However, it is important to note that because of scheduling for the co-op programs, most departments in the Faculty of Science at the University of Waterloo- have a current teaching load of 3 courses per year per faculty member. The presence of faculty on reduced teaching loads has not altered the standard load per faculty in any way. Except for one instance where the individual has self-declared himself as research-inactive, no research-active members have been asked to teach more than 3 courses per year.

We also do not see evidence that a "significant number" of faculty members feel an extra burden, or see that the reward to strong researchers has little benefit to themselves. The reviewers do not say how many, if any, people interviewed felt this way. From our direct interaction with faculty members, it seems clear that our strong research presence is a matter of some pride and that people are happy to reward our strongest researchers with opportunities to grow even stronger. Though certainly not everyone will feel this way, most do.

Nonetheless, the reviewers are correct that teaching relief can have an impact on morale by creating an apparent division between faculty "types". The best solution to this, in our opinion, is not to reduce the amount of teaching relief, but to a) improve communication across the Department, and b) introduce rewards and activities that effectively demonstrate our underlying belief, that good teaching is at least as valuable

as good research. We expect that we have underperformed in these two areas, and that this led to the comments about impact on morale.

This problem has been recognized, but has not yet been tackled head-on. We have recently introduced a Departmental Teaching Award, which is a good start but which requires more visibility. Some good ideas have been proposed by faculty; a particularly attractive one is the reward of good teaching with financial support for research. We have yet to develop a mechanism to implement this.

The other area for improvement is communication across the Department, and this also needs some work. With the change in leadership in the Department, there is an opportunity to change the way we interact and introduce more opportunities for informal interactions.

Summary and action items

Timeline	Aspect of the program	Reviewers' Comment	P&A Response	Responsibility for Action	Resources Required
2015	Infrastructure	1. Aging facilities in the Department	Transfer some undergrad teaching labs to Science Teaching Complex	Assoc. Chair/Chair/Dean **Accomplished.**	Funding for lab equipment
2018	Infrastructure	1. Aging facilities in the Department	Acquire new research space in Science Research Complex; Develop a building modernization plan	Chair/Dean **Planning**	New Science Research Complex; building maintenance/renovation funds
Current	Staffing	2. Low fraction of female faculty	Pay attention to female candidates; invite the University Equity officer to educate the search committees when new positions are available; invite American Physics Association Women in Physics Committee to provide recommendations; take action to improve the climate for underrepresented groups.	Chair **Ongoing**	Travel and accommodation costs of the APS visit

2015		3. Lack of employment data on B.Sc. graduates	Liaise with Faculty of Science Alumni Officer	Chair **Action already taken**	None
2015	Financial	4. Severe budget cuts	Introduce new programs and new general courses; Increase number of international students.	Chair/Dean **Accomplished**	Funding for Lecturers/Demonstrators
2018	Financial	4. Severe budget cuts	Plan per activity-based-budget scheme	Chair/Dean **Ongoing**	New budget scheme
2018	curriculum	5. Consider Quantum Information science undergrad program	Develop a viable curriculum and a firm business plan.	Chair/Curriculum Committee **Ongoing**	Minimum
2018	curriculum	6. Consider Computer Science undergrad program	Develop a viable curriculum and a firm business plan.	Chair/Curriculum Committee **Partially addressed**	Minimum
2018	curriculum	7. Cross-list grad and undergrad courses	Tackle the bottle-neck problem mentioned above	Chair/Curriculum Committee/Graduate Officer **Ongoing**	Minimum
2015		8. Participation in international exchanges	Actively participate in Chinese 2+2 program	Dean/Chair/Undergraduate Advisors **Accomplished**	Additional sessionals
2018		8. Expand international exchanges	Encourage through undergrad advising	Dean/Chair/Undergraduate Advisors **Ongoing**	Minimum

2013		9. Issue of "islanding" in department	Not an issue	**Chair** **Not an issue**	none
2015		10. Colloquium participation	Suspended until further planning; new scheme introduced for 2016-2017 year.	Chair **Ongoing**	Colloquium budget
2013		11. Impact of teaching relief on morale	Though teaching relief is reasonable, address the morale issue by rewarding good teaching activity, and improving communication.	Chair **Ongoing**	Some: financial rewards for good teaching

University of Waterloo
SENATE
Report of the President
21 November 2016

FOR INFORMATION

Recognition and Commendation

Two globally groundbreaking research initiatives at the University of Waterloo will receive more than $91 million in funding. The Honourable Kirsty Duncan, Minister of Science, announced the recipients of the second competition of the Canada First Research Excellence Fund (CFREF) during a ceremony at the University of Waterloo in September. Thirteen initiatives across Canada will share $900 million in funding. Those involving Waterloo researchers are **Transformative Quantum Technologies**, which will accelerate the development of new quantum technologies, and **Global Water Futures**, dedicated to finding ways to manage water resources adversely affected by climate change. CFREF invests in areas where Canadian post-secondary institutions can become global leaders in their fields of key research strength. Selection for funding followed an open competition among Canada's post-secondary institutions that was judged by a panel of Canadian and international scientific experts. The inaugural CFREF competition was divided into two parts, with the first one announcing more than $350 million in funding in 2015. (adapted from the *Daily Bulletin*, 7 September 2016)

More than $76,000 in research funding has been awarded as part of the latest round of the Gender Equity Research Grant competition. The winners are: **Andrea Collins**, Environment and Resource Studies, **Lukasz Golab,** Management Sciences, **Jennifer Liu**, Anthropology, **Christine Logel**, Social Development Studies, **Ellen MacEachen**, School of Public Health and Health Systems, **Christopher Perlman**, School of Public Health and Health Systems, **Jennifer Whitson**, Sociology and Legal Studies, **Christine Wiedman**, School of Accounting and Finance. The Gender Equity Research Grants support research that investigates and addresses gender equity with preference given to projects that advance Waterloo's three IMPACT 10x10x10 commitments or of demonstrated relevance to Waterloo. (adapted from the *Daily Bulletin*, 8 September 2016)

Three professors from the University of Waterloo are among the new fellows of the Royal Society of Canada (RSC). The fellowship of the RSC consists of individuals who have made outstanding contributions in the arts, the humanities, science, and Canadian public life. The University's newest RSC fellows are: **Jennifer Clapp**, School of Environment, Resources and Sustainability, Faculty of Environment. Jennifer Clapp's research has focuses on the global governance of problems that arise at the intersection of the global economy, the environment, and food security. In particular, her research has centred on questions of how international economic policies can better foster food security and environmental sustainability goals on a global scale. Professor Clapp holds a Canada Research Chair in Global Food Security and Sustainability. **Colin MacLeod**, Department of Psychology, Faculty of Arts. Colin MacLeod's research has emphasized the broad domain of human cognition, with particular interest in learning and memory. Initially, Professor MacLeod's work was in the area of verbal learning and memory, with emphasis on long-term memory structure and process, and especially in intentional forgetting. In recent years, his memory research has focused on the roles of consciousness, context, and inhibition in memory. **Tamer Özsu**, Cheriton School of Computer Science, Faculty of Mathematics. Tamer Özsu is a world leader and pioneer in distributed data management – a field he helped shape and on which he wrote a widely referenced textbook. His research focuses on the efficient management of increasing volumes of Resource Description Framework data distributed across the web. The primary objective of the RSC is to promote learning and research in the arts, the humanities and the natural and social sciences. (adapted from the *Daily Bulletin*, 9 September 2016)

Twenty-nine researchers at the University of Waterloo will receive $5.7 million from the federal government to advance research and encourage partnerships that will lead to innovative approaches to improve the well-being of Canadians. The Social Sciences and Humanities Research Council is awarding the funding through Partnership Grants, Partnership Development Grants, Insight Grants, and Insight Development Grants. "Social sciences and humanities research is the foundation for advancing social, cultural, economic, and intellectual change across

Canada and around the world," said D. George Dixon, vice-president, university research. "As a comprehensive university, funding for research in this area is an important and valuable balance to generating new knowledge that is broad and diverse." The federal government awarded funds to the following Waterloo researchers and projects: Partnership Grant, **Engineering: Philip Beesley** (School of Architecture); Partnership Development Grants, **Arts: Jasmin Habib** (Political Science), **Kristina Llewellyn** (Social Development Studies, Renison University College); Insight Development Grants, **Applied Health Sciences: Luke Potwarka** (Recreation and Leisure Studies), **Arts: Joel Blit** (Economics), **Tao Chen** (Economics), **Elise Lepage** (French Studies), **Thomas Parker** (Economics), **Environment: Andrea Collins** (School of Environment, Resources and Sustainability), **John McLevey** (Knowledge Integration), **Prateep Nayak** (School of Environment, Enterprise and Development), **Kathryn Plaisance** (Knowledge Integration), **Mathematics: Yeying Zhu** (Statistics and Actuarial Science); Insight Grants, **Arts: Jefim Efrim Boritz** (School of Accounting and Finance), **Alan Huang** (School of Accounting and Finance), **Patricia O'Brien** (School of Accounting and Finance), **Peter J. Carrington** (Sociology and Legal Studies), **Heather Henderson** (Psychology), **Daniel Henstra** (Political Science), **Kathryn Hochstetler** (Political Science), **Marcel O'Gorman** (English Language and Literature), **Jennifer L. Schulenberg** (Sociology and Legal Studies), **Winny Shen** (Psychology), **Mikal Skuterud** (Economics), **Engineering: Robert-Jan van Pelt** (School of Architecture), **Environment: Derek Armitage** (School of Environment, Resources and Sustainability), **Luna Khirfan** (School of Planning), **Steffanie Scott** (Geography and Environmental Management), **Olaf Weber** (School of Environment, Enterprise and Development) (adapted from the *Daily Bulletin*, 16 September 2016)

Five young women with a passion for computer science, physics and engineering have received $12,000 scholarships under the University of Waterloo's HeForShe IMPACT scholarship program. The HeForShe IMPACT Scholarships annually awards female students who apply to science, technology, engineering and math (STEM) programs. This year's recipients come from as far away as India and China and all are excited about diving into their chosen professions through their co-op education work terms. The five winners of the University of Waterloo HeForShe IMPACT Scholarships, and their chosen programs of study, are: **Anjali Joshi**, Mechanical Engineering, **Carmen Kwan**, Software Engineering, **Yue Ding**, Computer Science, **Ankita Mishra**, Computer Science, **Stephanie Swanson**, Physics. Launched last year, the scholarship program will support a total of 24 women over a four-year period as part of Waterloo's ongoing efforts to achieve gender equity in STEM – science, technology, engineering and mathematics – programs. Each student will receive $1,500 per term. (adapted from the *Daily Bulletin*, 19 September 2016)

The **Institute for Quantum Computing** at the University of Waterloo set a world record for creating a Canadian flag measuring about one one-hundredth the width of a human hair. GUINNESS WORLD RECORDS™ granted the inaugural award for smallest national flag to the Institute for Quantum Computing (IQC) at Waterloo for the flag measuring 1.178 micrometres in length. It is invisible without the aid of an electron microscope. **Nathan Nelson-Fitzpatrick**, nanofabrication process engineer at IQC, led the creation of the flag with assistance from **Natalie Prislinger Pinchin**, a Waterloo co-op student from the Faculty of Engineering. They created it on a silicon wafer bearing the official logo of the Canada 150 celebrations using an electron beam lithography system in the Quantum NanoFab facility at Waterloo. "Canada 150 celebrates our past, present and future," said Tobi Day-Hamilton, associate director of communications and strategic initiatives at IQC. "The future of Canadian technology is firmly set in the quantum world and at the nano-scale, so what better way to celebrate the lead up to 2017 than with a record-setting, nano-scale national flag." (adapted from the *Daily Bulletin*, 22 September 2016)

In Belgium in August, the Office of Advancement's very own **Jason Coolman**, who serves as associate vice-president, development, was honoured with a Crystal Apple award by the Council for the Advancement and Support of Education (CASE). The award is achieved by speakers who receive outstanding feedback and evaluation from their peers at 10 or more international CASE conferences and seminars. Jason's ties to CASE span many years, both as a member and as a volunteer. He has presented at CASE events in Canada, the US and Europe, and has authored several feature articles on the topic of alumni engagement for CASE CURRENTS magazine. He also sits on the magazine's editorial advisory panel, serves on CASE's Board of Directors (District II), is a faculty member for the annual CASE Europe Alumni Relations Institute, and has served as chair of several conferences and workshops. In 2011 Jason received a Rising Star award from CASE, in recognition of his

early accomplishments in the field of advancement. CASE is an international non-profit organization which helps its 3,670 member institutions build stronger relationships with their alumni and donors, and champions the public support of education. (adapted from the *Daily Bulletin*, 23 September 2016)

On Thursday, October 6, six women from the University of Waterloo were recognized for their efforts in leadership, arts and culture, health and wellness, academic achievement, and professional excellence at the annual K-W Oktoberfest Women of the Year event. Each of their contributions to our campus and our community help make the region a better place to live: **Nooran Abu Mazen**, a Biology student, won in the Young Adult (14 to 25) category, which recognizes young women for leading by example and being a role model to her peers; Professor **Pearl Sullivan**, Dean of Engineering, and **Tobi Day-Hamilton**, Associate Director, Communications and Strategic Initiatives at the Institute for Quantum Computing, were nominated in the Science, Technology, Engineering and Math category, which recognizes women for outstanding advancement in STEM fields; Professor **Jean Andrey**, Dean of Environment, was nominated in the Professional category, which recognizes women for dedicating themselves to the pursuit of excellence in their chosen careers; **Jude Doble,** Associate Director, Advancement Communications and Special Projects, was nominated in the Arts and Culture category, which recognizes women for enriching the culture of our community through creation or promotion of the arts on a volunteer or professional basis; **Betty Pries**, Sessional Instructor, Peace and Conflict Studies at Conrad Grebel University College, was nominated in the Health and Wellness category, which recognizes women for promoting and helping others achieve and promote mental, physical or spiritual well-being in her career or community involvement. (adapted from the *Daily Bulletin*, 11 October 2016)

Three professors from the University of Waterloo are among the new members of the Royal Society of Canada (RSC) College of New Scholars, Artists and Scientists. Members have reached a high level of achievement at an early stage of their careers. They represent the emerging generation of scholars and leaders in science and the arts in the country. Membership is for seven years. The Waterloo researchers among the incoming members of the College of New Scholars, Artists and Scientists are: **Zhongwei Chen**, Department of Chemical Engineering, Faculty of Engineering. Professor Chen is developing new materials that make batteries and fuel cells smaller, lighter and longer-lasting. His patented technology for silicon-based lithium-ion batteries will enable smartphones and other electronic devices to last 40 to 60 per cent longer between charges and electric cars to drive 500 kilometers farther. Professor Chen is Canada Research Chair in Advanced Materials for Clean Energy. **John Turri**, Department of Philosophy, Faculty of Arts. Professor Turri works in experimental philosophy, an exciting new field of research at the intersection of traditional philosophy and cognitive science. His research focuses on social cognition and communication to understand how social factors affect our interpretation of verbal behavior, and the fundamental role that knowledge plays in governing speech. **Tze Wei (John) Yeow**, Department of Systems Design Engineering, Faculty of Engineering. John Yeow is testing micro and biomedical nanodevices with highly selective sensors that are able to diagnose and treat diseases such as cancer. He is working with a cancer research centre to find ways to improve radiation therapy. He is Canada Research Chair in Micro and Nanodevices and is a member of the Waterloo Institute of Nanotechnology. The Waterloo professors were among 80 new members elected to the College. (adapted from the *Daily Bulletin*, 14 October 2016)

University of Waterloo
REPORT OF THE DEAN OF APPLIED HEALTH SCIENCES TO SENATE
November 21, 2016

FOR INFORMATION

A. APPOINTMENTS

Tenured (for information)

MALY, MONICA, Associate Professor, September 1, 2016 (get from Board report Oct. 24th). Professor Maly received her BSc (1998) in physiotherapy, her MSc (2000) and PhD (2005) in rehabilitation science from Queen's University. After receiving her PhD, Professor Maly started her teaching career as an assistant professor in the School of Therapy, Faculty of Health Sciences at The University of Western Ontario (2006-08). She accepted a position with the School of Rehabilitation Sciences, Faculty of Health Sciences at McMaster University as an assistant professor in 2008 and was promoted to associate professor in 2013. Her research areas include the assessment and prevention of disability due to arthritis, using methods ranging from qualitative research to biomechanical analysis including a novel approach to biomechanics in knee osteoarthritis. In 2009 she received the President's Award for innovative theoretical or laboratory research sponsored by the American Society for Biomechanics and held a CIHR New Investigator Award from 2011-2016. Professor Maly has demonstrated excellent leadership in her research and professional communities and has already laid the foundations to be a leader in clinical biomechanics. She makes solid and sustained contributions to her field and is considered a valued colleague by her peers.

Adjunct appointments

Graduate Supervision

ARAI, Susan, Associate Professor, Department of Recreation and Leisure Studies, September 1, 2016 – August 31, 2017.

ELLIOTT, Jacobi, Assistant Professor, School of Public Health and Health Systems, January 1, 2017 – December 31, 2018.

FERGUSON, Glenn, Assistant Professor, School of Public Health and Health Systems, October 1, 2016 to December 31, 2017.

GRÉPIN, Karen, Associate Professor, School of Public Health and Health Systems, October 1, 2016 – June 30, 2021.

Adjunct reappointments

Graduate Supervision

BYRNE, Kerry, Assistant Professor, School of Public Health and Health Systems, October 1, 2016 – August 31, 2019.

FENTON, Nancy, Assistant Professor, School of Public Health and Health Systems, October 1, 2016 – December 31, 2018.

KENNEDY, Ryan, Assistant Professor, School of Public Health and Health Systems, January 1, 2017 – December 31, 2018.

VINE, Michelle, Assistant Professor, School of Public Health and Health Systems, January 1, 2017 – December 31, 2018.

WOODRUFF ATKINSON, Sarah, Associate Professor, School of Public Health and Health Systems, January 1, 2017 – December 31, 2018.

Special appointments

DOLSON, Mark, Lecturer, School of Public Health and Health Systems, October 1, 2017 – April 30, 2017.

Cross reappointments

GINDROD, Kelly, Assistant Professor, School of Pharmacy, Faculty of Science **to** School of Public Health and Health Systems, Faculty of Applied Health Sciences, October 1, 2016 – December 31, 2021.

MAXWELL, Colleen, Professor, School of Pharmacy, Faculty of Science **to** School of Public Health and Health Systems, October 1, 2016 – September 30, 2021.

Visiting appointments

MORGAN (Pechey), Rachel, Visiting Researcher, School of Public Health and Health Systems, January 1, 2017 – May 1, 2017.

Post-doctoral fellow to research reappointment

VALAITIS, Renata, Department of Kinesiology, October 1, 2016 – June 30, 2017.

B. ADMINISTRATIVE APPOINTMENT

STOLEE, Paul, Director, Network for Aging Research, Faculty of Applied Health Sciences, July 1, 2016 – June 30, 2019.

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

UNIVERSITY OF WATERLOO
REPORT OF THE DEAN OF THE FACULTY OF ARTS TO SENATE
November 21, 2016

FOR INFORMATION

A. APPOINTMENTS

Adjunct Appointments – Graduate Supervision

BROWN, Matthew, Associate Professor, Department of Philosophy, September 1, 2016 to August 31, 2019.

DUBOIS, Stephanie, Clinic Supervisor, Department of Psychology, October 1, 2016 to August 31, 2017.

LEMARQUAND, David, Clinical Supervisor, Department of Psychology, October 1, 2016 to August 31, 2017.

Adjunct Reappointments – Graduate Supervision

GIFFORD, Shannon, Assistant Professor, Department of Psychology, September 1, 2016 to August 31, 2017.

FARVOLDEN, Peter, Assistant Professor, Department of Psychology, September 1, 2016 to August 31, 2017.

MACLEOD, Karen, Clinical Supervisor, Department of Psychology, October 1, 2016 to August 31, 2017.

SALDER, Pamela, Professor, Department of Psychology, September 1, 2016 to August 31, 2017.

THAGARD, Paul, Professor, (Professor Emeritus), Department of Philosophy, October 1, 2016 to September 30, 2019.

B. ADMINISTRATIVE APPOINTMENTS

RAVENHILL, John, Chair, Department of Political Science, September 1, 2018 to August 31, 2022.

C. SABBATICAL LEAVES

Approved by the Board of Governors:

BLIGHT, James, Professor, Department of History, January 1, 2017 to June 30, 2017, six months at 85% salary.

CURTIS, Lori, Professor, Department of Economics, January 1, 2017 to June 30, 2017, six months at 85% salary.

DANCKERT, James, Professor, Department of Psychology, January 1, 2017 to June 30, 2017, six months at full salary.

HELMES-HAYES, Rick, Professor, Department of Sociology & Legal Studies, July 1, 2016 to December 31, 2016, six months at full salary.

HULAN, Shelley, Associate Professor, Department of English Language & Literature, November 1, 2016 to April 30, 2017, six months at 85% salary.

VOORHEES, Gerald, Assistant Professor, Department of Drama & Speech Communication, July 1, 2016 to December 31, 2016, six months at full salary.

YOUNG, Vershawn, Associate Professor, Department of Drama & Speech Communication, November 1, 2016 to April 30, 2017, six months at 85% salary.

Douglas M. Peers
Dean, Faculty of Arts

UNIVERSITY OF WATERLOO
REPORT OF THE DEAN OF ENGINEERING TO SENATE
November 21, 2016

FOR INFORMATION

A. APPOINTMENTS

Probationary-Term Reappointment

TUNG, James, Assistant Professor, Department of Mechanical & Mechatronics Engineering, July 1, 2017 – June 30, 2020. PhD University of Toronto 2010; MEng McGill University 2003; BSc University of Guelph 1999.

New Definite Term – full-time

BORJI, Amir, Research Assistant Professor, Department of Electrical & Computer Engineering, September 1, 2016 – August 31, 2018. PhD University of Waterloo 2004; MSc Isfahan University of Technology, Isfahan, Iran 1998; BSc Isfahan University of Technology 1994. Amir Borji's research is in antenna design and electromagnetics. He will be a Research Assistant Professor in Ali Safavi's research group.

New Definite Term Reappointment – full-time

CHANG, Wayne, Lecturer, Conrad Business, Entrepreneurship & Technology Centre, Office of the Dean of Engineering, January 1, 2017 – December 31, 2019.

Continuing Lecturer Appointment

SHELLEY, Cameron, Lecturer, Department of Systems Design Engineering, September 1, 2016. PhD University of Waterloo 1999; MA (Philosophy) University of Waterloo 1994; MMath (Computer Science) University of Waterloo 1992; BSc McMaster University 1990. Dr. Cameron Shelley has been hired into the Centre for Society, Technology and Values (CSTV) as continuing lecturer. Dr. Shelley's appointment brings years of teaching expertise in the CSTV area, in particular having taught courses on Design & Society, Biotechnology & Society, and Information Technology & Society. His research interests focus on social factors and fairness in model-based reasoning in design.

Visiting Appointments

HU, Lifang, Scholar, Department of Mechanical & Mechatronics Engineering, November 1, 2016 – October 31, 2017.

JIANG, Xi, Researcher, Department of Civil & Environmental Engineering, September 20, 2016 – March 19, 2017.

MAHBAZ, SeyedBijan, Researcher, Department of Civil & Environmental Engineering, October 1, 2016 – December 31, 2016.

NEAULT, Daniel, Scientist, Department of Electrical & Computer Engineering, October 1, 2016 – September 30, 2018.

Visiting Reappointments

MUTYALA, Prashant, Researcher, Department of Chemical Engineering, October 1, 2016 – September 30, 2017.

Special Appointments
Undergraduate Instruction
APLEVICH, Dwight, Lecturer, Professor Emeritus, Department of Electrical & Computer Engineering, January 1, 2017 – April 30, 2017.

BARTOSIK, Michal, Lecturer, School of Architecture, September 1, 2016 – December 31, 2016.
BERNBAUM, Piper, Lecturer, School of Architecture, September 1, 2016 – December 31, 2016.

DUMITRASCU, Sandrina, Lecturer, School of Architecture, September 1, 2016 – December 31, 2016.

DAVEY, Taylor, Lecturer, School of Architecture, September 1, 2016 – December 31, 2016.

ELBESHBISHY, Elsayed, Lecturer, Department of Civil & Environmental Engineering, January 1, 2017 – April 30, 2017.

GRIN, Aaron, Lecturer, School of Architecture, September 1, 2016 – December 31, 2016.

MOURSI, Manar, Lecturer, School of Architecture, September 1, 2016 – December 31, 2016.

NARAYAN, Apurva, Lecturer, Department of Systems Design Engineering, September 1, 2016 – December 31, 2016.

O'GRADY, William, Lecturer, School of Architecture, September 1, 2016 – December 31, 2016.

PEARSON, Christine, Lecturer, School of Architecture, September 1, 2016 – December 31, 2016.

RUBIN, Eric, Lecturer, School of Architecture, September 1, 2016 – December 31, 2016.

TYRRELL, Jonathan, Lecturer, School of Architecture, September 1, 2016 – December 31, 2016.

Special Appointments
Graduate Instruction
CARR, Peter, Lecturer, Department of Management Sciences, May 1, 2016 – August 31, 2016.

Special Appointments
Undergraduate & Graduate Instruction
SEALY, Peter, Lecturer, School of Architecture, September 1, 2016 – December 31, 2016.

FARD, Ali, Lecturer, School of Architecture, September 1, 2016 – December 31, 2016.

MCINTOSH, Thomas, Lecturer, School of Architecture, September 1, 2016 – December 31, 2016.

Special Appointment
Other
HEWITT, Allyson, Social Entrepreneur-in-Residence, Conrad Business, Entrepreneurship & Technology Centre, Office of the Dean of Engineering, September 1, 2016 – June 30, 2017.

Special Reappointments
Undergraduate Instruction
BISSETT, Tara, Lecturer, School of Architecture, September 1, 2016 – December 31, 2016.

CHEN, Wei-Ting Scott, Lecturer, Department of Electrical & Computer Engineering, January 1, 2017 – April 30, 2017.

LIM TUNG, Fiona, Lecturer, School of Architecture, September 1, 2016 – December 31, 2016.

NAKAMURA, Hajime, Lecturer, School of Architecture, September 1, 2016 – December 31, 2016.

SORLI, Scott, Lecturer, School of Architecture, September 1, 2016 – December 31, 2016.

TOWN, Chloe, Lecturer, School of Architecture, September 1, 2016 – December 31, 2016.

YEKRANGIAN, Delnaz, Lecturer, School of Architecture, September 1, 2016 – December 31, 2016.

Adjunct Appointments
Graduate Supervision
TAYLOR, Graham, Assistant Professor, Department of Systems Design Engineering, September 1, 2016 – August 31, 2019.

Adjunct Appointments
Graduate Supervision and Research
LEE, Regina, Associate Professor, Department of Electrical & Computer Engineering, September 1, 2016 – August 31, 2019.

MEDLEY, John, Professor, Department of Mechanical & Mechatronics Engineering January 1, 2017 – December 31, 2019.

PUCHALSKY, Christopher, Assistant Professor, Department of Civil & Environmental Engineering, January 1, 2013 – December 31, 2017.

Adjunct Reappointments
Graduate Supervision
ALVAREZ-CUENCA, Manuel, Professor, Department of Chemical Engineering, June 1, 2016 – August 31, 2017.

Cross Appointments

CRONIN, Duane, Professor, Department of Mechanical & Mechatronics Engineering to Department of Kinesiology, Faculty of Applied Health Sciences, July 1, 2016 – June 30, 2019.

GOLAB, Lukasz, Associate Professor, Department of Management Sciences to David R. Cheriton School of Computer Science, Faculty of Mathematics, September 1, 2016 – June 30, 2018.

Changes in Appointments

KAPRE, Nachiket, Probationary Term appointment, Assistant Professor, Electrical Engineering Department of Electrical & Computer Engineering was September 21, 2016 – June 30, 2020 changed to October 1, 2016 – June 30 2020.

B. ***ADMINISTRATIVE REAPPOINTMENTS***

BLACKWELL, Adrian, Associate Director, Graduate Studies and Research, School of Architecture, September 1, 2015 – August 31, 2017.

CRONIN, Duane, Executive Director, WatCAR, Department of Mechanical & Mechatronics Engineering, September 21, 2016 – December 31, 2016

MACGREGOR, Carolyn, Associate Chair, Undergraduate Studies, Department of Systems Design Engineering, September 1, 2016 – August 31, 2020.

RYNNIMERI, Val, Associate Director, Graduate Studies and Research, School of Architecture September 15, 2015 – August 31, 2017.

VECHTOMOVA, Olga, Director, Management of Technology Distance Master's Program, Department of Management Sciences, November 1, 2016 – December 31, 2016.

C. ***RESIGNATIONS***

NEZHAD-AHMADI, Mohammad-Reza, Visiting Scientist, Department of Electrical & Computer Engineering, September 30, 2016.

D. ***SABBATICAL LEAVES***

For Approval by the Board of Governors

IOANNIDIS, Marios, Professor, Department of Chemical Engineering, January 1, 2017 – June 30, 2017, six months at 100% salary.

MCPHEE, John, Professor, Department of Systems Design Engineering, July 1, 2017 – June 30, 2018, twelve months at 97.5% salary.

SULLIVAN, Pearl, Professor, Department of Mechanical & Mechatronics Engineering, July 1, 2017 – June 30, 2019, twenty-four months at 100% salary.

WINTON, Tracey E., Associate Professor, School of Architecture, May 1, 2017 – April 30, 2018, twelve months at 100% salary.

Pearl Sullivan
Dean, Faculty of Engineering

University of Waterloo
REPORT OF THE DEAN OF ENVIRONMENT TO SENATE
November 21, 2016

FOR INFORMATION

A. APPOINTMENTS

Probationary Term Appointment

DOUCET, Brian, Associate Professor, School of Planning, July 1, 2017 to June 30, 2020: PhD, Utrecht University, 2010; MSc, Utrecht University, 2006; Hon BA, Toronto, 2003. Currently a Senior Lecturer in Urban Studies at Erasmus University College in the Netherlands, Dr. Doucet's work focuses on today's urban renaissance from a social justice perspective, with emphasis on questions related to the political-economic production of gentrification, urban change, and grassroots visions of citizens. It is anticipated Dr. Doucet will be a valuable asset to the School of Planning in building a strong program in critical urban planning.

Definite Term Appointment

CORDONIER SEGGER, Marie-Claire, Professor, School of Environment, Enterprise and Development [SEED], November 1, 2016 to October 30, 2018: PhD, Oxford University, 2006; MEM, Yale University, 2003; LLB & BCL, McGill University, 2002; Hons BA, University of Victoria, 1998. Dr. Cordonier Segger is affiliated as a Fellow at the Lauterpacht Centre for International Law (LCIL) of the University of Cambridge for her legal research on law and policy related to climate change, energy and natural resources governance, trade and investment, biodiversity, and other aspects of sustainable development. Dr. Cordonier Segger will be contributing to teaching and research in SEED and the Interdisciplinary Centre on Climate Change.

Adjunct Appointments

Graduate Supervision

DALBY, Simon, Professor, Department of Knowledge Integration, Faculty of Environment, September 1, 2016 to August 31, 2019.

JONAS-SIMPSON, Christine, Associate Professor, School of Planning, September 1, 2016 to August 31, 2019.

PEDDLE, Shawna, Director, Partners for Action, Faculty of Environment, September 1, 2016 to August 31, 2019.

SUTHERLAND, William, Assistant Professor, School of Environment, Resources and Sustainability, September 21, 2016 to August 30, 2020.

WILSON, Anne, Professor, Faculty of Environment, September 1, 2016 to August 31, 2019.

Graduate Supervision and Research

ANDERSEN, Roxanne, Assistant Professor, Department of Geography and Environmental Management, September 1, 2016 to August 31, 2019.

GUPPY, Lisa, Assistant Professor, Department of Geography and Environmental Management, October 1, 2016 to September 30, 2020.

Special Appointments

Instruction

GREEN, William, Lecturer, School of Planning, January 1, 2017 to April 30, 2017.

MacDONALD, Lecturer, School of Environment, Enterprise and Development, September 1, 2016 to December 31, 2016.

MOORE, Leith, Lecturer, School of Planning, January 1, 2017 to April 30, 2017.

NG, Garrick, Lecturer, School of Environment, Enterprise and Development, January 1, 2017 to April 30, 2017.

Cross Appointments

McCARTHY, Daniel, Associate Professor, School of Environment, Resources and Sustainability to the School of Planning, September 1, 2016 to August 31, 2019.

ROBINSON, Derek, Assistant Professor, Department of Geography and Environmental Management to the School of Planning, September 1, 2016 to August 31, 2019.

SCOTT, Steffanie, Associate Professor, Department of Geography and Environmental Management to the School of Planning, September 1, 2016 to August 31, 2019.

Graduate Student appointed as Part-time Lecturer

TANG KAI, Natasha, School of Planning, January 1, 2017 to August 31, 2017.

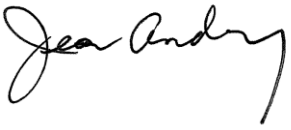
B. SABBATICAL LEAVES

For Approval by the Board of Governors

DOBERSTEIN, Brent, Associate Professor, Department of Geography and Environmental Management, twelve months [split], January 1, 2017 to June 30, 2017 and July 1, 2018 to December 31, 2018, at 89.2% salary.

McLEVEY, John, Assistant Professor, Department of Knowledge Integration, January 1, 2017 to June 30, 2017, at 100% salary.

SCOTT, Steffanie, Associate Professor, Department of Geography and Environmental Management, March 1, 2017 to August 31, 2017, at 85% salary.



Jean Andrey
Dean

University of Waterloo
REPORT OF THE DEAN OF MATHEMATICS TO SENATE
November 21, 2016

FOR INFORMATION

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

Probationary-Term Appointments

Change in date

FENG, Mingbin (Ben), Assistant Professor, Dept. of Statistics and Actuarial Science, (R*ef.* Senate, April 2016):
From: July 1, 2016 – June 30, 2019
To: October 1, 2016 – June 30, 2020.

Visiting Appointments

FINK, Simon (Stiftung der Deutschen Wirtschaft), Scholar, David R. Cheriton School of Computer Science, September 1, 2016 – December 31, 2016.

GOGAN, Alexandru, Research Associate, David R. Cheriton School of Computer Science, September 1, 2016 – December 31, 2016.

PATEL, Atmn, Scholar, David R. Cheriton School of Computer Science, September 1, 2016 – June 30, 2017.

Adjunct Appointments

Instructor

HINCKS, Ian, Lecturer, Dept. of Applied Mathematics, September 1, 2016 – December 31, 2016.

Adjunct Reappointments

Instructor

KESHAV, Nicole, Lecturer, David R. Cheriton School of Computer Science, September 1, 2016 – April 30, 2017.

Cross Reappointments

GOLAB, Lukasz (Associate Professor, Management Sciences), in the David R. Cheriton School of Computer Science, September 1, 2016 – June 30, 2018.

TAN, Lin (Associate Professor, Dept. of Electrical & Computer Engineering), in the David R. Cheriton School of Computer Science, July 1, 2016 – June 30, 2018.

Postdoctoral Fellows appointed as Part-time Lecturers

KIM, Ringi, Dept. of Combinatorics and Optimization, September 17, 2016 – September 16, 2017.

KOBYZEV, Ivan, Dept. of Pure Mathematics, January 1, 2017 – June 30, 2017.

TANG, Shuxia, Dept. of Applied Mathematics, November 1, 2016 – October 31, 2017.

B. ADMINISTRATIVE APPOINTMENTS

KOHANDEL, Mohammad, Associate Chair, Undergraduate Studies, Dept. of Applied Mathematics, January 1, 2017 – December 31, 2018.

C. RESIGNATIONS

CHILDS, Andrew, Professor, Dept. of Combinatorics and Optimization, effective October 31, 2016.

D. SABBATICALS (for approval by the Board of Governors)

CHERIYAN, Joseph, Professor, Dept. of Combinatorics and Optimization, May 1, 2017 – April 30, 2018, with 85% salary.

RICHTER, Bruce, Professor, Dept. of Combinatorics and Optimization, March 1, 2017 – August 31, 2017, with 85% salary. This is an early sabbatical.

ZHU, Yeying, Assistant Professor, Dept. of Statistics and Actuarial Science, May 1, 2017 – October 31, 2017 with 100% salary. This is a special early sabbatical.

E. SPECIAL LEAVE

CHAN, Timothy, Associate Professor, David R. Cheriton School of Computer Science, January 1, 2017 – December 31, 2017. This is an unpaid leave.

Stephen M. Watt
Dean

UNIVERSITY OF WATERLOO
REPORT OF THE DEAN OF SCIENCE TO SENATE
November 21, 2016

For information:

A. ***APPOINTMENTS***

Adjunct Appointments
Graduate Instruction, Graduate Supervision and Research

DULEY, Walt W., (Professor Emeritus) Professor, Department of Physics and Astronomy, September 1, 2016 to August 31, 2019.

Adjunct Reappointments
Graduate Supervision

BLYTH, Alexander., Professor, Department of Earth and Environmental Sciences, October 1, 2016 to September 30, 2019.

TAYLOR, William, (Professor Emeritus) Professor, Department of Earth and Environmental Sciences, October 1, 2016 to September 30, 2019.

Graduate Supervision and Research

BELL, David S., Professor, Department of Chemistry, September 1, 2016 to August 31, 2019.

COOKE, Steven J., Professor, Department of Biology, November 1, 2016 to October 31, 2019.

MacLATCHY, Deborah L., Professor, Department of Biology, December 1, 2016 to November 30, 2019.

Graduate Supervision and Other

SUITS, Michael, Assistant Professor, Department of Biology, November 1, 2016 to October 31, 2019.

Research and Other

HOWELL, E. Todd, Associate Professor, Department of Biology, November 1, 2016 to October 30, 2019.

Graduate Instruction, Graduate Supervision and Research

JIANG, Runqing, Associate Professor, Department of Physics and Astronomy, October 1, 2016 to September 30, 2019.

Cross Appointment

SCHIFF, Sherry L., Professor, Department of Earth and Environmental Sciences cross appointed to Department of Chemistry, September 1, 2016 to August 31, 2019.

ZELEK, John, Associate Professor, Department of Systems Design Engineering cross appointed to School of Optometry and Vision Science, October 1, 2016 to September 30, 2019.

Cross Reappointments

JONES, Lyndon, Professor, School of Optometry and Vision Science cross appointed to Department of Chemistry, September 1, 2016 to August 31, 2019.

JOSEPH, Jamie, Associate Professor, School of Pharmacy cross appointed to Department of Biology, December 1, 2016 to November 30, 2019.

JOSEPH, Jamie, Associate Professor, School of Pharmacy cross appointed to Department of Chemistry, September 1, 2016 to August 31, 2019.

KIM, Na Young, Associate Professor, Department of Electrical and Computing Engineering cross appointed to Department of Chemistry, September 1, 2016 to August 31, 2019.

QUADRILATERO, Joe, Associate Professor, Department of Kinesiology cross appointed to Department of Biology, December 1, 2016 to November 30, 2019.

Special Appointments
Undergraduate Instruction

RATCLIFFE, William (Bill) D., Lecturer, Faculty of Science, January 1, 2017 to April 30, 2017.

Special Reappointments
Undergraduate Instruction

CONANT JR. Brewster, Lecturer, Department of Earth and Environmental Sciences, September 1, 2016 to December 31, 2016.

DAVISON, Jason, Lecturer, Department of Earth and Environmental Sciences, September 1, 2016 to December 31, 2016.

DYMOCK, Ken R., Lecturer, Department of Earth and Environmental Sciences, September 1, 2016 to December 31, 2016.

SAUDER, Laura, Lecturer, Department of Biology, January 1, 2017 to April 30, 2017.

B. ADMINISTRATIVE REAPPOINTMENTS

DIECKMANN, Thorsten, Associate Chair, Graduate and Research, Department of Chemistry, January 1, 2017 to December 31, 2019.

FOR APPROVAL BY THE BOARD OF GOVERNORS

C. SABBATICAL

CHRISTIAN, Lisa, Associate Clinical Professor, School of Optometry and Vision Science, Special Early, January 1, 2017 to June 30, 2017, 100% salary arrangements.

CUDDINGTON, Kim, Associate Professor, Department of Biology, May 1, 2017 to April 30, 2018, 100% salary arrangements.

GAUTHIER, Mario, Professor, Department of Chemistry, Split Leave, January 1, 2017 to June 30, 2017 and January 1, 2018 to June 30, 2018, 85% salary arrangements.

LUPASCU, Adrian, Associate Professor, Department of Physics and Astronomy, Early, January 1, 2017 to June 30, 2017, 85% salary arrangements.

WU, Lingling, Assistant Professor, Department of Earth and Environmental Sciences, Special Early, January 1, 2017 to June 30, 2017, 100% salary arrangements.

R.P. Lemieux
Dean

University of Waterloo
SENATE
October 31, 2016
FOR INFORMATION

Council of Ontario Universities
Report of the Academic Colleague

The academic colleagues met on October 12th and 13th in Toronto. During the dinner meeting, Academic Colleagues discussed broad aspects of communicating learning outcomes, as it was felt that this topic resonates with the engagement strategy being launched this fall and links to the new emphasis on developing a "highly skilled workforce" in Ontario (see https://news.ontario.ca/opo/en/2016/06/premiers-highly-skilled-workforce-expert-panel-releases-final-report.html). Given the recent focus on experiential learning opportunities as part of the "Building the Workforce of Tomorrow" report, Colleagues also considered experiential learning opportunities (and learning outcomes). The main points of this discussion are summarized below.

Colleagues' focused on the public emphasis on skills expressed in the "Building the Workforce of Tomorrow" report. Highly skilled and job ready are not the same things. It may also be important to think about the differences between highly skilled and highly employable. Academic Colleagues believe that universities prepare graduates for careers; the Highly Skilled Workforce Report asks universities to shift their focus. Instead, universities should add to student learning outcomes rather than shift to skills outcomes. As learning experiences are enhanced, it will be important to help students describe their skills and abilities. Student learning needs to include awareness of the skills they have developed. Experiential learning can be used as a vehicle to become aware of and/or demonstrate skills. Students may be better prepared to talk about specific skills if they have an understanding of how their coursework is aimed at learning (or skills) outcomes. Faculty can be more explicit about the learning outcomes associated with their course and program requirements. Colleagues discussed the three "levels" of skills associated with leadership: technical, social and conceptual skills. A university education prepares students beyond the technical. Universities create opportunities to move between these three levels; differentiation means that the interactions among the levels will be different across institutions.

Colleagues also discussed the values that inform 21st century skills, including: diversity, democracy, equity, empathy, self-awareness, self-regulation, and social engagement, as well as the assumptions that are present in the report, including: that students are engaged, and that employers understand graduates' skills. The report (pg. 10) provides a vision for a highly skilled workforce. The vision articulated does not indicate that universities should produce job-ready graduates, but that students graduate knowing about opportunities and how to act on them. The definition of experiential learning included in the report may be too narrow. Experiential learning can take place in classrooms, or can serve as a bridge between classrooms and life skills. The report also blends outcomes and outputs: empathy is an outcome, while job readiness is an output. Much of the public discussion focuses on outputs.

- **Academic Colleagues meeting: October 13, 2016**

COU update

Funding review: MAESD has signaled a more integrated approach regarding the funding formula, SMAs, the new tuition framework, and the Highly Skilled Workforce report. The Ministry is finalizing recommendations for the funding formula; recommendations will go to cabinet soon. COU's working group has been in dialogue with the ministry; we anticipate that the COU position will be well-

represented in the recommendations to cabinet. It is likely that implementation of the new formula will come through the next two SMA cycles. It is expected that the funding formula will include three envelopes:
1). Enrolment: This will likely be the largest envelope, including 90% of funding. A funding corridor will likely be reintroduced to provide stability in the event of enrolment declines, as well as to provide funding for growth where it has been agreed to (in SMAs). There is likely to be some restructuring of base funding as well. COU has recommended that universities should be kept harmless from changes in the base funding for a transition period.
2). Differentiation and Student Success: Funding in this envelope will be provided for unique institutional characteristics (for example, northern universities, OCADU, etc.). Over time, this envelop will likely move to a performance based approach. This will be a significant policy challenge, and metrics have not yet been established. MAESD has committed to working collaboratively with universities to develop this envelop.
3). Special purpose grants: This envelope will include funding for students with disabilities, credit transfer, and so forth. COU has recommended that the government should provide longer-term funding assurances for these grants to help universities with planning.

Tuition: Government has not made any announcements regarding the tuition framework. COU has recommended a 3% overall increase, without limitations on specific increases. If MAESD does wish to indicate a limitation for specific program tuition growth, COU will recommend a 5% increase cap. COU will also ask for an additional approach outside the framework to address tuition anomalies. The timeframe for the new tuition framework is not clear.

Strategic Mandate Agreements (SMAs): It is anticipated that discussions regarding shape, purpose and timeframe for the next round of SMAs will begin following the funding review. Two special advisors will be brought in to lead negotiations (as in the last round).

OCAV Task Force on Quality Indicators: The Task Force has developed a proposal outlining a reporting framework, which has been approved by OCAV. The framework is organized in terms of the student life-cycle: items are grouped in terms of "getting there," being there," and "leaving." Four themes are identified within the framework: access, student experience, high impact teaching practices, and outcomes. The goal is to populate the framework with appropriate metrics. The Task Force has proposed that reporting should involve a combination of metrics from within the framework, with flexibility built in. For example, metrics could be a combination of:

(i) standardized metrics reported on by all universities (a small number);
(ii) common items, non-standardized (university can report on the same items in different ways); and
(iii) discretionary metrics (unique to universities).

With this proposal, the Task Force is working to develop a complex approach that can provide the universities flexibility, and can leverage data already being collected by universities.

Highly Skilled Workforce Report: The recommendations in the report have been accepted by government, and implementation will be a priority. A new division has been established in MAESD, with Erin McGinn leading the initiative. The timetable for implementation is not yet clear. It is likely that expanding experiential learning opportunities for students will be a focus. COU is working to help the Ministry understand that experiential learning should be defined very broadly.

- **Council Meeting: October 13, 2016**

President's Report: David Lindsay provided an update regarding our context and COU's current initiatives:

- Government reset with throne speech: The Premier sent out new ministry mandate letters. All are asked for fiscal responsibility, and to support jobs/economic growth. HSW is in every mandate letter, as is climate change and the report from the Truth and Reconciliation Commission.
- Engagement initiative: this initiative is focused on telling our story through active engagement with students, families and employers. The next election is in 18 months; we need to ensure that government has clear messages about the value of a university education.

Academic Colleagues Report to Council: Colleagues met in August and welcomed several new representatives. At that meeting, a focus on the Highly Skilled Workforce and experiential learning was proposed for discussions in 2016-17. It is expected that the group will refine and focus the topic as the year progresses. Colleagues expressed support for the communications strategy and would welcome opportunities to stay involved.

Universities Canada Update: Paul Davidson provided a brief update, including the following:

- There have been big shifts on the global landscape that will influence our context (Brexit, the US election, questions of security).
- We are entering the season of advocacy: policies under review federally include innovation and science review. More than 150 consultations will be taking place in Ottawa.
- Areas of progress include: changes to the immigration framework, which may encourage students and researchers to seek international experiences; Ross Finnie's work on employment outcomes is providing important understandings about graduates (http://www.policymagazine.ca/pdf/21/PolicyMagazineSeptemberOctober-2016-Finnie.pdf); conversations on STEM are broadening to STEAM (to include the importance of arts programs); the first three Mindshare events have taken place, and three are upcoming (these events showcase how universities are contributing to Canada's future; see http://www.univcan.ca/mindshare/).
- Universities are making progress on recommendations from the Truth and Reconciliation Commission. Work continues on how to create more inclusive communities.
- Indigenization is an important effort—not layering on new content, but institutionalizing and embracing the Indigenous story. We also need to recognize that many universities have a strong foundation in this area; many universities can respond to the TRC from a position of strength.

The next meeting of the Academic Colleagues meetings will take place on December 6 & 7, 2016.

Marios Ioannidis
Academic Colleague to COU

University of Waterloo
SENATE GRADUATE & RESEARCH COUNCIL
and
SENATE UNDERGRADUATE COUNCIL
Report to Senate
21 November 2016

Senate Undergraduate Council met on 11 October 2016 and 15 November 2016, and Senate Graduate & Research Council met on 13 June 2016 and 14 November 2016, and both councils considered a proposal for a gender neutral degree option as well as the academic calendar dates for 2017-18. Both councils agreed to forward the following items to Senate for approval. Council recommends this item be included in the regular agenda.

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

FOR APPROVAL

GENDER NEUTRAL DEGREE OPTION

Office of the Registrar / Graduate Studies Office

1. **Motion:** To approve the option for undergraduate students to provide the gender-neutral designation of "Baccalaureate" on the bachelor's degree diploma and for graduate students to provide the gender-neutral designation of "Magisteriate" on the master's degree diploma, effective 1 January 2017.

   Rationale: Offering a gender-neutral diploma is the practice at a number of other Canadian institutions, and this proposal is in keeping with the University's commitment to HeForShe and the advancement of gender equity. It is also coming forward in parallel to forthcoming changes at the Ontario Universities Application Centre and in Quest which will allow applicants and students to choose the option "another gender identity" in addition to "male" or "female". Upon request, the university will be able to print an alternate diploma for students or alumni with the gender-neutral degree listed; however, only the printed diploma will have this degree designation and this will not apply to other records such as the official transcript. A note will be made in Quest that a gender-neutral diploma has been requested. If the diploma is a replacement, normal diploma replacement fees related to printing costs will apply; no fee will be charged with respect to changing the designation on the diploma. It should be noted that some discussion has occurred as to whether these changes might result in brand confusion with the International Baccalaureate (IB) diploma, which is a secondary school credential, and whether the etymology of Baccalaureate is precisely gender-neutral or not. Through the example of the other universities in North America, there is some usage of the term in a gender-neutral fashion.

▶ Office of the Registrar
Calendar Dates

2. **Motion:** To approve the 2017-18 calendar dates as presented in Attachment #1, subject to approval at Senate Undergraduate Council at its meeting on 15 November 2016.

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

	Jeff Casello Associate Provost, Graduate Studies	Mario Coniglio Associate Vice-President, Academic	George Dixon Vice-President, University Research
/mg			

Academic Calendar Dates, 2017-2018

	Fall 2017	Winter 2018	Spring 2018
Co-operative Work Term Begins *	Sept. 5 (T)	Jan. 2 (T)	May 1 (T)
Classes Begin	Sept. 7 (R)	Jan. 3 (W)	May 1 (T)
Holidays	Monday, October 9	Monday, February 19 Friday, March 30	Monday, May 21 Monday, July 2 Monday, August 6
Mid-Term Study Break	Oct. 10, 11 (T, W)	Feb. 19-23 (M-F)	N/A
Convocation	Oct. 20, 21 (F,S)	N/A	June 12-16 (T-S)
Classes End	Dec. 4 (M)	Apr. 4 (W)	July 25 (W)
Make-up Day(s) for in-term holidays and Mid-Term Study Break	Oct. 12 (R) &13 (F) **Note: Tuesday, Wednesday schedule used to balance days** Dec.4 (M) for Thanksgiving	Apr. 4 (W) **Note: Friday schedule used to balance days**	May 22 (T) & July 25 (W) **Note: Monday schedule used to balance days**
Pre-Examination Study Days	Dec. 5, 6 (T,W)	Apr. 5-6 (R,F)	July 26-27 (R,F)
On-Campus Examinations Begin	Dec. 7 (R)	Apr. 9 (M)	July 28 (S)
Online Class Examination Days	Dec. 8, 9 (F, S)	Apr. 13, 14 (F,S)	July 28 (S) Aug. 3 (F)
On-Campus Examinations End	Dec. 21 (R)	Apr. 24 (T)	Aug. 11 (S)
Co-operative Work Term Ends *	Dec. 22 (F)	April 27 (F)	Aug. 24 (F)
Teaching days	60	60	60
Pre-examination study days	2	2	2
Examination days	13	14	11

The following symbols and abbreviations are used throughout this table:

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

Guidelines for Determining Academic Calendar of Dates

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

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

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

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

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

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

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

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

8. That the start date for Winter Term be January 3 when that date falls on a Monday, Tuesday or Wednesday. Otherwise the start date is the first Monday following January 3. In the event of Monday, January 3 being a declared holiday the term would begin January 4.

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

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

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

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

13. Grades due dates for on-campus courses are normally scheduled seven days from the date of the final examination. Grades for courses without a scheduled final examination are normally due 14 days after the start of examinations. Grades for Distance Education courses are due on the last date of the grades submission period.

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

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

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

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

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

Prepared by:
R.A. Darling, Registrar
November 16, 2015 (replaces September 9, 2014)

University of Waterloo
SENATE GRADUATE & RESEARCH COUNCIL
Report to Senate
21 November 2016

Senate Graduate & Research Council met on 17 October 2016 and 14 November 2016, and considered proposals for a new academic plan, changes to three academic plans, the inactivation of an academic plan, and changes to graduate regulations pertaining to doctoral theses. Senate Undergraduate Council met on 11 October 2016 and also recommended the new academic plan. Council agreed to forward the following items 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*

FOR APPROVAL

NEW ACADEMIC PLANS

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

1. **Motion:** To approve new accelerated master's plans in the School of Public Health and Health Systems as described and effective 1 September 2017.

   General Principles of an Accelerated Master's Program
   The goal of Accelerated Master's Programs is to provide exceptional students a seamless transition into a Master's degree, with a potential to accelerate receipt of the graduate degree.

   An Accelerated Master's program is one in which it is deemed academically advantageous to treat the educational process leading through either the Bachelor of Science (BSc) or the Bachelor of Public Health (BPH) programs to scientific and practice-based Master's degrees (i.e., MSc (Master of Science), MPH (Master of Public Health), MHI (Master of Health Informatics), or MHE (Master of Health Evaluation)) as a single continuous integrated whole, while at the same time satisfying the requirements for both degrees. This stands in contradistinction to treatment of the Bachelor's and Master's degree programs each as terminal activities. Accelerated programs, starting at the undergraduate level and terminating with a Master's Degree from the School of Public Health and Health Systems (SPHHS), provide an alternative means, complementary to the existing undergraduate and graduate programs, for the attainment of Master's degrees in SPHHS.

   The following are some general conditions that an Accelerated Master's degree program should satisfy:

   1) Students who elect to enter and pursue the Accelerated Master's program will fulfill the degree requirements of both the undergraduate program and the Master's program.

      This implies that:
      - eight terms of full-time registration at the undergraduate level and at least two terms of full-time registration (or equivalent), generally more, at the graduate level are mandatory;
      - the undergraduate program must meet the requirements specified by each program (i.e., BSc in Health Studies, BPH)
      - the Co-operative work term requirements of the BSc and BPH programs must be met if this is a requirement for admission to the Master's program of choice.
      - the graduate program must meet the requirements specified by each program (i.e., MSc, MPH, MHI, or MHE).

   2) There must be the opportunity to transfer from the Accelerated Master's program back to the undergraduate program.

3) Admission to the Accelerated Master's program is on the basis of merit, as is continuance in the program. Students who fail to maintain sufficiently high standing will be required to revert to the undergraduate program or, if circumstances so warrant, to withdraw from the University.

4) The culmination of the Accelerated Master's program is the Master's degree; this may be attained either through the completion of a Master's degree practicum, capstone and/or research thesis as required by each respective program.

5) Recruitment into an Accelerated Master's degree program must have the flexibility to satisfy the requirements of individual students; at the same time, it must progress toward a well-defined area of specialization.

Organizational Structure for the Accelerated Master's Program

Application and Admission

Students must apply for admission to the Accelerated program by the end of their 3A term. If admitted to the SPHHS Accelerated Master's programs (MSc, MPH, MHI, or MHE) students will undertake graduate work during their 4A and 4B terms.

The Bachelor's degree is awarded at the normal completion of the undergraduate program; up to four graduate courses may be applied to the Master's program resulting in a potential reduction in the number of terms required to complete any of the Master's programs offered by the SPHHS (i.e., MSc, MPH, MHI, or MHE).

Minimum requirements for entry into the Accelerated program for all students are, at the time of application to the Accelerated Master's program: (a) cumulative average of 83%, (b) completion of a minimum of 13 units towards the undergraduate degree, and (c) various Master's program specific requirements.

Specific Master's requirements are as follows:

a) Master of Science – evidence of research skills normally demonstrated by satisfactory completion (mark of 75% or higher) of HLTH 333 or 344 and HLTH 204 or STAT 316 and/or extracurricular research experience (e.g., research in work settings or on co-op placements). Extracurricular research experience (e.g. research in work settings, including coop placements) may be taken into consideration.

b) Master of Public Health – satisfactory completion of a university-level course in basic statistics (mark of 75% or higher) and one year of work experience in public health related settings anticipated by time of BPH or BSc completion. Streaming into the MPH socio-behavioural or environmental health streams is highly recommended and the MPH general stream is <u>not</u> recommended.

   For the socio-behavioural stream, it is strongly recommended that students demonstrate competency in health promotion normally acquired through satisfactory completion (mark of 75% or higher) of 300-level courses in socio-behavioural sciences or population health (i.e., HLTH 301, 304, 305, 350, 352) and one year of co-op or extracurricular work experience by time of BSc or BPH completion.

   For the environmental stream, it is strongly recommended that students demonstrate competency in environmental or ecological health normally demonstrated through satisfactory completion (mark of 75% or higher) of 300-level courses such as HLTH 370 and one year of co-op or extracurricular work experience by the time of BSc or BPH completion.

c) Master of Health Informatics – demonstrated logical and analytic abilities normally demonstrated through satisfactory completion of courses (mark of 75% or higher) in mathematics, statistics, computer science, or engineering and/or extracurricular experiences (e.g., co-op or other employment).

d) Master of Health Evaluation – university-level courses in basic statistics or qualitative methods (mark of 75% or higher) and epidemiology (75% or higher) and one year of work experience in public health or health care related settings anticipated by time of BPH or BSc completion.

While students may be accepted into the Accelerated program in specialty streams of the MPH, MHI or MHE or the MSc, it is expected that they will not be admitted into the general MPH program. This will ensure that graduates of the Accelerated Master's Programs have sufficient specialization thereby increasing the likelihood of success in acquiring employment after completion of their Master's degree. Exceptions to this rule may be made on an individual basis, based on support for general MPH stream admission by the student's advisor.

Process

Students interested in applying for the Accelerated Master's program should discuss their eligibility for the program and, if appropriate, obtain an application form from their undergraduate advisor. Students applying for the Master's degree in PHHS must identify a faculty member who will direct or supervise the MSc research or will serve as their academic advisor for their professional graduate studies (i.e., MPH, MHI, or MHE studies).

Admission to the Accelerated Master's program is normally restricted to students with a consistently good academic record at the end of the 3A term who would be granted "conditional admission" to the particular Master's program. The condition to be fulfilled upon completion of the undergraduate degree requirements and submission of an Intent to Graduate form is "satisfactory completion of the requirements of the BSc or BPH degree with at least a 75% average on the last twenty courses of undergraduate study."

Students who are granted this admission would be notified at least one month prior to the end of their 3B academic semester. As in any program culminating in a Master's degree, a Faculty supervisor or Faculty advisor is appointed on admission.

Course Plan and Sequence

Students applying for MPH, MHI or MHE streams must demonstrate specialized undergraduate preparation through completion of all required courses in those streams. Students should work with their graduate supervisor to develop an academic plan that includes a coherent sequence of courses leading from undergraduate through Master's studies. The academic plan must be submitted to the relevant graduate program coordinator by the end of 3B.

To be considered for admission to the Accelerated Master's program, students must have accrued accelerated undergraduate credits, having completed a minimum of 13 units by the end of 3A and a minimum of 15.5 units by the end of 3B. That is, students will have accelerated their undergraduate studies over and above the normal 5 course (2.5 unit) semester load prior to conditional admission to the graduate program. After conditional admission to the Accelerated Master's program they may take 600-level courses equivalent to the number of accelerated undergraduate credits accrued at the time of admission, up to a maximum of four 600-level courses.

As noted above, graduate-level courses taken toward the Accelerated MSc, MPH, MHI and MHE degrees may be applied against BSc and BPH requirements, or Master's program unit requirements, but not both. Graduate courses taken <u>in excess</u> of requirements for the BSc/BPH degrees (40 courses) may be applied to the Master's program.

Experiential and Work-Integrated Learning

A successful transition from graduate school to professional and academic careers is more likely if students develop, document and integrate their professional and scientific learning. Therefore, the School of Public Health and Health Systems strongly recommends that students' entering the Accelerated Programs seek work experiences that take the form of co-operative placements, practica, specialized program streams, courses tailored to their specific career aspirations, and selected topics that provide opportunity for co-instruction by academic and practice-based instructors. Creating world-ready graduates is a shared responsibility of the student and the advisor. Experiential and work-integrated learning should be part of each student's academic plan. Upon conditional admission to the Accelerated MPH the student will be placed in a special Co-operative work term sequence that will afford the student a sixth work term placement. Students will complete their academic work in the Spring semester and immediately attend the MPH Foundation course in August.

Completion of Undergraduate Degree Requirements: Co-op Work Sequence

F	W	S	F	W	S	F	W	S	F	W	S	F	W	S
1A	1B	Off	2A	WT1	2B	WT2	3A	WT3	3B	WT4	WT5	4A	WT6	4B

Granting of Degrees

All students must meet all degree requirements for the relevant Bachelor's and Master's programs. The BSc or BPH degree will be granted at the normal time (i.e., at the Spring Convocation following the 4B term) unless the student has taken an extra co-op work term, in which case the degree will be granted at the Fall Convocation. The program, however, culminates in the MSc, MPH, MHI or MHE awarded at either Spring or Fall Convocation.

Postgraduate Scholarships

Students in the Accelerated Master's program may apply for Canadian Institutes of Health Research (CIHR), Natural Sciences and Engineering Research Council of Canada (NSERC), Ontario Graduate Scholarship Program (OGS) scholarships, or other scholarship competitions at the same time as their colleagues in the Master's programs. Full-time students may also be eligible for SPHHS research and teaching assistantship awards when enrolled in Master's programs.

Withdrawal or Failure
Students may remain in the Accelerated Master's program provided they maintain sufficiently high academic standards. The minimum is a cumulative B average (75%).

A student who fails to maintain this standard will be required to withdraw from the Accelerated Master's program. In such a case, all courses taken up to the end of 4B, including those originally intended to fulfill part of the Master's degree requirements, will be counted towards the Bachelor's degree program and marks therefrom included in the term averages as appropriate. Should the student have then satisfied the requirements for the BSc or BPH degree, it will be granted at the next convocation.

If a student does maintain at least the minimum standard mentioned above, but decides to withdraw voluntarily from the Accelerated Master's program, the 4A and 4B results will be calculated including the courses originally intended to fulfill part of the Master's degree requirements. If the requirements for the Bachelor's degree are then satisfied, the BSc or BPH will be granted at the next Convocation.

Further information is available in the Graduate Studies Academic Calendar at: https://uwaterloo.ca/graduate-studies-academic-calendar/

Rationale: These accelerated plans are offered as a response to a suite of demands including: students wishing to pursue careers in public health and health systems research and practice and to initiate the process at the undergraduate level; recognition of exceptional undergraduate students and provision of an enhanced and accelerated course of study for them; presentation of the option of graduate studies to deserving students who otherwise might not have considered it; relatively seamless transition to graduate-level work; and facilitation of timely and possibly early completion of the master's degree.

CHANGES TO ACADEMIC PLANS

Faculty of Environment
School of Environment, Resources and Sustainability

2. **Motion:** To approve a change in the plan name from Master of Environmental Studies in Environment and Resource Studies to Master of Environmental Studies in Social and Ecological Sustainability, and to approve the accompanying plan changes as described in Attachment #1, effective 1 January 2017.

   Rationale: The name change better reflects the transdisciplinary nature of the plan. Curricular changes will align the plan with similar plans at other universities with which the Waterloo plan competes, while merging some requirements in a more efficient manner.

3. **Motion:** To approve a change in the plan name from Master of Environmental Studies in Environment and Resource Studies – Water to Master of Environmental Studies in Social and Ecological Sustainability – Water, and to approve the accompanying plan changes as described in Attachment #2, effective 1 January 2017.

   Rationale: See rationale for item #2.

Faculty of Mathematics
Computational Mathematics

4. **Motion:** To approve a change in the master's plan in computational mathematics to add a co-op option and a course work option as described in Attachment #3, effective 1 January 2017.

   Rationale: The addition of the co-op and coursework options within the existing plan will allow more flexibility for students to pursue studies congruous with their interests and will promote the employability of graduates.

CHANGES TO REGULATIONS

Graduate Studies Office
Doctoral Thesis Regulations

5. **Motion:** To approve changes to the doctoral thesis regulations as described in Attachment #4 and effective 1 January 2017.

   Rationale: The proposed changes are brought forward from the Graduate Operations Committee based on recommendations made by a PhD Thesis Examinations Subcommittee comprised of the Associate Provost, Graduate Studies, the Associate Dean, Graduate Studies, two Faculty associate deans of graduate studies, and several Graduate Studies Office (GSO) staff members. The intention is that the PhD Thesis Regulations will be a standalone document separate from the Graduate Studies Academic Calendar. The PhD Thesis Regulations will be combined with existing guidelines currently on the GSO website regarding organization, formatting, and submission of the thesis.

PLAN INACTIVATION

Faculty of Environment
Geography and Environmental Management

1. **Motion:** To approve the inactivation of the Master of Environmental Studies in Geography – Tourism plan effective 1 January 2017.

Rationale: The plan has seen declining enrollment, and several key faculty supporting the program have now retired. The two departments that previously supported the plan (Recreation and Leisure Studies, and Geography and Environmental Management) have no plans to hire new faculty under the tourism theme, and the former department inactivated their half of the program earlier this year. The department will continue to admit students who have a tourism interest into the MA or MES degree plans, and it is expected that these students can be accommodated by the current complement of faculty members with tourism interests in their scholarship.

/*mg* Jeff Casello
Associate Provost, Graduate Studies

George Dixon
Vice President, University Research

Graduate Studies
Program Revision Form

Prior to form submission, review the content revision instructions and information regarding major/minor modifications. For questions about the form submission, contact Trevor Clews, Graduate Studies Office.

Faculty: Environment
Program: Master of Environmental Studies (MES) in Social and Ecological Sustainability
Program contact(s) (name): Maren Oelbermann
Form completed by: Maren Oelbermann

Description of proposed changes:

1. Thesis option:
a) Change the number of required courses from 5 to 4.
b) Removing ERS 670 as a required course.
c) Adding ERS 669 as a required course.
d) All electives must be graduate courses
e) Removing inactive Master's Research/Design Paper milestone.
f) Removing Thesis Proposal milestone.
g) Adding Research Skills Seminar Milestone

2. Master's Research Paper option:
a) Change of total number of required courses for program completion from 7 to 6.
b) Removing ERS 670 as a required course.
c) All electives must be graduate courses.
d) Removing inactive Master's Research/Design Paper milestone.
e) Revising Master's Research Paper milestone description.
f) Adding Research Skills Seminar Milestone

**changes to courses and milestones also require the completion/submission of the SGRC Course/Milestone-New/Revision/Inactivation form.*

Is this a Major Modification to the program? No

Rationale for changes:

1. a, b, c, d: These changes align the program with other Master's Thesis programs at other universities that are competitive with this program. For example the following programs have 4 or less required courses for the thesis option or 6 or less courses for the MRP option: University of Saskatchewan School of Environment and Sustainability (MES=4, MRP=NA), Queen's University School of Environmental Studies (MES=4, MRP=6); Dalhousie School for Resource and Environmental Studies (MES=4; MRP=6). Within the Faculty of Environment at UW, a recent 7-year review of Geography and Environmental Management's Grad program recommended to consider reducing the number of required courses for the thesis program from 5 to 4.

1. g: The Thesis Proposal milestone has now been incorporated into the core course ERS 680.
1. f: New Milestone

2. a, b, c: These changes align the program with other Master's MRP programs at other universities that are competitive with this program.
2. e: Some of the Master's Research Paper requirements will be incorporated in the core course ERS 680.
2. f: New Milestone

Proposed effective date: **Term:** Winter **Year:** 2017

Current Graduate Studies Academic Calendar URL/webpage (include the link to the page where the changes are to be made):
https://uwaterloo.ca/graduate-studies-academic-calendar/environment/school-environment-resources-and-sustainability/master-environmental-studies-mes-environment-and-resource-studies

Current Graduate Studies Academic Calendar content: (strikethrough content that is to be deleted)	**Proposed Graduate Studies Academic Calendar content**: (underline content that is to be added)
Thesis option: • Required courses - ERS 680 Sustainability Foundations (Fall) - ~~ERS 670 MES Research Development (Winter)~~ ** - ERS 681 Sustainability Applications (Winter) • Elective courses - Students must complete ~~2~~ elective courses. - ~~ERS 669 Research Design and Methods (Fall) is recommended as 1 of the 2 electives.~~ • Students must maintain an academic average of at least 75%. • ~~Master's Research/Design Paper~~ • ~~Master's Thesis Proposal~~ - ~~October 15, first semester: Thesis research agenda statement (submitted to Advisor).~~ - ~~Additional milestones are incorporated as course requirements in ERS 670~~	**Thesis option:** • Required courses - ERS 680 Sustainability Foundations (Fall) - ERS 681 Sustainability Applications (Winter) - ERS 669 Research Design and Methods (Winter) • Elective courses - Students must complete **1** elective graduate course. • Students must maintain an academic average of at least 75%. • Master's Thesis - Completion and successful defence of a Master's Thesis. - Research Skills Seminar milestone Attendance and participation at a Panel on Research Excellence to be held at the end of November of each year. **Master's Research Paper option:**

~~MES Research Development, for Thesis students.~~ • Master's Thesis • Completion and successful defence of a Master's Thesis. **Master's Research Paper option:** • Required courses • ERS 669 Research Design and Methods (~~Fall~~) • ERS 680 Sustainability Foundations (Fall) • ~~ERS 670 MES Research Development (Winter)~~** • ERS 681 Sustainability Applications (Winter) • Elective courses • Students must complete 3 elective courses. • At least ~~1~~ of the electives must be an ERS course. • Students must maintain an academic average of at least 75%. ~~• Master's Research/Design Paper~~ • Master's Research Paper • ~~October 15, first semester: Master's Research Paper agenda statement (submitted to Advisor).~~ • ~~Additional milestones are incorporated as course requirements in ERS 670 MES Research Development, for Master's Research Paper students.~~ • Acceptance of a Master's Research Paper to be evaluated by the student's advisor and one committee member.	• Required courses • ERS 669 Research Design and Methods (Winter) • ERS 680 Sustainability Foundations (Fall) • ERS 681 Sustainability Applications (Winter) • Elective courses • Students must complete 3 graduate elective courses. • At least **2** of the electives must be from the School of Environment, Resources and Sustainability • Research Skills Seminar milestone Attendance and participation at a Panel on Research Excellence to be held at the end of November of each year. Students must maintain an academic average of at least 75%. • Master's Research Paper • Acceptance of a Master's Research Paper to be evaluated by the student's advisor and one committee member.

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

1: These changes will only impact students starting their programs in Fall 2017 and forward
2: Current students will be grandfathered with the current requirements.

Departmental approval date: April 26, 2016
Reviewed by GSO (for GSO use only): ☐
Faculty approval date: September 22, 2016
Senate Graduate & Research Council (SGRC) approval date:
Senate approval date (if applicable):

Graduate Studies
Program Revision Form

Prior to form submission, review the content revision instructions and information regarding major/minor modifications. For questions about the form submission, contact Trevor Clews, Graduate Studies Office.

Faculty: Environment
Program: Master of Environmental Studies (MES) in Social and Ecological Sustainability - Water
Program contact(s) (name): Maren Oelbermann
Form completed by: Maren Oelbermann

Description of proposed changes:

1. Thesis option:
a) Removing ERS 670 as a required course.
b) Adding ERS 669 as a required course.
c) Removing inactive Master's Research/Design Paper milestone.
d) Removing Thesis Proposal milestone.
e) Add Research Skills Seminar milestone

2. Master's Research Paper option:
a) Change of total number of required courses for program completion from 7 to 6.
b) Removing ERS 670 as a required course.
c) Requiring that the one elective be from the School of Environment, Resources and Sustainability.
d) Removing inactive Master's Research/Design Paper milestone.
e) Revising Master's Research Paper milestone description.
f) Add Research Skills Seminar milestone

**changes to courses and milestones also require the completion/submission of the SGRC Course/Milestone-New/Revision/Inactivation form*. - attached

Is this a Major Modification to the program? No

Rationale for changes:

1. a: ERS 670 has been combined into the other core courses.
1. c: This milestone is covered by the Master's Thesis 2.0 Milestone
1. d: The Thesis Proposal milestone has now been incorporated into the core course ERS 680.
1. f: New Milestone

2. 2. a, b: These changes align the program with other Master's MRP programs at other universities that are competitive with this program. For example the following programs have 4 or less required courses for the thesis option or 6 or less courses for the MRP option: University of Saskatchewan School of Environment and Sustainability (MES=4, MRP=NA), Queen's University School of Environmental Studies (MES=4, MRP=6); Dalhousie School for Resource and Environmental Studies (MES=4;

MRP=6). Within the Faculty of Environment at UW, a recent 7-year review of Geography and Environmental Management's Grad program recommended to consider reducing the number of required courses for the thesis program from 5 to 4.

ERS 670 has now been incorporated into the other core courses.

2. c: see below

2. d: this milestone is covered by the Master's Research Paper Milestone

2. f: Some of the Master's Research Paper requirements will be incorporated in the core course ERS 680.

2. f. New milestone

Proposed effective date: **Term:** Winter **Year:** 2017

Current Graduate Studies Academic Calendar URL/webpage (include the link to the page where the changes are to be made):
https://uwaterloo.ca/graduate-studies-academic-calendar/environment/school-environment-resources-and-sustainability/master-environmental-studies-mes-environment-and-resource-studies-water

Current Graduate Studies Academic Calendar content: (strikethrough content that is to be deleted)	**Proposed Graduate Studies Academic Calendar content**: (underline content that is to be added)
Thesis option: Required courses • ERS 680 Sustainability Foundations (Fall) • ~~ERS 670 MES Research Development (Winter)~~ ** • ERS 681 Sustainability Applications (Winter) Water core courses • WATER 601 Integrated Water Management (Winter) • WATER 602 Integrated Water Management Project (Fall) • The core courses are designed to provide fundamental multidisciplinary knowledge and experience to complement the student's specialist courses and water-related research. • ~~The Department will determine whether or not collaborative program courses can be used as electives. It is therefore possible that students will need to take additional courses in order to meet the specific requirements of the Water program.~~	**Thesis option:** Required courses • ERS 680 Sustainability Foundations (Fall) • ERS 681 Sustainability Applications (Winter) • ERS 669 Research Design and Methods (Winter) Water core courses • WATER 601 Integrated Water Management (Winter) • WATER 602 Integrated Water Management Project (Fall) • The core courses are designed to provide fundamental multidisciplinary knowledge and experience to complement the student's specialist courses and water-related research. • Students must maintain an academic average of at least 75%. Research Skills Seminar milestone • **Attendance and participation at a Panel on Research Excellence to be**

• Students must maintain an academic average of at least 75%. ~~Master's Research/Design Paper~~ ~~Master's Thesis Proposal~~ • ~~October 15, first semester: Thesis research agenda statement (submitted to Advisor).~~ • ~~Additional milestones are incorporated as course requirements in ERS 670 MES Research Development, for Thesis students.~~ Master's Thesis • Completion and successful defence of a Master's Thesis. **Master's Research Paper option:** Students must complete at least ~~7~~ courses. These ~~7~~ courses will include 4 ERS core courses and the 2 WATER core courses, plus 1 additional elective. Required courses • ERS 669 Research Design and Methods (~~Fall~~) • ERS 680 Sustainability Foundations (Fall) • ~~ERS 670 MES Research Development (Winter)~~** • ERS 681 Sustainability Applications (Winter) Water core courses: • WATER 601 Integrated Water Management (Winter) • WATER 602 Integrated Water Management Project (Fall) • The core courses are designed to provide fundamental multidisciplinary knowledge and experience to complement the student's specialist courses and water-related research.	**held at the end of November of each year**. Master's Thesis • Completion and successful defence of a Master's Thesis. **Master's Research Paper option:** Students must complete at least 6 courses. These 6 courses will include 3 ERS core courses, 2 WATER core courses, and one additional elective from the School of Environment, Resources and Sustainability. Required courses • ERS 669 Research Design and Methods (Winter) • ERS 680 Sustainability Foundations (Fall) • ERS 681 Sustainability Applications (Winter) Water core courses: • WATER 601 Integrated Water Management (Winter) • WATER 602 Integrated Water Management Project (Fall) • The core courses are designed to provide fundamental multidisciplinary knowledge and experience to complement the student's specialist courses and water-related research. • Students must maintain an academic average of at least 75%. Research Skills Seminar milestone • **Attendance and participation at a Panel on Research Excellence to be held at the end of November of each year**. Master's Research Paper • Acceptance of a Master's Research Paper to be evaluated by the student's

• ~~The Department will determine whether or not collaborative program courses can be used as electives. It is therefore possible that students will need to take additional courses in order to meet the specific requirements of the Water program.~~ • Students must maintain an academic average of at least 75%. ~~Master's Research/Design Paper~~ Master's Research Paper • ~~October 15, first semester: Master's Research Paper agenda statement (submitted to Advisor).~~ • ~~Additional milestones are incorporated as course requirements in ERS 670 MES Research Development, for Master's Research Paper students.~~ • Acceptance of a Master's Research Paper to be evaluated by the student's advisor and one committee member.	advisor and one committee member.

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

1: These changes will only impact students starting their programs in Fall 2017 and forward
2: Current students will be grandfathered with the current requirements.

Departmental approval date: April 26, 2016
Reviewed by GSO (for GSO use only): ☐
Faculty approval date: September 22, 2016
Senate Graduate & Research Council (SGRC) approval date:
Senate approval date (if applicable):

Appendix A: Proposed Revised Text for Computational Mathematics MMath Program

Students are responsible for reviewing the General Information and Regulations section of the Graduate Studies Academic Calendar.

Program information

- Admit term(s)
  - Fall
- Delivery mode(s)
  - On-campus
- Length of program
  - Full-time: one year.
  - Part-time: students will be expected to complete the program in a time period of two to three years (Research paper option) or two to four years (Coursework option). The minimum duration of study for part-time students is two years. Students may not do the co-op option part-time.
- Program type
  - Master's
  - Research
- Registration option(s)
  - Full-time
  - Part-time
- Study option(s)
  - Master's Research Paper
  - Course work option
  - Co-op option

Admission requirements

- Minimum requirements
  - An overall 78% average or its equivalent for undergraduate work.
  - A 4-year honours bachelor's degree or its equivalent with specialization in some area of the mathematical, statistical and computer sciences. Note: graduates of other quantitative and mathematically oriented programs are also encouraged to apply; this includes, but is not restricted to, graduates of commerce, economics, engineering, finance, and any of the physical sciences. The department graduate committee will determine the suitability of each student's background for success in this program.
- Application materials
  - Résumé
  - Supplementary information form
  - Transcript(s)
- References

- Number of references: 3
- Type of references: normally from academic sources.

- English Language Proficiency Certification (ELPC) (if applicable)

Degree requirements

- Graduate Academic Integrity Module (Graduate AIM)
- Courses
  - ~~Students are required to take 6 (0.50 unit weight) courses from lists A and B below. At least 4 courses must be taken from list A.~~
  - List A Core Courses:
    - CM 730/CS 687 Introduction to Symbolic Computation
    - 1 of CM 740/CO 602 Fundamentals of Optimization; CM 741/CO 666 Continuous Optimization
    - CM 750/AMATH 741/CS 778 Numerical Solution of Partial Differential Equations
    - 1 of CM 761/STAT 840 Computational Inference; CM 762/STAT 842 Data Visualization; CM 763/STAT 841 Statistical Learning - Classification; CM 764/STAT 844 Statistical Learning - Function Estimation
    - CM 770 (AMATH 740/CS 770) Numerical Analysis
  - List B Courses (~~typically~~ some are held with undergraduate courses):
    - CO 650 Combinatorial Optimization
    - CO 652 Integer Programming
    - CO 663 Convex Optimization and Analysis
    - CO 666 Continuous Optimization
    - CO 671 Semi-definite Optimization
    - CO 681 (CS 667) Quantum Information Processing
    - CO 685 The Mathematics of Public-Key Cryptography
    - CO 687 Applied Cryptography
    - CO 778 (ACTSC 973) Portfolio Optimization
    - CO 781 Topics in Quantum Information
    - CS 666 Algorithm Design and Analysis
    - CS 673 Medical Image Processing
    - CS 676 Numeric Computation for Financial Modelling
    - CS 682 Computational Techniques in Biological Sequence Analysis
    - CS 683 Computational Techniques in Structural Bioinformatics
    - CS 686 Introduction to Artificial Intelligence
    - CS 688 Introduction to Computer Graphics
    - CS 763 Computational Geometry
    - CS 774 Advanced Computational Finance
    - CS 775 Parallel Algorithms in Scientific Computing
    - CS 780 Advanced Symbolic Computation
    - CS 786 Probabilistic Inference and Machine Learning
    - CS 787 Computational Vision
    - CS 867 Advanced Topics in Quantum Information and Computation
    - STAT 846 Mathematical Models in Finance

        - STAT 901 Theory of Probability
        - ACTSC 970 Finance 1
        - AMATH 655 Control Theory
        - AMATH 663 Fluid Mechanics
        - AMATH 731 Applied Functional Analysis
        - AMATH 753 Advanced PDEs
        - AMATH 881 Introduction to Mathematical Oncology
        - AMATH 882 Mathematical Cell Biology
        - Any other course at this level approved by the graduate committee.
    - The courses listed above are offered within the Faculty. Other advanced courses are offered within the Faculty of Mathematics on topics of computational mathematics on a more irregular basis. These courses may be taken with approval of the Graduate Committee. Similarly, courses offered outside the Faculty, in Computational Mathematics or in some area of its application may be approved by the Graduate Committee. ~~At most 2 of the 6 courses taken may be courses in which undergraduate students predominate~~.A list of pre-approved courses is maintained on the Computational Mathematics website.
    - Students with strong backgrounds in some core areas may be granted exemption from the corresponding core courses required by the program; in each such case another course will be substituted for the exempted course so that the total courses required remains the same.
    - Students must maintain an average of 70% in order to remain in good standing. Formal progress reports will be required in the event that a student wishes or needs to remain in the program longer than one year for the Master's research paper and two years for the coursework option.
- Master's Research Paper option
    - Students are required to take 6 (0.50 unit weight) courses from lists A and B. At least 4 courses must be taken from list A. At most 2 of the 6 courses taken may be courses in which undergraduate students predominate.
    - Students must undertake an independent research project culminating in a research paper (1.00 unit weight). It is intended that the research project will be approximately the equivalent of two full courses and will be conducted under the direction of the student's research supervisor. To be successfully completed, the research paper must be unanimously approved by the student's advisory committee, consisting of the student's research supervisor and one additional reader.
    - Students are also required to attend a Symposium, which normally takes place ~~the third week~~ in August, to present their research papers.

- Coursework option
    - The coursework option requires eight one-term graduate courses from lists A and B (with a unit weight of .50). At least four of these courses must be from list A. At most three of the eight courses taken may be courses in which undergraduate students predominate

- MMath in Computational Mathematics – Co-op option
    - In Computational mathematics, a master's program may be undertaken on a co-operative basis, enabling a student to combine graduate studies with some work experience. The program involves an initial study period, a work period and a final study period. It is fairly flexible in length, each period comprising one or more terms. The usual pattern of study and work consists of two academic terms in which some or all of the courses are completed, a one or two-term work placement, and a final academic term in which the research paper, or coursework is completed. The student is encouraged to complete COOP 601 (Career Success Strategies) in the term before the start of their work term. Admission to the co-op option is competitive. Students should apply for this option in their first term, and admittance will be decided based on the students first term marks.
    - The student will be required to do a one or two-term work placement at a suitable industrial location, to begin as soon as possible after the coursework, or 50% of the degree requirements have been completed. The student will also be expected to return to campus after the work placement in order to complete the research paper or remaining coursework. The student will be required to provide a work term report when they return to campus.

Computational Mathematics website

Summary of Proposed Changes to PhD Thesis Regulations

Prior to Exam:

Added recommendation that student meet with supervisor and/or advisory committee (if applicable) prior to submission of the thesis to seek (informal) endorsement of its submission and the scheduling of the defence (i.e. ensuring work is of quality to proceed and the candidate is prepared). Although the student is not prohibited from proceeding to defence without this endorsement, this should occur only in rare cases and is not recommended.

Exam Committee Composition:

- Maintain current composition:
  - Chair (non-voting)
  - External Examiner
  - Supervisor or Co-supervisors
  - Internal Member (from the home department)
  - Internal-external Member (external to the home department)
  - Member (from the University)
- Co-supervisors share one vote (each co-supervisor may vote based on the appropriate fraction of one vote)

Adjunct and other faculty on committees

- Members are normally tenured, tenure track, or hold a continuing appointment of some type
- A maximum of one adjunct faculty member (including Professors Emeriti) may serve on the Examining Committee (exception: cotutelles)
- Any adjunct faculty member serving on the committee must hold a PhD

Remote Participation:

No more than one committee member can participate by electronic means (no change). The supervisor cannot participate remotely (at least one co-supervisor must be physically present). The Faculty Associate Dean, Graduate Studies may approve exceptions (more than one) in exceptional circumstances. If the Associate Dean is one of the committee members in question, the exception must be approved by the Associate Provost, Graduate Studies.

When a member is remotely participating, if the connection fails:

- The Chair will determine whether or not the duration of the disruption has had a material impact on the committee member's ability to assess the candidate's defense
- In the case that there is material impact, the vote may be counted on the basis of the report they provided in advance. When there is no such report (because the remote participation was a last minute emergency arrangement), the vote is nullified if the connection is lost.
- The Chair's report must note the lost connection, including the timing and whether the vote was included in the decision

Absent Committee members

- The expectation is that all members of the Exam Committee be present. In the case of an unanticipated, last-minute emergency absence of a committee member, the defence can proceed as long as the absent member is not the supervisor or the external examiner and as long as the following committee members are available to present their votes:
  - Supervisor
  - External examiner
  - Two other members of the committee
- Exceptions may be approved by the Faculty Associate Dean, Graduate Studies

- Should a tie vote arise, the decision should be deferred and referred to the Associate Provost, Graduate Studies. The Associate Provost will consult with the Faculty Associate Deans, Graduate and will make the final determination.
- Eliminated delegates. If a committee member (other than the external examiner or supervisor) is unable to attend the defence:
    - Determine if the member can attend by electronic means (teleconference or videoconference)
    - If this is not possible, then a new committee member should be found by the supervisor.
- In the case of a last-minute absence of one or more examining committee members:
    - As long as the supervisor (or at least one co-supervisor), the external examiner, and two other members are available to present their vote (in person or via remote participation, according to the rules of remote participation), the exam can proceed as long as the candidate and supervisor agree to go ahead
- If a co-supervisor is unable to participate in the defence, the other co-supervisor(s) can act in their place (represent their fractional vote).
- When co-supervision is required because one member does not have ADDS status or is adjunct, etc, the UW member with ADDS status must be the one participating, unless approved by the Faculty Associate Dean, Graduate Studies.

Selection of Chairs

- Regulations updated to indicate that all Chairs must have ADDS status

Communication among Examiners prior to the defence

If members of the Examining Committee have major criticisms or concerns about the thesis, these can be submitted in writing to the Associate Dean one week prior to the exam. The Associate Dean will share with the supervisor and student. Alternatively, criticisms can be discussed at the exam. Examiners should not discuss criticisms with other examiners prior to the defence.

Guidelines for Thesis Examination without Public Disclosure

- Updated wording to include circumstances other than when the research output has marketable or commercial value (i.e. other reasons a student may wish to protect their intellectual property)
- The same Confidential Information Thesis Non-Disclosure Agreement Form may be used by both Examining Committtee Members and members of the university who wish to view the thesis in these circumstances.

Decision of Exam Committee

- The decision of the exam committee is reached by majority vote.
- Student should never fail first defence – deferral instead. Failure is an option only at second defence.
- Class A – MUST be completed within one month or withdraw (unless approved by AD). One month should be enough time to complete minor editorial or typographic corrections. If more time is required, the committee should consider if perhaps a Class B decision is merited.
- Class B – any extension of time limits to complete changes (four months) must be formally requested and approved by the Graduate Officer and Faculty Associate Dean
- Class C – add regulation that reexamination must occur within a year of the date of the first defence. A new external examiner can be used in some circumstances
- Failure to meet any of these may result in withdrawal.

Weight of external examiner's vote

- Normally, the decision of the examining committee is made by majority vote. In the case that there is disagreement between the External Examiner and the majority of exam committee members on the outcome of the exam, the decision shall be deferred and referred to the Associate Provost, Graduate Studies. The APGS will consult with the Associate Deans and will make the final determination

Grievance

- A grievance should be addressed by the APGS rather than the Faculty Appeals Committee. The Associate Provost, Graduate Studies will form a committee of Associate Deans, Graduate. This committee will determine the appropriate course of action, which may involve a re-examination of the thesis or the denial of the student's request.

Display period

- Departments may now choose to request electronic rather than paper copies from candidates. The electronic copies can be provided on request by the Admin Coordinator in the form of a locked PDF.

Bound Copies

- Eliminated the option for departments to require that students provide bound paper copies of the final thesis. It is unfair for students to bear this cost, and electronic theses are readily available in individual department collections within UWSpace (e.g. https://uwspace.uwaterloo.ca/handle/10012/9922/browse?value=Thesis+or+Dissertation&type=type)

Include exam committee member names in thesis.

- Include note that may not all endorse the thesis; decision made by majority vote.

Proposed Changes to Graduate Studies Academic Calendar (GSAC)

Minimum Requirements for the Master's Degree (relevant sections)
Current content: http://gradcalendar.uwaterloo.ca/page/GSO-Minimum-Degree-Requirements

Master's Degree With Thesis ~~– Examination and Acceptance~~
In the case of a Master's program involving a thesis, one copy of the thesis is required for each member of the Reading Committee which consists of at least two faculty members in addition to the supervisor appointed in the student's department or co-supervisors. The supervisor and one member are faculty members of the student's department. One copy of the thesis is submitted either to the department or to the Office of the Associate Dean (Graduate Studies) of the Faculty upon being given to the Reading/Examining Committee for acceptance/defence. The thesis should normally be on public display for two weeks.

In departments that do not normally require an oral defence of the Master's thesis the Associate Dean (Graduate Studies) may require such defence if circumstances warrant it or if the department or student requests it.

When an oral defence for a Master's thesis is a requirement and where the protection of intellectual property is sought by the filing of a patent application, the student and supervisor(s) may request a closed thesis examination and/or a restriction on the circulation of the thesis as outlined in the Graduate Thesis Regulations.

When the thesis is accepted by the department and Faculty, and all other requirements for the degree have been met, the student must provide the University with an electronic copy of their approved thesis as a final University degree requirement. Theses must be prepared and submitted as outlined in the Graduate Thesis Regulations.

~~Guidelines for Thesis Examination Without Public Disclosure~~
~~When an oral defence for a Master's thesis is a requirement and where the protection of intellectual property is sought by the filing of a patent application, the student and supervisor(s) may request a closed thesis examination and a restriction on the circulation of the thesis.~~

~~Any request for a closed thesis examination must be forthcoming, at the latest, one week prior to the submission of the thesis to the Faculty Associate Dean for Graduate Studies for the examination committee, by completing a Request to Restrict Circulation of Thesis Form. Theses are withheld by the Graduate Studies Office for a maximum of one year. Requests for extensions must be sent in writing to the Graduate Studies Office writing at least two months before the date of release.~~

~~Committee members will be asked by the University of Waterloo to sign a Confidential Information Thesis Non-Disclosure Agreement Form regarding the contents of the thesis before examining the thesis.~~

~~The requirements for non-disclosure by the committee members as requested by the University of Waterloo and the restriction on the circulation of the thesis will expire after one year from the date of the orgiinal thesis submission date, unless the graduate student and supervisor(s) have obtained the consent of all non-disclosing parties to extend the term of the agreement.~~

~~The complete guidelines and forms are available in the Guidelines For Thesis Examination Without Public Disclosure section of this calendar.~~

~~Thesis Submission~~
~~When the thesis is accepted by the department and Faculty, and all other requirements for the degree have been met, the student must provide the University with an electronic copy of their approved thesis as a final University degree requirement. Theses must be prepared and submitted as outlined in the Graduate Thesis Regulations.~~

~~Degree requirements for bound paper copies of the approved thesis for the department and/or supervisor(s) are regulated by each Faculty. Students must check with their department regarding paper copy requirements and deadlines. Students may choose to have the department and supervisor copies and any personal copies of the approved thesis bound privately or through the services provided by Media.doc at the University of Waterloo. (A Graduate Studies *Thesis Review Form,* approved by the Graduate Studies Office, is required for submission to Media.doc for binding).~~

Minimum Requirements for the PhD Degree (relevant sections)
Current content: http://gradcalendar.uwaterloo.ca/page/GSO-Min-Require-PhD

Completion of PhD Degree Requirements
The requirements for the degree must be completed within the time periods stipulated by the Senate of the University. A maximum of 18.0 terms from an Honours Bachelor's degree or its equivalent, 12.0 terms from a Master's degree or its equivalent, and 15.0 terms from a Master's degree or its equivalent for the PhD in Clinical Psychology. Students must petition the Associate Dean of Graduate Studies to continue their enrolment beyond these limits. Progress of students who have been granted extensions will be reviewed every term. For more information on Time Limits see Academic Regulations - Time Limits.

Students whose work does not measure up to the standards of their program may be required to withdraw from the program. Such students may be readmitted although there will be a limit on the time-span in which readmission may occur.

Candidates must remain continuously enrolled at the University to the end of the term in which they complete the degree requirements. See also Academic Regulations - Continuous Enrolment.

For further information the minimum degree requirements specified by each Faculty should be consulted.

The PhD degree is granted by the University to candidates who have demonstrated both achievement in independent research in a particular field and a broad knowledge of that field.

The first requirement is satisfied when candidates have demonstrated a broad knowledge of their field to the satisfaction of the Faculty, normally by the successful completion of an assigned program of courses and the passing of a comprehensive examination, as determined by the department in which they are enrolled.

The second requirement is satisfied when candidates have presented and defended a thesis embodying the results of their own original research on an approved topic.

Advisory Committee

When a department wishes to appoint a supervisor (at the latest a month after the comprehensive), the departmental Graduate Officer shall consult with the candidate about an Advisory Committee and shall recommend to the Associate Dean (Graduate Studies) of the Faculty the composition of that three to five person Committee. In certain Faculties the Advisory Committee is appointed upon the passing of the comprehensive examination. This Committee must consist of the supervisor(s) and at least one other faculty member from the department. The supervisor must be a regular member of the University faculty with Approved Doctoral Dissertation Supervisor (ADDS) Status; or, when a supervisor has adjunct status, another on-campus professor must serve as co-supervisor. The Associate Dean (Graduate Studies) of the Faculty has the authority to waive the co-supervision requirement on the recommendation of the department / school. Two other faculty members, one of whom may be external to the department or Faculty, may also participate

in this Committee. In any event, the Advisory Committee must have a minimum of the supervisor and two other faculty members or a maximum of two supervisors and three other faculty members.

PhD Thesis Examination

The PhD thesis examination is the culmination of the candidate's research program. It exposes the candidate's work to scholarly criticism by members of the University and gives ~~him or her~~ them the opportunity to defend it.

All PhD candidates must successfully present and defend their thesis according to the procedures outlined in the Graduate Thesis Regulations.

~~When candidates give notice of readiness to submit the thesis, they must deposit a copy of it in the office of the Associate Dean (Graduate Studies) of their Faculty. They should be prepared to defend this thesis within 4 – 6 weeks of depositing it. When they are ready to submit it, the Graduate Studies Committee of the department in which they are enrolled recommends to the Associate Dean (Graduate Studies) of the Faculty a PhD Thesis Examining Committee consisting of five members.~~

~~**PhD Thesis Examining Committee**~~

~~The Examining Committee consists of a minimum of five members: an external examiner, either the supervisor and three other members of the university, or the co-supervisors and two other members of the university. At least one of the non-supervising members must be from the home department, and at least one must be external to the home department (referred to as the internal-external). Normally, University of Waterloo members of the Examining Committee will be drawn from the student's Advisory Committee.~~

~~In some specialized fields, identifying an internal-external who is able to make a meaningful contribution to the examination is problematic. In such circumstances, the requirement that at least one of the University of Waterloo members of the Examining Committee be external to the department may be waived by the Faculty Associate Dean (Graduate Studies). Holding an adjunct or cross appointment in the home department does not preclude serving as an internal-external.~~

~~The external examiner must hold a doctorate and be knowledgeable in the field of the candidate's research. In addition, to ensure fairness and impartiality, the external examiner must be at arm's length from the candidate's thesis, candidate and supervisor(s), and must not be in a potential conflict of interest with regards to the outcome of the thesis examination. There is a conflict of interest when:~~

- ~~A proposed external examiner is, or was in the last six years, from the same university, organization or department, or belongs or belonged, in the last six years, to the same research unit as the supervisor(s) or candidate; or~~
- ~~There is an administrative or family link between the proposed external examiner and the supervisor(s) or candidate (e.g., head of the department, dean of the faculty, etc.); or~~
- ~~A proposed external examiner is an industrial or government representative or professional who is or was in the last six years directly involved in collaborative activities with the supervisor(s) or candidate; or~~
- ~~A proposed external examiner is a former research supervisor or graduate student of the supervisor(s) or candidate; or~~
- ~~A proposed external examiner has collaborated or published with the supervisor(s) or candidate within the past six years; or~~

- A proposed external examiner is a planned future research supervisor or employer of the candidate or plans to collaborate or publish with the candidate in the foreseeable future; or
- The proposed external examiner is uncomfortable with reviewing the proposal due to previous conflicts or any other reason (e.g., past student or supervisor, even if more than six years ago, or personal conflict); or
- The Faculty Associate Dean, Graduate Studies, has reason to believe that a specific proposed external examiner should not be involved in the review.
- In cases where the candidate's thesis research has involved collaborations with other local members of the examining committee beyond the supervisor(s) within the past six years, the external examiner must be free of potential conflict of interest under the guidelines above with those members as well.

Recommendation of an individual to serve as external examiner is made by the supervisor(s) or graduate officer/associate chair, graduate studies, as appropriate. Recommendations to the Faculty Associate Dean (Graduate Studies) concerning external examiners must be accompanied by a curriculum vitae covering the past six years and a conflict-of-interest statement, as well as full disclosure of any past affiliations involving the candidate and supervisor(s) to assist in confirming an arm's-length relationship. The Faculty Associate Dean is responsible for determining whether the external examiner proposed is at arm's length and the contact for the external examiner up to the time of the defence.

Thesis Submission for Examination

Six copies of the thesis are submitted to the Office of the Associate Dean (Graduate Studies) of the Faculty. Five are distributed to members of the PhD Thesis Examining Committee and the sixth is held in the Faculty Graduate Office where it is available for at least four weeks, for examination by any member of the University. The Daily Bulletin announces the submission of the thesis and the date and location of its defence. Major criticisms of the thesis by members of the University other than those on the PhD Thesis Examining Committee must be submitted in writing to the Associate Dean (Graduate Studies) of the Faculty concerned no later than one week before the thesis defence and conveyed to the Chair of the Committee.

Guidelines for Thesis Examination without Public Disclosure

When seeking the protection of intellectual property by filing a patent application, the student and supervisor(s) may request a closed thesis examination and a restriction on the circulation of the thesis.

Any request for a closed thesis examination must be forthcoming, at the latest, one week prior to the submission of the thesis to the Faculty Associate Dean for Graduate Studies for the examination committee, by completing a Request to Restrict Circulation of Thesis Form. Theses are withheld by the Graduate Studies Office for a maximum of one year. Requests for extensions must be sent in writing to the Graduate Studies Office writing at least two months before the date of release.

Committee members, including the external examiner will be asked by the University of Waterloo to sign a Confidential Information Thesis Non-Disclosure Agreement Form regarding the contents of the thesis before examining the thesis. The requirements for non-disclosure by the committee members as requested by the University of Waterloo and the restriction on the circulation of the thesis will expire after one year from the date of the original thesis submission date, unless the graduate student and supervisor(s) have obtained the consent of all non-disclosing parties to extend the term of the agreement.

The complete guidelines and forms are available in the Guidelines For Thesis Examination Without Public Disclosure section of this calendar.

External Examiner Report

The external examiner must provide the Associate Dean (Graduate Studies) of the Faculty with a written assessment of the thesis at least one week before the scheduled defence. Whether the assessment is positive or negative, the Associate Dean will copy the report of the external examiner to the supervisor, who will inform the candidate of any major criticisms of the thesis, so that the student can respond to these, but the evaluation must not be shown to the candidate. The candidate may be shown the evaluation after the defence, with the permission of the external examiner. Should the assessment be negative, the Associate Dean may wish to advise that the candidate withdraw the dissertation and defend with the same external examiner at a later date. (A candidate may withdraw the thesis only once.) Despite a negative assessment, a candidate has the right to proceed to a defence.

Thesis Defence

The thesis defence is an oral examination of the student by the student's PhD Thesis Examining Committee, chaired by an impartial faculty member with ADDs status from outside the candidate's department. Any member of the university is free to attend. Candidates first present their thesis orally with whatever aids are required to make an effective presentation. This presentation should be limited to no more than thirty minutes with the focus being on the main contributions and conclusions of the work. They are then questioned on the thesis. The chair will give priority to questions from members of the PhD Thesis Examining Committee and any member of the university who has submitted written questions in advance.

Any member of the PhD Thesis Examining Committee who cannot attend the defence (or who is to participate through electronic media; see below) must submit a written report on the thesis to the Faculty Associate Dean (Graduate Studies) at least one week before the defence. The Associate Dean (Graduate Studies) will then appoint a delegate who cannot be an existing member of the PhD Thesis Examining Committee. The delegate will receive the report and serve on behalf of the absent member. No more than two members may be absent from the defence and the supervisor must attend the defence.

Participation through electronic media will be limited to one member of the PhD Thesis Examining Committee. Any member of the PhD Thesis Examining Committee, including the external examiner, participating by telephone/electronic connection must make allowances for the possibility of a failed connection by submitting a written report to the Associate Dean (Graduate Studies) of the Faculty at least one week before the examination clearly identifying one of the four categories pertaining to acceptability of the thesis. If the connection fails during or before the examination, the report will be read by the Chair and the right of the member participating through telephone/electronic connection to vote will be nullified.

The oral examination should be structured in such a way that a period is set aside at the end of the examination for questions from non-Committee members. If the chair of the PhD Thesis Examining Committee is unsure of the appropriateness or relevance of a question, he or she should ask the members of the Committee whether any of them wishes to have the candidate answer the question, thus in effect making the question posed one which would be authorized by a member of the Committee.

It is the responsibility of the chair of the PhD Thesis Examining Committee to ensure that all of the questions of an absentee member are adequately addressed. In addition, the Associate Dean (Graduate Studies) of the Faculty concerned must provide copies of all questions from absentee members of the Committee to the other members of the Committee in advance of the defence.

In the event exceptional circumstances necessitate one or more of the above requirements to be waived, doing so is at the approval of the Associate Provost, Graduate Studies.

~~The decision of the PhD Thesis Examining Committee is based both on the thesis and on the candidate's ability to defend it.~~

~~Four decisions are open to the PhD Thesis Examining Committee:~~

~~A. Accepted~~

~~Thesis may require typographical and/or minor editorial corrections to be made to the satisfaction of the supervisor normally within one month.~~

~~B. Accepted Conditionally~~

~~Thesis is acceptable but requires content changes that do not require re-examination. The PhD Thesis Examining Committee's report must include a brief outline of the nature of the changes required and must indicate the time by which the changes are to be completed. In any case, changes must be completed to the Committee's satisfaction within four months of the date of the defence or the student must withdraw from the program.~~

~~C. Decision Deferred~~

~~Thesis requires modifications of a substantial nature, the need for which makes the acceptability of the thesis questionable. The PhD Thesis Examining Committee's report must contain a brief outline of the modifications expected and should indicate the time by which the changes are to be completed. The revised thesis must be re-submitted to the Associate Dean (Graduate Studies) of the Faculty for re-examination. Normally, the re-examination will follow the same procedures as for the initial submission except that the display period may be reduced or eliminated at the discretion of the Associate Dean. Normally, the same PhD Thesis Examining Committee will serve. A decision to defer is open only once for each candidate.~~

~~D. Rejected~~

~~Thesis is rejected. The PhD Thesis Examining Committee shall report the reasons for rejection. A student whose doctoral thesis has been rejected will be required to withdraw from the PhD program. The departmental Graduate Officer/Associate Chair will confirm in writing the decision of the PhD Thesis Examining Committee to the student and the requirement to withdraw within one week of the date of the examination.~~

~~If the PhD Thesis Examining Committee is not prepared to reach a decision concerning the thesis at the time of the thesis defence, it is the responsibility of the Chair to determine what additional information is required by the Committee to reach a decision, to arrange to obtain this information for the Committee, and to call another meeting of the Committee as soon as the required information is in his or her hands. It is also the responsibility of the Chair to inform the candidate that the decision is pending. Candidates should not normally be required to present themselves before the PhD Thesis Examining Committee at the second meeting.~~

~~If all but one member of the Committee agree on a decision, the decision shall be that of the majority, except when the one dissenting vote is that of the External Examiner and the External Examiner is present. In this case, the occurrence must be reported to the Associate Dean (Graduate Studies) of the Faculty concerned who will inform the Associate Provost, Graduate Studies. The Associate Provost will seek the advice of the Associate Deans (Graduate Studies) and come to a decision, which will be reported back to the PhD candidate and the Chair of the PhD Thesis Examining Committee. In very exceptional cases, the Associate Provost, Graduate Studies may wish to take the matter before the Senate Graduate and Research Council, which is specifically given authority to make such decisions.~~

~~If two or more dissenting votes are recorded, the case must be referred to the Associate Dean (Graduate Studies) of the Faculty who will ascertain what is needed to reach a consensus.~~

~~Appeals~~

~~A request for re-examination of a graduate thesis is a special case of an academic grievance. Students who decide to appeal a thesis decision should contact their Faculty Associate Dean (Graduate Studies), in the first instance, but they may also appeal formally to the Faculty Committee on Student Appeals (FCSA). The Faculty Committee on Student Appeals (FCSA) tribunal may order a re-examination of the thesis, or the tribunal may deny the student's appeal. (Reference copies of the Student Grievance Policy (Policy #70) are available from the Associate Deans, Graduate Studies Office, or University Secretariat).~~

Thesis Submission

When the thesis is accepted by the department and Faculty, and all other requirements for the degree have been met, the student must provide the University with an electronic copy of their approved thesis as a final University degree requirement. Theses must be prepared and submitted as outlined in the Graduate Thesis Regulations.

~~Degree requirements for bound paper copies of the approved thesis for the department and/or supervisor(s) are regulated by each Faculty. Students must check with their department regarding paper copy requirements and deadlines. Students may choose to have the department and supervisor copies and any personal copies of the approved thesis bound privately or through the services provided by Media.doc at the University of Waterloo. (A Graduate Studies *Thesis Review Form,* approved by the Graduate Studies Office, is required for submission to Media.doc for binding).~~

Thesis Submission

Current content: http://gradcalendar.uwaterloo.ca/page/GSO-Thesis-Submission

Submission and Binding of Graduate Student Theses

Theses must be prepared and submitted as outlined in the Graduate Thesis Regulations.

When all other requirements for the degree have been met including the acceptance of the thesis by the department/Faculty the student must provide to the University an electronic copy of their approved thesis as a final University degree requirement.

Degree requirements for paper bound copies of the approved thesis for the department and/or supervisor(s) are regulated by each department/faculty. Students must check with their department/Faculty regarding binding requirements and deadlines. Students may choose to have the department and supervisor copies as well as any personal copies of the approved thesis bound privately or through the services provided by Media.doc at the University of Waterloo.

Theses approved by the Graduate Studies Office will be indexed by the Library and Library and Archives Canada, and will be accessible electronically.

Deadlines for the submission of the thesis to the GSO and to Media.doc for Spring and Fall Convocation are listed in the Graduate Studies Calendar.

Theses Written in French

L'université de Waterloo offre aux étudiants la possibilité de rédiger les théses de doctorat et de maîtrise en français. Ceci n'est pas un droit de l'étudiant ou de l'étudiante. Mise à part la condition évidente de la compétence linguistique du candidat ou de la candidate par rapport au domaine étudié, il est nécessaire de satisfaire à d'autres exigences.

Lorsqu'un candidat ou une candidate demande à son département de rédiger sa thése en français dans le cadre de ce réglement, il ou elle doit soumettre une déclaration d'appui de la part de son directeur ou sa directrice de thése, des membres éventuels du comité de supervision et d'évaluation ainsi que leur accord d'appartenir à ce comité.

Tous les membres du comité doivent posséder un niveau de compétence linguistique tel qu'il leur permettra d'evaluer avec pertinence, à la fois le contenu et la présentation du matériel examiné.

Thesis Examination Without Public Disclosure/Request to Restrict Circulation of Thesis

Current content: http://gradcalendar.uwaterloo.ca/page/GSO-Thesis-Examination-Without-Public-Disclosure

~~When an oral defence for a Master's or Doctoral thesis is a requirement and where the protection of intellectual property is sought by the filing of a patent application, the student and supervisor(s) may request a closed thesis examination and a restriction on the circulation of the thesis.~~

~~Any request for a closed thesis examination must be forthcoming, at the latest, one week prior to the submission of the thesis to the Faculty Associate Dean for Graduate Studies for the examination committee, by completing a Request to Restrict Circulation of Thesis Form.~~

~~Theses are withheld by the Graduate Studies Office for a maximum of one year. Requests for extensions must be sent in writing to the Graduate Studies Office at least two months before the date of release.~~

~~Committee members will be asked by the University of Waterloo to sign a Confidential Information Thesis Non-Disclosure Agreement Form regarding the contents of the thesis before examining the thesis.~~

~~The requirements for non-disclosure by the committee members as requested by the University of Waterloo and the restriction on the circulation of the thesis will expire after one year from the date of the original thesis submission date, unless the graduate student and supervisor(s) have obtained the consent of all non-disclosing parties to extend the term of the agreement.~~

~~The complete guidelines and forms are available in the Guidelines For Thesis Examination Without Public Disclosure section of the this calendar.~~

Guidelines For Thesis Examination Without Public Disclosure

Current content: http://gradcalendar.uwaterloo.ca/page/GSO-Guidelines-For-Thesis-Examination

~~Central to the University of Waterloo's mission is the creation and dissemination of knowledge. As new scholars, graduate students are expected to disclose and defend publicly their research results to ensure review from their peers and acceptance and inclusion of their findings into open scholarly discourse. At times, the scholarly contributions of graduate students contain research results of commercial or marketable value. It is normal in these cases for protection of the intellectual property to be sought, which precludes public disclosure prior to the filing of a patent application. It is expected in the vast majority of these cases that protection of the intellectual property will be obtained in a timely manner, well before the preparation and examination of the student's thesis. In those rare cases where such protection is not obtained in advance, it may be necessary to restrict the disclosure of thesis results from the public arena. The guidelines below should be applied to these rare cases – failure to follow these guidelines in their entirety will result in the normal practice of public disclosure and circulation of the thesis~~

1. ~~The graduate student and thesis advisor(s) must begin the process to restrict disclosure of the thesis results as early as possible to ensure timely completion of the thesis examination. Normally, this recommendation to restrict disclosure will be forthcoming from the supervisor and, where appropriate, the advisory committee to the Faculty Associate Dean of Graduate Studies, as soon as it is apparent that intellectual property of some value has been developed and the graduate student and thesis advisor(s) need to seek patent protection before it is disclosed in a public arena. In cases where private companies or other supporting organizations are involved in the research through a research contract or agreement, this request may be required by its terms.~~

2. ~~Any request for a closed thesis examination must be forthcoming, at the latest, one week prior to the submission of the thesis to the Faculty Associate Dean for Graduate Studies for the examination committee, by completing a Request to Restrict Circulation of Thesis Form. It should be made to the Associate Provost, Graduate Studies and must have the recommendation of the Faculty Associate Dean for Graduate Studies. This ensures that committee members are aware of the requirements for non-disclosure before examination of the thesis, and restricts any public display period to a form appropriate for these circumstances.~~

3. ~~Committee members, including the external examiner in the case of doctoral theses, will be asked by the University of Waterloo to sign a Confidential Information Thesis Non-Disclosure Agreement Form regarding the contents of the thesis before examining the thesis. Potential committee members have the right to refuse to sign the agreement, which will be taken as a resignation from the committee. Alternate members will be asked then to participate in their place. Any member who refuses to sign the University agreement will not be permitted to view the thesis and/or attend the defence.~~

4. ~~The consent of the External Examiner to sign the non-disclosure agreement with the University of Waterloo must be obtained before the doctoral thesis is sent to her/him for examination. All parties should recognize that this will require a longer period between submission and defence of the doctoral thesis, probably on the order of an additional two weeks, unless this consent is obtained in advance of the thesis submission.~~

5. ~~The thesis will be displayed but with the requirement that a non-disclosure agreement be signed by anyone wishing to review the thesis. In these instances, it is the graduate student and/or thesis advisor(s), or sponsoring organization(s) of a research contract or agreement, and specifically not the University of Waterloo, 1) to whom an agreement of non-disclosure is being made, and 2) whose responsibility it is to prepare and manage these agreements. The non-disclosure agreement attached as Appendix 2 may be used as a template for such purposes.~~

6. ~~The examination, including any oral presentation associated with the examination such as a doctoral thesis defence, will be open only to members of the University community who agree to sign a non-disclosure agreement under the same terms as Section 5 (above).~~

7. ~~The requirements for non-disclosure by the committee members as requested by the University of Waterloo will expire after one year from the date of the original thesis submission date, unless the graduate student and/or supervisor(s) have obtained the consent of all non-disclosing parties to extend the term of the agreement beyond that time period. It is anticipated that any intellectual property protection will at the very least be filed within that one-year time frame, or the property no longer holds the commercial value originally assumed. Any non-disclosure agreements involving other individuals will be subject to the terms of expiry detailed in those agreements. For the purposes of this document, intellectual property protection will be taken to mean a patent filed with the United States Patent and Trademark Office.~~

University of Waterloo PhD Thesis Regulations

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PhD Thesis Examination

The PhD thesis examination is the culmination of the candidate's research program. The exam is intended to allow the candidate to demonstrate their mastery and expertise in the chosen area of study through a presentation of their research. The exam also presents an opportunity for the candidate's work to be subject to scholarly criticism by members of the academic community. Through the process of defending the thesis, the candidate further demonstrates their capacity to engage meaningfully in scholarly discourse in their chosen area.

Based on an evaluation of the written thesis and the candidate's performance in the thesis examination, the examining committee will render a decision as to whether the candidate's work has satisfied the requirements for a PhD.

Prior to Defence

Prior to submitting the thesis, it is recommended that the candidate meet with their supervisor and/or advisory committee (if applicable). The candidate should seek endorsement that the research is of sufficient quality to proceed to defence and that the candidate is able to meet the requirements of the oral defence. Although a negative assessment does not prohibit the candidate from proceeding to defence, this should occur only in rare cases and is not recommended.

The Graduate Officer of the department in which the candidate is enrolled will recommend to the Faculty Associate Dean, Graduate Studies a PhD Thesis Examining Committee for approval. Sufficient information should be supplied in order to facilitate the Associate Dean's decision, including notes on adjunct appointments and declarations of any conflicts of interest.
A date and location for the examination will be set according to availability of Examining Committee members. The candidate should be prepared to defend the thesis within 4 - 6 weeks of depositing it in the Faculty Graduate Studies Office (see Display Period below).

PhD Thesis Examining Committee

The Examining Committee consists of a minimum of five voting members:

- External Examiner
- Supervisor or Co-supervisors
- Internal Member (from the home department)
- Internal-external Member (external to the home department)
- Other Member(s)

The PhD Thesis Examination is chaired by an impartial faculty member with ADDS status from outside the candidate's department. The Chair is appointed by the Graduate Studies Office. The Chair is responsible for proper conduct of the examination and does not vote.

External Examiner

The external examiner must hold a doctorate and be knowledgeable in the field of the candidate's research. In addition, to ensure fairness and impartiality, the external examiner must be at arm's length from the candidate's thesis, candidate and supervisor(s), and must not be in a potential conflict of interest with regards to the outcome of the thesis examination. There is a conflict of interest when:

- A proposed external examiner is, or was in the last six years, from the same university, organization or department, or belongs or belonged, in the last six years, to the same research unit as the supervisor(s) or candidate; or
- There is an administrative or family link between the proposed external examiner and the supervisor(s) or candidate (e.g., head of the department, Dean of the Faculty, etc.); or
- A proposed external examiner is an industrial or government representative or professional who is or was in the last six years directly involved in collaborative activities with the supervisor(s) or candidate; or
- A proposed external examiner is a former research supervisor or graduate student of the supervisor(s) or candidate; or
- A proposed external examiner has collaborated or published with the supervisor(s) or candidate within the past six years; or
- A proposed external examiner is a planned future research supervisor or employer of the candidate or plans to collaborate or publish with the candidate in the foreseeable future; or
- The proposed external examiner is uncomfortable with reviewing the proposal due to previous conflicts or any other reason (e.g., past student or supervisor, even if more than six years ago, or personal conflict); or
- The Faculty Associate Dean, Graduate Studies, has reason to believe that a specific proposed external examiner should not be involved in the review.

In cases where the candidate's thesis research has involved collaborations with other local members of the examining committee beyond the supervisor(s) within the past six years, the external examiner must be free of potential conflict of interest under the guidelines above with those members as well.

Recommendation of an individual to serve as external examiner is made by the supervisor(s) or Graduate Officer/Associate Chair, Graduate Studies, as appropriate, to the Faculty, Associate Dean, Graduate Studies for approval. The Graduate Officer/Associate Chair is responsible for determining that the requirements for arm's length have been met, and the recommendation must be accompanied by a curriculum vitae covering the past six years and a conflict of interest statement, as well as full disclosure of any past affiliations involving the candidate and supervisor(s) to assist in confirming an arm's-length relationship.

The Associate Dean is the contact for the external examiner regarding the thesis and its defence. At no point should the candidate be in communication with the external examiner prior to the defence. The Department may communicate with the external only for the purposes of other arrangements not related to the defence (e.g. arrangements for a research talk).

The external examiner must provide the Faculty Associate Dean, Graduate Studies with a written assessment of the thesis at least one week before the scheduled defence. Whether the assessment is positive or negative, the Associate Dean will copy the report of the external examiner only to the supervisor, who will inform the candidate of any major criticisms of the thesis, so that the student can respond to these, but the evaluation must not be shown to the candidate. The candidate may be shown the evaluation after the defence, with the permission of the external examiner. Should the assessment be negative, the Associate Dean may wish to advise

that the candidate withdraw the dissertation and defend with the same external examiner at a later date. A candidate may withdraw the thesis only once. Despite a negative assessment, a candidate has the right to proceed to a defence.

Supervisor or Co-supervisors

The student's supervisor serves on the Examining Committee.

In the case that there is more than one supervisor, all co-supervisors are expected to attend the defence and the supervisor vote is divided fractionally among the co-supervisors such that each may vote independently but the total supervisor vote (one) remains unchanged.

Only with the approval of the Faculty Associate Dean, Graduate Studies may a co-supervisor be absent from the exam. In that case, the other co-supervisor, who must have ADDS status, will represent them.

Internal Member

The internal member is normally drawn from the student's Advisory Committee and is from the student's home department.

Internal-External Member

The internal-external should have suitable knowledge of the subject matter of the dissertation and is normally external to the student's home department. The internal-external member ensures that the thesis meets university standards of quality and helps to assess the performance of the candidate at the defence.

In rare cases, identifying an internal-external who is able to make a meaningful contribution to the examination is problematic. In such circumstances, the requirement that the Internal-External be external to the department may be waived by the Faculty Associate Dean, Graduate Studies based on a rationale provided by the Graduate Officer. Holding an adjunct or cross appointment in the student's home department does not preclude serving as an internal-external.

Member

Normally, this committee member is drawn from the student's Advisory Committee. The member normally holds a tenured or tenure track position at the University of Waterloo or has another type of ongoing faculty appointment.

Adjunct faculty on Examining Committees

In some cases it may be beneficial for a student to have access to the expertise of a particular adjunct faculty member. The Faculty Associate Dean, Graduate Studies may give permission for an adjunct faculty member to serve on the Examining Committee as the Internal-External or Member, provided that the Adjunct faculty members holds a PhD. No more than one adjunct faculty member (including Professors Emeriti) may serve on the Examining Committee, with the exception of cotutelle student defences, which may involve the participation of more than one adjunct faculty member.

Display Period

When a candidate is ready to proceed to defence, they must deposit the thesis to the Faculty Graduate Office. Faculties may request either paper or electronic copies.

Copies are distributed to members of the PhD Thesis Examining Committee and a copy is held in the Faculty Graduate Office for at least four weeks, where it may be requested by any member of the University for examination. The Daily Bulletin announces the submission of the thesis and the date and location of its defence.

If a candidate is requesting a closed examination (see Guidelines for Thesis Examination without Public Disclosure below), the thesis will be displayed but with the requirement that a non-disclosure agreement be signed by anyone wishing to review the thesis.

Major criticisms of the thesis by members of the University must be submitted in writing to the Faculty Associate Dean, Graduate Studies no later than one week before the thesis defence. The Faculty Associate Dean will forward these concerns to the supervisor(s) and/or address these concerns and/or convey them to the Chair of the Committee, if necessary.

Members of the PhD Thesis Examining Committee who have major criticisms of the thesis are encouraged to submit written comments to the Faculty Associate Dean, Graduate Studies no later than one week before the thesis defence. The Faculty Associate Dean will share these concerns with the supervisor and candidate. If written comments are not submitted in advance, criticisms can be discussed at the defence but should not be discussed with other members of the Examining Committee prior to the defence.

Guidelines for Thesis Examination without Public Disclosure

Central to the University of Waterloo's mission is the creation and dissemination of knowledge. As new scholars, graduate students are expected to disclose and publicly defend their research results to ensure review from their peers and acceptance and inclusion of their findings in open scholarly discourse.

At times, graduate students may wish to protect their research results, particularly when they contain material of commercial or marketable value, or when restricted by a publication agreement. It is expected that in the vast majority of these cases that protection of the intellectual property will be obtained in a timely manner, well before the preparation and examination of the student's thesis (for example in the form of filing a patent application). In those rare cases where such protection is not obtained in advance, it may be necessary to restrict the disclosure of thesis results from the public arena. In cases where private companies or other supporting organizations are involved in the research through a research contract or agreement, this request may be required by the terms of that agreement. In these cases:

1. The graduate student and supervisor(s) must begin the process to restrict disclosure of the thesis results as early as possible to ensure timely completion of the thesis examination. Normally, this recommendation to restrict disclosure will be forthcoming from the supervisor and, where appropriate, the Advisory Committee, to the Faculty Associate Dean, Graduate Studies.
2. Any request for a closed thesis examination must be forthcoming, at the latest, one week prior to the submission of the thesis to the Faculty Associate Dean, Graduate Studies by completing a Request for a Closed Thesis Examination Form. This ensures that committee members are aware of the requirements for non-disclosure before examination of the thesis.

3. Examining Committee members, including the external examiner, will be asked by the University of Waterloo to sign a Confidential Information Thesis Non-Disclosure Agreement Form regarding the contents of the thesis before examining the thesis. Potential committee members have the right to refuse to sign the agreement; however this will result in the requirement to resign from the committee. Any member who refuses to sign the agreement will not be permitted to view the thesis and/or attend the defence.
4. All parties should recognize that the time required to secure this agreement from all Examining Committee members may result in a longer period between submission and defence of the thesis, unless this consent is obtained in advance of the thesis submission.
5. The thesis will be displayed but with the requirement that a Confidential Information Thesis Non-Disclosure Agreement Form be signed by anyone wishing to review the thesis.
6. The examination, including any oral presentation associated with the examination, will be open only to members of the University community who agree to sign a non-disclosure agreement under these terms. It is the responsibility of the graduate student and/or thesis advisor(s) to prepare and manage these agreements.
7. The requirements for non-disclosure will expire once the thesis is published in UWSpace. In most cases, student will request a one year restriction on the circulation of the thesis in UWSpace. Any extension to that time period must be approved by the Associate Provost, Graduate Studies.

Failure to follow these guidelines in their entirety will result in the normal practice of public disclosure and circulation of the thesis.

Theses Written in French

L'université de Waterloo offre aux étudiants la possibilité de rédiger les théses de doctorat et de maîtrise en français. Ceci n'est pas un droit de l'étudiant ou de l'étudiante. Mise à part la condition évidente de la compétence linguistique du candidat ou de la candidate par rapport au domaine étudié, il est nécessaire de satisfaire à d'autres exigences.

Lorsqu'un candidat ou une candidate demande à son département de rédiger sa thése en français dans le cadre de ce réglement, il ou elle doit soumettre une déclaration d'appui de la part de son directeur ou sa directrice de thése, des membres éventuels du comité de supervision et d'évaluation ainsi que leur accord d'appartenir à ce comité.

Tous les membres du comité doivent posséder un niveau de compétence linguistique tel qu'il leur permettra d'evaluer avec pertinence, à la fois le contenu et la présentation du matériel examiné.

Thesis Defence

Procedural Guidelines

The thesis defence is an oral examination of the student by the student's PhD Thesis Examining Committee, chaired by an impartial faculty member with ADDs status from outside the candidate's department. Any member of the university may attend.

The Chair is responsible for the proper conduct of the examination. Candidates first present their thesis orally with whatever aids are required to make an effective presentation. This presentation

should be limited to no more than thirty minutes with the focus being on the main contributions and conclusions of the work.

The presentation is followed by questioning. The Chair will give priority to questions from members of the PhD Thesis Examining Committee and any member of the university who has submitted written questions in advance. The oral examination should be structured in such a way that a period is set aside at the end of the examination for questions from non-Committee members. If the chair of the PhD Thesis Examining Committee is unsure of the appropriateness or relevance of a question, they should ask the members of the Committee whether any of them wishes to have the candidate answer the question, thus in effect making the question posed one which would be authorized by a member of the Committee.

The Chair, with agreement of the Examining Committee, will decide when to conclude the questioning. The candidate and audience will be asked to leave the room and the Examining Committee will deliberate in a closed session. The Graduate Officer, Departmental Chair, Faculty Associate Dean, Graduate Studies and Associate Provost, Graduate Studies may attend the closed session. Once a decision is made, the candidate is invited back into the room and informed by the Chair of the Committee's decision. The Chair will provide a report to the Associate Provost, Graduate Studies on the conduct of the examination, any issues or problems that arose, and the decision of the Examining Committee.

Recording of the thesis defence is not allowed, nor is the use of cell phones, cameras or any other recording devices unless used for the purposes of the examination presentation.

Absent Committee Members

It is expected that all members of the PhD Examining Committee attend the defence. If a committee member is unable to attend in person, that member may participate remotely. If the member (other than the supervisor, who cannot be replaced) cannot participate remotely, then a new committee member should be found.

In the case of an unanticipated, last-minute emergency absence of a committee member, the defence can proceed subject to the agreement of the candidate and the supervisor(s) as long as the following committee members are available (in person or through electronic media) to present their votes:

- Supervisor
- External Examiner
- Two other members of the committee

Any exceptions to this regulation must be approved by the Faculty Associate Dean, Graduate Studies.

Participation Through Electronic Media (Remote Participation)

Participation through electronic media (teleconference, videoconference) is limited to one member of the PhD Thesis Examining Committee. Only in exceptional circumstances may the remote participant be the supervisor. In exceptional circumstances, additional members may be allowed to participate remotely with approval of the Faculty Associate Dean, Graduate Studies. If the Associate Dean is a member of the Examining Committee, a decision to allow more than one member to participate remotely must be made by the Associate Provost, Graduate Studies. Candidates may not participate remotely and must attend the defence in person.

Any member of the PhD Thesis Examining Committee, including the external examiner, participating by electronic media must make allowances for the possibility of a failed connection.

When remote participation is planned in advance, a written report must be submitted to the Faculty Associate Dean, Graduate Studies at least one week before the examination clearly identifying one of the four categories pertaining to acceptability of the written thesis document.

In the event that remote connection is lost, the Chair will determine whether or not the duration of the disruption has had a material impact on the committee member's ability to assess the candidate's defence. If there has not been a material impact, and the connection has been reestablished, then the examiner may cast their vote as if the loss of communication had not occurred. If there has been a material impact, and in the case that remote participation was planned and a report was submitted in advance, then the report will be read by the Chair and the vote of the member participating through electronic media, as indicated in the report, will be counted . When there is no such report, the vote may be nullified. The Chair's report must note the lost connection, including the timing and whether or not the vote was included in the decision.

If the connection fails during or before the examination, the report will be read by the Chair and the vote of the member participating through electronic media will be counted.

Decision

The decision of the PhD Thesis Examining Committee is based both on the thesis and on the candidate's ability to defend it.

The decision of the Examining Committee is made by majority vote. Should the external examiner's vote differ from that of the majority, or if there is a tie vote, the decision shall be deferred and referred to the Associate Provost, Graduate Studies. The Associate Provost will consult with the Faculty Associate Deans, Graduate and will make the final determination

The following decisions are open to the PhD Thesis Examining Committee:

A. Accepted

The thesis and the oral defence have been completed to the satisfaction of the examining committee. The thesis may require typographical and/or minor editorial corrections to be made to the satisfaction of the supervisor and submitted and approved in UWSpace within one month of the date of the defence. If more time is required to make these corrections, the Committee should consider whether a Category B decision is merited. If the thesis is not submitted within this timeline, the student will be withdrawn from the program.

B. Accepted Conditionally

The oral defence has been completed to the satisfaction of the examining committee. The thesis is acceptable but requires content changes which are minor enough that re-examination is not required. The PhD Thesis Examining Committee's report must include a brief outline of the nature of the changes required and must indicate the time by which the changes are to be completed. Changes must be completed to the Committee's satisfaction and submitted and approved in UWSpace within four months of the date of the defence or the student will be withdrawn from the program. At least two members of the Committee must confirm that required changes have been made.

Any extension to the time limits for A or B must be requested in writing and approved by the Graduate Officer and Faculty Associate Dean, Graduate Studies.

C. Reexamination

Re-examination is required in either of the following situations:

- The oral defence is not to the satisfaction of the Examining Committee. The PhD thesis examination requires that the candidate demonstrates their mastery and expertise and engages meaningfully in scholarly discourse in their chosen area. If the candidate fails to satisfy these requirements, the Examining Committee may require reexamination. The PhD Thesis Examining Committee's report must contain a recommended set of activities that aims to improve the candidate's abilities to present their research and respond to inquiries related to their studies.
- The written thesis requires modifications of a substantial nature, the need for which makes the acceptability of the thesis questionable. The PhD Thesis Examining Committee's report must contain an outline of the modifications expected and indicate the time by which the changes are to be completed. In this case, the revised thesis must be re-submitted to the Faculty Graduate Office for re-examination.

Reexamination must occur within one year of the date of the first defence. Normally, reexamination will follow the same procedures as for the initial submission except that the display period may be reduced or eliminated at the discretion of the Associate Dean. Normally, the same PhD Thesis Examining Committee will serve, with the exception that in some circumstances, a new External Examiner can be found. A decision to reexamine is open only once for each candidate.

D. Failed

If after reexamination the candidate does not achieve Category A or B, then the student will be withdrawn from the program. The PhD Thesis Examining Committee shall report the reasons for rejection to the Faculty Associate Dean, Graduate Studies, who will confirm the decision in writing to the student within one week of the date of the examination, as well as the requirement to withdraw.

Deferral of Decision

If the PhD Thesis Examining Committee is not prepared to reach a decision concerning the thesis at the time of the thesis defence, it is the responsibility of the Chair to determine what additional information is required by the Committee to reach a decision, to arrange to obtain this information for the Committee, and to call another meeting of the Committee as soon as the required information is available. It is also the responsibility of the Chair to inform the candidate that the decision is pending. Candidates are not normally present at this second meeting of the Committee.

Grievance

A request for re-examination of a graduate thesis is a type of academic grievance, as per Policy 70. A student who wishes to request a re-examination of their thesis should contact the Associate Provost, Graduate Studies, who will form a committee of Associate Deans, Graduate. This committee will determine the appropriate course of action, which may involve a reexamination of the thesis or the denial of the student's request.

University of Waterloo
SENATE UNDERGRADUATE COUNCIL
Report to Senate
21 November 2016

Senate Undergraduate Council met on 11 October 2016 and on 15 November 2016, and considered proposals for five new academic plans (of which one is a continuation of an articulation agreement), an academic plan change and an academic plan inactivation, as well as new and changed regulations. Council agreed to forward the following items to Senate for approval. Council recommends these items be included in the regular agenda.

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

FOR APPROVAL

NEW ACADEMIC PLANS

Faculty of Applied Health Sciences
Kinesiology

1. **Motion:** To approve a new minor plan in medical physiology as described and effective 1 September 2017.

   The Minor in Medical Physiology is a joint minor between the Departments of Biology and Kinesiology. The Departments of Biology and Kinesiology have complementary strengths within medical sciences fields. The Minor in Medical Physiology is designed to provide additional elective courses to prepare University of Waterloo students for health professional school and/or other biomedical graduate programs/careers.

   Degree Requirements
   1. Students must be in an honours or three- or four-year general program at the University of Waterloo.
   2. Normally, a maximum of 2.5 units (5 courses) obtained on a Letter of Permission Form or in transfer credit from another institution may be applied toward fulfillment of the Minor in Medical Physiology course requirements. These courses must be equivalent to courses listed in the course requirements as assessed and approved by the department.
   3. Successful completion of 5.0 units, with an overall average of 60%, from the requirements listed below:

   Required Courses (2.5 units):
   BIOL 239
   BIOL 373
   KIN 406
   KIN 408
   PHIL 226 or PHIL 319J

   Elective Courses (2.5 units):

   Select 1.0 unit from:
   KIN 310
   KIN 301
   KIN 402
   KIN 404
   KIN 407
   KIN 416
   KIN 429

Select 1.0 unit from:
BIOL 240
BIOL 341
BIOL 355
BIOL 376
BIOL 444
BIOL 473

Select 0.5 unit from:
PSYCH 207
PSYCH 261
PSYCH 307
PSYCH 335

Notes:
1. Students in the Minor in Medical Physiology are expected to have already taken BIOL 130, BIOL 273 and PSYCH 101, which are prerequisites for one or more of the listed required courses.
2. It is recommended that students who are interested in entering a Health Profession should take additional physical sciences courses (e.g. CHEM 120, CHEM 123, CHEM 266, CHEM 267, PHYS 111, PHYS 112), which would be beneficial for preparation to write standardized admission examinations (e.g. MCAT, OAT, etc.).
3. Admission requirements vary greatly among professional schools. It is therefore imperative that students consult schools directly when choosing courses to satisfy admissions requirements.

Rationale: The minor plan is designed for students who have specialized interests/career plans in professional schools (e.g. medicine, optometry, pharmacy, dentistry), technical careers in health care, or medical research, and will provide greater clarity for academic planning for undergraduate students wishing to pursue careers in these areas. The collaboration between the Departments of Biology and Kinesiology will benefit students in delivering high-quality course content.

Faculty of Arts
Articulation Agreement

2. **Motion:** To approve the articulation agreement with Niagara College as in Attachment #1 and effective 1 September 2017.

   Rationale: This agreement allows students who have completed a two-year General Arts and Science – Degree transfer Diploma in the School of Liberal Arts and Sciences at Niagara College to transfer into the Honours Arts program in the Faculty of Arts. The agreement has been in effect since its approval May 2014 at Arts Faculty Council. This option is being actively promoted to Niagara students.

Faculty of Environment
Geography and Environmental Management

3. **Motion:** To approve a joint plan in geomatics as described and effective 1 May 2017.

   Many Honours plans may be combined within and between Faculties. However, before embarking on a Joint Honours plan, it is highly recommended that students consult with the Undergraduate Officer of both programs. Students must meet the requirements of both plans as stated in the Calendar and should be aware that combining some Honours plans may require more than the normal number of academic terms to complete.

Students choosing a joint honours plan with Geomatics as the second major must complete 5.5 units in Geography (GEOG), 2.0 units in Computer Science (CS), 0.5 unit in MATH, 0.5 unit in Environmental Studies (ENVS).

One of
GEOG 181 Principles of GIScience
GEOG 187 Problem Solving in Geomatics

All of
GEOG 271 Earth from Space Using Remote Sensing
GEOG 281 Introduction to Geographic Information Systems (GIS)
GEOG 310 Geodesy and Surveying
GEOG 371 Advanced Remote Sensing Techniques
GEOG 381 Advanced Geographic Information Systems
GEOG 387 Spatial Databases
GEOG 471 Remote Sensing Project (1.0 unit)
GEOG 481 Geographic Information Systems Project (1.0 unit)
CS 234 Data Types and Structures
CS 338 Computer Applications in Business: Databases
ENVS 278 Advanced Environmental Research Methods

One of
CS 115 Introduction to Computer Science 1
CS 135 Designing Functional Programs

One of
CS 116 Introduction to Computer Science 2
CS 136 Elementary Algorithm Design and Data Abstraction

One of
MATH 106 Applied Linear Algebra 1
MATH 114 Linear Algebra for Science

Notes
1. Admission to Joint Honours Academic Plans
Admission to a Joint Honours Plan will occur no earlier than Year Two.
2. Minimum Required Courses
The total number of units required is 8.5.
3. Average Requirements
Students must achieve a cumulative average of 70% in Geography (GEOG) and Environmental Studies (ENVS) courses and a 60% in CS and MATH courses.
4. Other courses from your home plan, equivalent to required CS, MATH or ENVS courses, may substitute for the Joint Geomatics Plan. Students must meet with the Geomatics plan advisor to review.

Rationale: This plans offers students the opportunity to complete the geomatics degree requirements with their major degree plan.

Faculty of Environment
Office of the Dean of Environment

4. **Motion:** To approve the new urban studies minor as described and effective 1 September 2017.

   The Urban Studies Minor is open to all University of Waterloo undergraduate degree students.

This minor is structured into four theme areas: Urban Economics/Finance, Urban Activity and the Environment, Urban Societies, Emerging Global Urban Regions.

The Urban Studies minor requires ten courses in which a minimum cumulative overall average of 65% must be obtained. There are five required courses that are common to all four themes. Additionally, each theme has one unique required course and four elective courses that are to be selected from the elective course list for each theme.

Students are allowed to request only one theme.

Required Courses for all theme areas
Five courses: ECON 101, ENVS 195 or GEOG 101, PLAN 100, PLAN 233, INDEV/PLAN 262

Theme 1: Urban Economics/Finance

Required course: ECON 201

Elective courses
Four of: CIVE 392 or MSCI 261, ECON 241, ECON 351, ECON 361, ECON 441, ECON 451, ENBUS 204, ENBUS 307, ERS 464, GEOG 311, MSCI 262, PLAN 103, PLAN 320, PLAN 362, PLAN 416, PLAN 450, PLAN 482

Theme 2: Urban Activity and the Environment

Required course: ENVS 200

Elective courses
Four of: BIOL 225, BIOL 350, BIOL 455, BIOL 457, EARTH 270, EARTH 281, EARTH 358, ECON 255, ENVS 469, ERS 316, GEOG 306, GEOG 349, GEOG 351, GEOG 453, PLAN 341, PLAN 416, PLAN 451, PLAN 478, PLAN 483, PLAN 484

Theme 3: Urban Societies

Required course: ERS 253

Elective courses
Four of: ANTH 272, ECON 363, GEOG 325, HIST 231R, HIST 260, HIST 374, INTEG 121, INTEG 221, PACS 313, PLAN 333, PLAN 431, PLAN 432, PLAN 433, PLAN 450, REC 422, SDS 231R, SDS 312R, SDS 322R, SOC 224R, SOC 248, SOC 369J, SOCWK 222R, WS 202, WS 209, WS 302

Theme 4: Emerging Global Urban Regions

Required course: INDEV 387

Elective courses
Four of: ANTH 382, EASIA 277R, EASIA 301R, ERS 404, GEOG 202, GEOG 203, GEOG 215, GEOG 311, GEOG 411, GEOG 426, HIST 282, INDEV 404, PLAN 440, PSCI 252, PSCI 283, PSCI 358, PSCI 359, PSCI 405, SDS 388R, SOC 451

Note: Many of the courses listed have pre-requisites and/or may be cross-listed. Students are advised to check undergraduate calendar course descriptions for details.

Rationale: As urbanization increases, the potential for social challenges – crime, poverty, inequity, and political unrest – also may increase, in the absence of well-crafted policy and governance. Thus a need exists to educate scholars and practitioners to manage the transition for and improve the functioning within and across urban regions – from city centres, through evolving suburban areas, to the urban periphery. Many North American universities offer urban studies as both a major and a minor – this minor plan will provide students with interest in contemporary urban issues with relevant upper-year courses offered across a wide array of departments and Faculties.

Faculty of Science
Biology

5. **Motion:** To approve a new minor plan in medical physiology as described and effective 1 September 2017.

   The Biology and Kinesiology Departments have complementary strengths in medical sciences. The Medical Physiology Minor is designed to assist students pursuing health professional schools, biomedical graduate programs or health-related careers.

   The Medical Physiology Minor is available to students in Honours and General plans.

   Successful completion of this minor requires:
   1. 5.0 units distributed as follows:
      a. 1.0 BIOL unit: BIOL 239 and BIOL 373
      b. 1.0 BIOL unit chosen from: BIOL 240, BIOL 341, BIOL 355, BIOL 376, BIOL 444, and BIOL 473
      c. 1.0 KIN unit: KIN 406 and KIN 408
      d. 1.0 KIN unit chosen from: KIN 301, KIN 310, KIN 402, KIN 404, KIN 407, KIN 416, and KIN 429
      e. 0.5 PHIL unit: PHIL 226 or PHIL 319J
      f. 0.5 PSYCH unit chosen from: PSYCH 207, PSYCH 261, PSYCH 307, and PSYCH 335
   2. An overall average of 60%.

   Additional conditions:
   1. Normally, a maximum of 2.5 units (5 courses) obtained on a Letter of Permission Form or by transfer credit from another institution may be applied toward fulfillment of this minor. The department offering a required course must first deem the replacement course equivalent (this assessment includes relevant prerequisites).

   Note:
   1. BIOL 130, BIOL 273 and PSYCH 101 are prerequisites for one or more of this minor's required courses; therefore students must have taken them previously.
   2. Admission requirements vary greatly among professional schools. Students should consult schools directly when choosing courses to satisfy admissions requirements.
   3. Students interested in entering a health professional school should consider taking additional physical science courses (e.g. CHEM 120, CHEM 123, CHEM 266, CHEM 267, PHYS 111, PHYS 112), which may help them prepare for standardized admission examinations (e.g. MCAT, OAT, etc.).

   Rationale: See rationale for item #1.

NEW ACADEMIC REGULATION

Office of the Registrar
Changes to Official Grades

6. **Motion:** To approve the new regulation on changes to official grades as described and effective 1 September 2017.

   Changes to Official Grades on a Student's Record

   Official grades are released to students each term in accordance with the Calendar of Events and Academic Guidelines. A change to an official grade can result from one of the following circumstances:

   1. Instructors may change a grade in response to a student's completion of coursework as defined in an INC agreement or request for reassessment of submitted coursework. Grade changes of this nature must be submitted by instructors within one year of the term's fully graded date, in accordance with the Document Retention Schedule for Examination Papers and Course Assignments.
   2. After the one-year period, official grades may only be changed as the result of policy-related processes, such as student petitions or challenges (Policy 70), student discipline decisions (Policy 71) and/or student appeals (Policy 72).

   Any grade change will result in the re-calculation of all averages and re-assessment of academic standings and/or graduation eligibility. Until a grade change is granted, the student record will remain unchanged and academic advice provided will be based on the existing record. Students should be aware that a pending grade change may impact their tuition fees, financial aid eligibility and subsequent studies.

   Rationale: This policy gives clear direction to students and instructors on grade-change practices, consistent with existing policies. All Faculties have collaborated and support the proposed policy.

CHANGE TO ACADEMIC PLAN

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

7. **Motion:** To approve a change to the plan name and requirements of the pre-health professions specialization plan as described and effective 1 September 2017, subject to approval at Senate Undergraduate Council at its meeting on 15 November 2016.
   (strikethrough = deleted text; underline = new text)

   ~~Pre-Health Professions Specialization~~ Pre-Clinical Specialization

   This program combines the Honours Bachelor of Science, Health Studies degree requirements with a specified grouping of elective courses from health studies, chemistry, mathematics, physics, biology, and kinesiology.

   This specialization is intended to provide suitable preparation for entry into ~~medical school and other~~ clinical health professional schools such as medicine, nursing, physiotherapy, etc. or to advanced graduate training in biohealth. However, students must consult the admission requirements of specific professional schools when choosing from the electives.

   Admission to the specialization requires at least good standing with a cumulative overall average of 75% (minimum) and a cumulative major average of 75% (minimum). Students may only declare one specialization. Students may declare the Health Informatics Option, Minor in Gerontology, or Option in Aging Studies concurrent with the specialization. ~~Students may not declare both the Pre-Health Professions Specialization and the Pre-Health Professions Option.~~

   In order to graduate with this specialization, the following requirements must be met:

1. A cumulative overall average of 75% and cumulative major average of 75%.
2. Declare specialization by the beginning of 3A academic term.
3. Successful completion of 21.0 units, including all requirements of the Honours Bachelor of Science, Health Studies Degree.
4. Successful completion ~~1.0~~ 1.5 unit from the following list:
   - (0.5 unit) one of HLTH 310, 340, 341
   - (0.5 unit) fourth-year research methods course HLTH 433, HLTH 442, HLTH 443, HLTH 435, ~~HLTH 444~~ or a HLTH course approved by the associate director, undergraduate studies.
   - ~~o~~ (0.5 unit) fourth-year seminar course ~~from HLTH 421, HLTH 448, HLTH 449,HLTH 451, HLTH 452, HLTH 461, HLTH 471, or a HLTH 473 approved by the associate director, undergraduate studies.~~
5. Successful completion of ~~4.0~~ **3.5** total units from the following list:
   - BIOL 211, BIOL 240, BIOL 241, BIOL 302, BIOL 303, BIOL 308, BIOL 309, BIOL 331, BIOL 341, BIOL 354, BIOL 355, BIOL 373, BIOL 441, BIOL 442, BIOL 444, BIOL 455
   - CHEM 123/CHEM 123L, CHEM 266/CHEM 266L, CHEM 267/CHEM 267L KIN 100, KIN 100L, ~~KIN 101~~, ~~KIN 105~~, KIN 121, KIN 202, ~~KIN 205~~, KIN 221, KIN 242, KIN 301, KIN 340, KIN 341, HLTH 407/KIN 407, KIN 404
   - MATH 127, MATH 128
   - PHYS 111/PHYS 111L, PHYS 112/PHYS 112L

Rationale: The name change and description changes are proposed to better reflect that the specialization is a generic preparation for clinical health professions or for advanced graduate training in biohealth. The current title is misleading and perpetuates the myth that only those working in clinical health settings are health professionals. The plan adds a requirement for one biohealth course and updating the methods list to reflect courses created since the specialization was last reviewed and the electives list is updated, and removes the specific list of fourth-year seminar courses to allow for flexibility of student enrolment should additional fourth-year seminars become available.

CHANGE TO ACADEMIC REGULATION

Office of the Registrar
Non-Numeric Grades Policies

8. **Motion:** To approve revisions to the calendar and amendments to INC and FTC non-numeric grade policies as described and effective 1 September 2017, and to revoke existing Faculty-specific policies in the calendar.
   (strikethrough = deleted text; underline = new text)

   …

   Non-numeric Grades

Grade	Description	Average Calculation Value
…		
~~FTC~~	~~Failure to complete course requirements in a course with a grade of INC (incomplete), no credit granted~~	~~32~~
~~INC~~	~~Incomplete course work, no credit granted~~	~~not applicable~~

…

INC

An INC should only be assigned when an instructor-student agreement for completion of outstanding course element(s) is in place.

All assessment components for a course are to be completed during the term in which the course is taken. In exceptional circumstances, an instructor may grant a student an extension for specific outstanding course element(s), given credible documentation has been submitted by the student[1] .The instructor will determine completion dates for outstanding course element(s) within a maximum lapse period of one year from the fully graded date of the term in which the course was offered. An INC agreement will specify the earned grade to-date and the course element(s) to be completed.

A grade of INC will remain until the outstanding course element(s) have been graded or the lapse period has expired.

When the lapse period has expired, the INC reverts to the:

• earned grade, based on all completed course element(s) OR
• if the syllabus for the course specified that the missing coursework was required to pass the course, the lesser of:
    o the earned grade or 4% less than the passing grade

[1] If the circumstance is related to a documented disability, students are encouraged to connect with AccessAbility Services in order to protect their privacy.

FTC

Failure to complete course requirements, no credit granted. Counts as 32 in average calculations.

Rationale: Adoption of the INC policy, as presented, will serve to bring consistent use and management of incomplete grades at Waterloo. All Faculties have collaborated and support the proposed policy and have agreed to remove Faculty-specific text from their calendar section.

INACTIVATION OF ACADEMIC PLAN

Faculty of Applied Health Sciences
Kinesiology

9. **Motion:** To approve the inactivation of the pre-health professions option plan effective 1 September 2017, subject to approval at Senate Undergraduate Council at its meeting on 15 November 2016.

   Rationale: The Department of Kinesiology has undertaken an extensive review of the undergraduate curriculum and undergraduate minor plans were revamped to better reflect the state of the discipline, achieve better consistency across minors, and to provide greater clarity for academic planning. The minor in medical physiology was intended to replace the pre-health professions option.

Mario Coniglio
/mg Associate Vice-President, Academic

Articulated Admission and Transfer Credit Agreement

between

University of Waterloo
Faculty of Arts
Waterloo, Ontario, Canada

and

Niagara College of Applied Arts and Technology
School of Academic and Liberal Studies
Niagara-on-the-Lake, Ontario, Canada

WHEREAS, University of Waterloo and Niagara College have developed this transfer credit agreement (the "Agreement") with the purpose of facilitating the educational mobility and transfer of students from Niagara College to University of Waterloo.

WHEREAS, University of Waterloo and Niagara College enter into this Agreement as cooperating, equal partners who shall maintain the integrity of their separate programs while working to ensure a smooth curriculum transition for interested and qualified students.

NOW THEREFORE in consideration of the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficient of which is hereby acknowledged, the parties covenant and agrees as follows:

Definitions

In this Agreement, the following terms shall have the following meanings:

"Waterloo" shall mean the University of Waterloo;
"Niagara" shall mean Niagara College of Applied Arts and Technology;
"Arts" shall mean the Honours Arts program offered at Waterloo;
"GAS" shall mean the General Arts and Science, Degree Transfer program offered at Niagara.

Article I
Organization Information

Sending Organization
Niagara
School of Academic and Liberal Studies

- General Arts and Science – Degree Transfer (2 year program)

Receiving Organization
Waterloo
Faculty of Arts

- Honours Bachelor of Arts, Honours Arts (4 year program)

Article II
Terms of Agreement

This Agreement shall be effective from the date of signing, and expires on 30 June 2019 unless renewed in accordance with the "**Terms for Renewal or Cancellation**" section within this Agreement.

The terms of cooperation for each specific activity implemented under this Agreement, including any financial aspects, will be mutually discussed and signed-off by official representatives of both institutions prior to the initiation of that activity.

It is not the intent of this Agreement to create a legally binding partnership, and the participating institutions do not intend to impose financial obligations upon one another. Neither institution has the right to assign any duty or responsibility arising from the Agreement to another institution or individual without the written consent of the other participant.

Intellectual Property Rights

It is acknowledged that all copyrights, patents, trade secrets, trademarks or other intellectual property ("IP") owned by one institution or participant prior to the date of the Agreement will remain the property of that institution or participant. IP jointly conceived or jointly first reduced to practice by both institutions, or by institutions and participants, and any IP individually conceived or first reduced to practice, in all cases by virtue of this Agreement, will be owned jointly or by the individual or the institution in keeping with University of Waterloo Policy 73 Intellectual Property Rights.

Indemnification

Niagara shall indemnify and hold Waterloo, its governors, officers, faculty, students, employees, independent contractors, and agents harmless in respect of any claim, demand, action, cause of action, damage, loss, injury, cost, liability or expense, which may be made or brought against Waterloo or which Waterloo may suffer or incur as a result of or arising out of any breach or non-fulfillment of any representations, warranties, covenants, or other contractual obligations under this agreement or any negligence or willful misconduct on the part of Niagara or anyone for whom Niagara is responsible at law. Niagara agrees that the foregoing indemnity shall survive the termination of this Cooperation Agreement notwithstanding any provisions of this Cooperation Agreement to the contrary. Students are not employees of Niagara or Waterloo for the purposes of this arrangement.

Waterloo shall indemnify and hold Niagara, its officers, students, employees, independent contractors, and agents harmless in respect of any claim, demand, action, cause of action, damage, loss, injury, cost, liability or expense, which may be made or brought against Niagara or which Niagara may suffer or incur as a result of or arising out of any breach or non-fulfillment of any representations, warranties, covenants, or other contractual obligations under this Cooperation Agreement or any negligence or willful misconduct on the part of Waterloo or anyone for whom Waterloo is responsible at law. Students are not employees of Niagara or Waterloo for the purposes of this arrangement.

Miscellaneous

Items not covered by this Agreement may be determined and negotiated separately by both institutions without abrogating this Agreement. This Agreement does not prevent additional agreements between the institutions.

The participating institutions will ensure that all in-progress articulation activities will have the opportunity to be completed within a reasonable time frame; however, no new articulations will be undertaken after the expiration date.

Terms for Renewal or Cancellation

This agreement will be reviewed annually in March by a committee to ensure that the academic standards of each institute are being adequately met. The committee will be comprised of representation from the partner institutes, and shall ensure that no program or policy changes have occurred that may affect the accuracy of this Agreement, and agree on necessary changes to the Agreement. Two (2) members from both institutes shall be appointed. The committee shall conduct a minimum of one (1) meeting per year, and may include participation by video or audio conferencing.

Beginning in March 2017, and in March every three (3) years thereafter for which this Agreement has been extended, the committee will review performance pursuant to this Agreement. As part of the review, the committee shall incorporate an evaluation of cooperation and a recommendation of necessary changes (where applicable). As a result of the review, the parties may agree to extend this Agreement for an additional three years, beginning on 1 July of the then current year and expiring on 30 June of the third year thereafter. Such extension of this Agreement may be done with or without amendment. If no agreement is reached on extension of this Agreement by 15 June of the then current year, then this Agreement shall expire on 30 June of the then current year.

Any amendments to and renewals of this Agreement shall be done with a view to the integrity of each party's academic programs, as well as to improve the processes and student articulation implemented under this Agreement, with a view overall to student success. The Agreement may be amended only in writing signed by all parties.

Termination of the agreement, with or without statement of the reasons for termination may be made in writing at any time and shall incorporate a six (6) month notice.

The parties agree that in the event of revision, expiration or termination of this Agreement, students enrolled in the program will have the opportunity to complete the program under the terms of this Agreement.

Program and Policy Changes

Niagara and Waterloo agree to communicate any substantive changes at the annual review to their program including changes in admission standards, graduation requirements, curriculum, course offerings, length of program, hours of instruction, delivery method, co-op or work-integrated learning (where applicable). Substantive change is any change that alters learning outcomes, admission or graduation requirements, or delivery.

Niagara and Waterloo agree to communicate any policy changes at the annual review which may affect the agreed upon relationship. Such policy changes will be considered during discussions at the time this Agreement is reviewed, as referred to above.

Organizational Contacts

The below named individuals are responsible for the development, maintenance and coordination of the Agreement. All notices or communications should be directed to the below named persons.

Sending organization:
Jeff Post
Manager, Academic Quality
Niagara College of Applied Arts and Technology
135 Taylor Road
Niagara-on-the-Lake, ON, L0S 1J0
Phone: (905) 641-2252 Ext. 4255
Email: jepost@niagaracollege.ca

Receiving organization:
Heather O'Leary
Manager, College and University Partnerships
University of Waterloo
200 University Avenue West
Waterloo, ON, N2L 3G1
Phone: 519-888-4567 Ext. 36024
Email: heather.oleary@uwaterloo.ca

Article III
Agreement Information

Type of Agreement
Articulated Admission and Transfer Credit Agreement

Transfer Pathway Progression
The following table depicts typical progression for students moving from Niagara College GAS into the Honours Arts program.

Academic year:	1			2			3			4			5
REGULAR	Niagara GAS		Off	Niagara GAS		Off	Waterloo Arts		Off	Waterloo Arts		Off	Arts
Academic term:	F	W	S	F	W	S	2B	3A		3B	4A		4B
Units per term:						**7.5 TC**	2.5	2.5		2.5	2.5		2.5
Unit totals:						**7.5**	10.0	12.5		15.0	17.5		20.0

Co-op note: Due to the large amount of transfer credits offered through this agreement, the co-op program is highly unlikely due to sequencing issues. Any student interested in Co-op should contact their Arts academic advisor as soon as they arrive in their first fall term on campus.

Admission Requirements

This agreement recognizes that a student who has completed a diploma at Niagara in the two (2) year GAS program, with a minimum average of 75%, including a minimum of 70% in an acceptable English writing course (ENGL 8202, ENGL 8300 or WRIT 8132), will be eligible for admission into Arts with transfer credits as outlined in this Agreement.

Using the 105D/F form on the Ontario Universities' Application Centre (OUAC), applicants will apply to the Honours Arts (WA, WJA, or WRA codes) program at Waterloo. Niagara applicants will be required to submit their high school transcript and all post-secondary transcripts, including their final Niagara transcript showing graduation from the program.

Niagara graduates will be considered in the same applicant pool as other external transfer students, but will be given preferential consideration over all other college GAS programs where agreements do not exist. Each student's application and academic record will be assessed on an individual basis.

This Agreement recognizes the high quality of courses that Niagara students currently take and the confidence Waterloo's Faculty of Arts has in considering Niagara graduates for admission.

Transfer Credit

Niagara GAS graduates are eligible for up to 7.5 units of transfer credit (equivalent of 15 courses of 0.5 unit weight).

Transfer credit according to the outline below will be offered to qualified students, transferring from the Niagara GAS program into the Arts program at Waterloo.

Niagara Course Code	Niagara Course Title	UW Course Code	Lecture Weight
REQUIRED COURSES			
MGMT 8408	Leadership Studies	SPCOM 227	0.50
PHIL 8110	Critical Thinking: The Study of Argument and Persuasion	PHIL 145	0.50
PHIL 8421	Ethics: Applied	PHIL 215	0.50
SCIE 8209	Science and the Environment	SCI 1XX	0.50
SCIE 8305	Science and Society	STV 203	0.50
SOCL 8411	Cultural Diversity	SDS 1XX	0.50
WRIT 8132	Academic Reading, Writing and Research	ENGL 1XX	0.50
REQUIRED UNITS TRANSFERRED:			**3.50**
4 OF OUT OF THE FOLLOWING 5 PAIRS			
ENGL 8202	English Literature Form & Focus: Prose	ENGL 1XX	0.50
ENGL 8300	English Literature Form & Focus: Poetry and Drama	ENGL 1XX	0.50
HIST 8203	Modern History	HIST 1XX	0.50
HIST 8317	Contemporary World History	HIST 1XX	0.50
PHIL 8211	Introduction to Philosophy: Objective Self	PHIL 1XX	0.50
PHIL 8313	Introduction to Philosophy: The Subjective Self	PHIL 1XX	0.50
POLI 8205	The Structure of Politics	PSCI 100	0.50
POLI 8305	The Content of Politics	PSCI 150	0.50
SOCL 8226	Principles in Sociology: Basic Concepts	SOC 101	0.50
SOCL 8334	Principles in Sociology: Institutions & Social Change	SOC 1XX	0.50
PAIR UNITS TRANSFERRED (UP TO):			**4.00**
GRAND TOTAL OF UNITS TRANSFERRED (UP TO):			**7.50**

The transfer credit assessment outlined in the chart above applies only to the pathway articulated in this Agreement. If students transfer to another plan at Waterloo, admission and transfer credits will be re-assessed and transfer credits may be reduced.

Transfer credit requirements:

Transfer credits, up to a maximum of 7.5 units, will be awarded for courses (listed above) in which a minimum grade of B- (70%) has been achieved.

Credits that must be achieved at the receiving organization:

Credits are as outlined by the Faculty of Arts graduation requirements at Waterloo. All Faculty of Arts 4-year degrees require a minimum of 40 courses of 0.5 unit credit weight, for a total of 20 units.

Credential(s) to be granted on successful completion of all required components:

- Honours Bachelor of Arts, Honours Arts (4 year program)

Article IV
Communication and Marketing

Communication

The Manager, Academic Quality at Niagara shall be responsible for the ongoing communication and monitoring of the Agreement at Niagara. Waterloo will designate an individual responsible for this Agreement at Waterloo.

These individuals will work together to develop marketing and recruitment strategies for this Agreement. Furthermore, the two individuals will co-ordinate annual pathway reviews.

Positioning

Opportunities pursuant to this Agreement will be advertised in the respective University and College promotional materials. Niagara and Waterloo will exchange, where applicable, such items as marketing publications, academic calendars, student guides, housing information, course outlines, and/or research materials.

Each party will obtain the other's consent before issuing any official media releases and/or marketing or promotional materials relating to this Agreement and/or incorporating the other party's name or logo(s).

Niagara agrees to inform its students of this Agreement in order to provide opportunity for eligible graduates of the GAS program to apply to the Arts program and apply for transfer of credit. Niagara agrees to set aside class time for promotion of this Agreement during the winter term of the first and second years of the GAS program.

Signatories

This Agreement is effective upon signature of all parties. The signatories hereby warrant that they have express and sufficient authority to execute this Agreement on behalf of the institutions on whose behalf they have signed.

For University of Waterloo

Dr. Ian Orchard
Vice-President Academic & Provost
University of Waterloo

I have the authority to bind the Corporation.

Date

Dr. Douglas Peers
Dean of Arts
University of Waterloo

I have the authority to bind the Corporation.

Date

For Niagara

Dr. Steve Hudson
Vice President Academic and Learner Services
Niagara College

I have the authority to bind the Corporation.

Date

Fiona Allan
Dean, Academic and Liberal Studies
Niagara College

I have the authority to bind the Corporation.

Date

University of Waterloo
SENATE
Report of the Vice-President, Academic & Provost
21 November 2016

FOR CONSIDERATION

COMPOSITION OF NOMINATING COMMITTEE FOR DEAN OF ENGINEERING

Background: Engineering Faculty Council (EFC) passed a motion at its meeting of 18 October 2016 as follows:

> To increase the membership of the 2016 Nominating Committee for Dean by one to include eight regular faculty members. This will allow for one elected faculty-at-large representative plus one faculty representative elected from each academic unit: School of Architecture, Chemical Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Management Sciences, Mechanical and Mechatronics Engineering, Systems Design Engineering.

This motion was passed at EFC unanimously. In communicating this result, EFC cited the history of exceptions granted re: membership for nominating committees struck under Policy 45 (for Engineering in 2006 and 2011, and for Science in 2014), and noted that a review of the minutes of Senate from those three instances do not indicate any discussion or concern raised when the previous exceptions were made. In 2006 and 2011, the process followed for granting this exception was to obtain endorsement of Faculty Relations Committee, Senate and the approval of the Board of Governors to grant an exception to Policy 45. An excerpt from the policy is included below.

Prior to the EFC meeting, Faculty Relations Committee (FRC) received communication from the Faculty that such an exception would be sought as was granted the previous two times, and FRC discussed the request to endorse the exception at its meeting on 13 October 2016 in advance of the EFC meeting. The FRC discussion noted the previous similar exceptions granted in 2006 and 2011, the importance of adhering to policy, the need to potentially revise the policy, and the unlikelihood of being able to grant a similar exception to other faculties where the number of academic units would make such an exception infeasible. FRC heard a motion to grant the exception, and the motion was defeated on a 5-4 vote. FRC again discussed the matter at its meeting of 27 October once it received formal notice of the Engineering motion, and no motion was made to endorse the exception.

Given this, it is apparent that a solution is needed that will fairly deal with this matter and the various confounding factors involved, which are:

- There is no clear direction in Policy 1 on how to deal with exceptions to policy. The Secretariat & Office of General Counsel has advised that, given this absence of direction, a decision ought to consider the investment of the various constituencies involved in addition to the formal authority invested in the same
    - In the past examples, this has taken the form of obtaining the mutual concurrence of FRC, Senate, and the Board of Governors
- The 5-4 vote at 13 October FRC indicates the mixed opinions on this matter at that meeting, and so the item could be considered controversial
- It is important to weigh the mixed opinion at FRC in combination with the fact that the Faculty of Engineering has obtained two exceptions in 2006 and 2011, and that more recently Science received the same exception in 2014
- The addition of an eighth faculty member to the nominating committee will necessarily dilute the impact of the student (two members) and staff (two members) on the committee
- There are practical difficulties in granting similar exceptions to the other Faculties, and those Faculties have conformed to Policy 45 when completing their own decanal search processes

In consideration of these points, I believe it is important to faithfully and fairly bring the request and associated information for Senate's consideration, without any recommendation, with Senate then having the option to take any action that it deems reasonable. This approach will provide a procedural avenue that reflects in a fair way the weight

of precedent and the absence of a clear opinion at FRC, and mitigates the alternative to essentially deny Engineering further hearing on their request without due consideration of these mitigating factors.

Should it be the case that Senate consider the exception to have merit, procedurally the next step would be for Senate to recommend the exception further to Board, as well as taking any other action it deems to be reasonable.

Ian Orchard
Vice-President, Academic & Provost

/mg

Excerpt from Policy 45, section 4A: Appointment of a Nominating Committee

…

When nominations for the Dean of a Faculty are required, as through notice of resignation, death, or the approaching end of a term, a nominating committee shall be formed by the Vice-President, Academic & Provost. The nominating committee shall normally be formed no earlier than 18 months and no later than one full calendar year prior to the end of the term of office of the incumbent.

The Committee Chair shall vote only to break a tie. The majority of the other voting members of the Committee shall be elected by and from the regular faculty members of the Faculty. The nominating committee shall consist of:

- The Vice-President, Academic & Provost, who shall chair the committee.
- Seven regular faculty members in Arts and Engineering, and six in the other Faculties. At least one committee member shall be elected at-large; the others are to be selected by a procedure approved by the Faculty Council and distributed to each regular faculty member. Where some of the members are to be elected by Department by and from the regular faculty members in the Department, those elections shall be conducted prior to the at-large Faculty-wide election. If both genders are not represented on the Committee as a result of departmental elections, then the at-large election shall be conducted so as to ensure that both genders are represented.[1]
- In the Faculty of Arts, one faculty member from and appointed by the Federated & Affiliated Colleges.
- One senior regular faculty member from outside the Faculty concerned, selected by the Vice-President, Academic & Provost in consultation with the President.
- One staff member elected by and from the regular staff of the Faculty, and one appointed by the Staff Association, normally from the Faculty concerned.
- One undergraduate student from the Faculty concerned, appointed by the Federation of Students, in consultation with the appropriate student society.
- One graduate student from the Faculty concerned, appointed by the Graduate Student Association, in consultation with the appropriate student society.

…

[1] In the unlikely event that no candidate from the unrepresented gender is willing to stand for election as an at-large member, the Vice-President, Academic & Provost shall appoint a candidate from the unrepresented gender in that Faculty.