

**University of Waterloo
SENATE
Notice of Meeting**

Date: Monday 18 September 2017
Time: 3:30 p.m.
Place: Needles Hall, room 3407

OPEN SESSION		
3:30	<p><u>Consent Agenda</u> Motion: To approve or receive for information by consent items 1-5 below.</p> <ol style="list-style-type: none"> 1. Minutes of the 19 June 2017 Meeting 2. Reports from Committees and Councils <ol style="list-style-type: none"> a. Graduate & Research Council b. Undergraduate Council 3. Report of the President <ol style="list-style-type: none"> a. Recognition and Commendation 4. Report of the Vice-President, Academic & Provost <ol style="list-style-type: none"> a. Call for Nominations for University Professor b. University Research Chairs 5. Reports from the Faculties 	Decision Information Information Information Information Information Information
	<u>Regular Agenda</u>	
3:35	6. Business Arising from the Minutes	Information
3:40	7. Reports from Committees and Councils <ol style="list-style-type: none"> a. Graduate & Research Council b. Undergraduate Council 	Decision Decision
4:00	8. Report of the President	Information
4:10	9. Q&A Period with the President	Information
4:20	10. Report of the Vice-President, Academic & Provost <ol style="list-style-type: none"> a. Course Evaluation Project – Report and Recommendations 	Decision
4:45	11. Report of the Vice-President, University Research*	Information
4:50	12. Other Business	
CONFIDENTIAL SESSION		
4:55	13. Minutes of the 19 June 2017 Meeting	Decision
5:00	14. Business Arising from the Minutes	

CONFIDENTIAL SESSION

5:05

15. Other Business

11 September 2017

Karen Jack
University Secretary

*to be distributed

University of Waterloo
SENATE
Minutes of the Monday 19 June 2017 Meeting

Present: Bilal Akhtar**, Jean Andrey, Michael Balogh, Sandra Banks, Katherine Bergman, Anne Bordeleau, Robert Bruce, Carmen Bruni, Jennifer Clapp, Andrew Clubine, Tara Collington, Mario Coniglio, Simon Courtenay, Shannon Dea, David DeVidi, George Dixon, Tia Driver, Paul Fieguth, Wendy Fletcher, George Freeman, Matthew Gerrits, Julia Goyal, Sally Gunz, Feridun Hamdullahpur (chair), Dennis Huber, Marios Ioannidis, Karen Jack (secretary), Craig Janes, Beth Jewkes, Maureen Jones, Spiro Karigiannis, Scott Kline, Robert Lemieux**, Mungo Marsden, Katie Misener, Grant Mitchell, Barb Moffatt, Rick Myers, Ian Orchard, Diana Parry, Douglas Peers, Angela Pereira**, David Porreca**, William Pristanski, Christopher Pugh, Neil Randall, Bruce Richter, James Rush, Samantha Shortall, Joanne Shoveller, James Skidmore, Richard Staines, Gordon Stublely, Pearl Sullivan, Hamid Tizhoosh, Thomson Tran, Johanna Wandel, Stephen Watt, Dan Wolczuk, Alexander Wray, En-Hui Yang

Guests: Raouf Boutaba, Catherine Burns, Carleen Carroll, Matthew Grant, Peggy Jarvie, Lynn Judge, Cathy Newell Kelly, Andrea Kelman, Melissa Knox, Anwar Hasan, Derek Madge, Emily Schroeder, Jason Testart, Mike Winterburn

Absent: Chris Bauch*, Hannah Beckett*, Antonio Brieva*, Jeffrey Bunn, Kofi Campbell, Claudio Canizares, Jeff Casello, Brian Cepuran*, Eric Croiset*, Bernard Duncker*, Fraser Easton*, David Edwards*, Marlene Epp*, Mavis Fenn*, Cindy Forbes, Shikha Gandhi, Mark Giesbrecht*, Robert Gorbet*, Craig Hardiman*, Thorsten Heins, Alison Hitchens*, Tom Jenkins*, Karim S. Karim, Alysia Kolentsis*, Greta Kroeker*, Mohammad Nasif, Daniel O'Connor*, Jim Pankratz, David Perrin*, Mark Seasons*, Ross Willard*

*regrets

**joined by telephone

OPEN SESSION

Consent Agenda

The chair welcomed members to the meeting and remarked upon his enjoyment of the recent convocation ceremonies. With respect to the consent agenda, he noted that on page four, the name “Santz” should read “Shantz,” and on page nine, the “Status of Women and Equity Committee” is a committee of the Faculty Association, not the University.

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

Bruce and Pugh.

1. MINUTES OF THE 15 MAY 2017 MEETING

Senate approved the minutes of the meeting.

2. REPORTS FROM COMMITTEES AND COUNCILS

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

Undergraduate Council. Senate received the report for information.

3. REPORT OF THE PRESIDENT

Recognition and Commendation. Senate received the report for information.

4. REPORTS FROM THE FACULTIES

Senate received the reports for information.

5. COMMITTEE APPOINTMENTS

Senate approved appointments to the Senate Long Range Planning Committee (Peter Johnson), and the Senate Graduate & Research Council (Daniel Martel, Emily Cyr, Takin Tadayon, Tom Bury and Max Salman).

6. REPORT OF THE VICE-PRESIDENT, ACADEMIC & PROVOST RE: UNIVERSITY RESEARCH CHAIRS

Senate received the report for information.

The question was called and the motion carried unanimously.

Regular Agenda

7. BUSINESS ARISING FROM THE MINUTES

Lynn Judge briefly spoke to the report at members' places relating to domestic enrollments in professional and research based masters programs.

In response to a question raised in April regarding under-represented groups in Tier I and Tier II CRCs, Dixon advised that the University is short by one female in Tier II CRCs, but exceeds and is on track with respect to other measures. He also noted that voluntary reporting can complicate the University having accurate counts.

Shoveller spoke to the question arising from the May meeting re: STEM scholarships and advised that the University seriously thinks about all scholarship activity and strives to increase scholarships in all areas.

8. RESEARCH PRESENTATION – LORA GIANGREGORIO, ASSOCIATE PROFESSOR, KINESIOLOGY, FACULTY OF APPLIED HEALTH SCIENCES

Rush introduced Dr. Giangregorio, and spoke to her research goals, laboratory, and research contributions over the short time she has been with the University. Dr. Giangregorio spoke to her research relating to fracture prevention, including: osteoporosis considerations; bone health factors and interventions; interactions with patients; recent findings and future research opportunities. In discussion, Dr. Giangregorio advised that some patients' questions and feedback are incorporated into studies and work within the laboratory often is interdisciplinary.

9. REPORTS FROM COMMITTEES AND COUNCILS

Graduate & Research Council

Senate heard motions to the following effects:

Centre for Bioengineering and Biotechnology. Senate heard that this motion relates to the centre's renewal, not its establishment, and heard a motion to approve it.

Dixon and Tizhoosh.

In discussion, clarification that there is no requirement for all Faculties to have participating members, and that the changes represent a governance change such that the Vice-President, Research now has a role. The question was called and the motion carried with one abstention.

Cybersecurity and Privacy Institute. Members heard a motion to approve the institute.

Dixon and Watt.

In discussion: the government's "supercluster" initiative has only a minimal impact and that the University already has expertise in this area; a description of budgetary plans. The question was called and the motion passed unanimously.

Waterloo Artificial Intelligence Institute. Senate heard a motion to approve the institute.

Dixon and Sullivan.

In discussion: the institute is not meant to subsume other listed centres and institutes; it is meant to enable industry and academic collaboration; the other Faculties have been invited to be involved. The question was called and the motion carried unanimously.

Faculties of Engineering and of Mathematics. This motion was withdrawn from consideration.

10. REPORT OF THE PRESIDENT

The president provided Senators with a wide-ranging update including: a summary of the Strategic Mandate Agreement negotiations (more information is forthcoming from the province, co-operative education will not be allowed to be a differentiator, experiential education has had a positive reception); the President's Advisory Committee on Student Mental Health has had its first meeting; the "innovation superclusters" are keeping the president and many others busy, and from Dixon, that industry must be involved, details are being worked out and good opportunities exist; kudos, thanks and good bye to Ian Orchard. Following a round of applause, Orchard thanked the president and expressed his appreciation for his time with the University. The president completed his remarks with thanks to Gunz for her service as president of FAUW, and to Dixon for his stellar tenure as Vice-President, Research over the last decade. Another round of applause followed for both Gunz and Dixon.

11. Q&A PERIOD WITH THE PRESIDENT

After opening the floor to questions, the president advised that with respect to superclusters, no money will be directly provided to universities, but that a university must be involved as a partner, the advanced manufacturing supercluster looks promising, and intellectual property issues must be considered carefully.

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

The provost thanked interim registrar Maureen Jones for her success and efforts in the role which was followed by a round of applause.

Name Change: Centre for Contact Lens Research. Senate heard a motion to recommend to the Board of Governors the following name change: "Centre for Contact Lens Research (CCLR)" to "Centre for Ocular Research & Education (CORE)."

Orchard and Lemieux. Carried unanimously.

13. REPORT OF THE VICE-PRESIDENT, UNIVERSITY RESEARCH

Dixon provided members with a brief report on activities and mentioned the coming "150" research appointments from the federal government for which more information will follow.

14. OTHER BUSINESS

Dea asked Orchard to comment on the University Research Chairs report in the consent agenda with respect to diversity and equity considerations. He observed that since the establishment of the honour, a greater awareness exists for these considerations and a concerted effort is in place to address them.

Senate convened in confidential session.

8 September 2017

Karen Jack
University Secretary

CONFIDENTIAL SESSION

The confidential minutes have been removed.

University of Waterloo
SENATE GRADUATE & RESEARCH COUNCIL
Report to Senate
18 September 2017

Senate Graduate & Research Council met on 12 June 2017, and on behalf of Senate approved the name change of one centre, membership to research ethics committees, curricular submissions, graduate awards and one academic program review report. Council agreed to forward these items to Senate for information. Council recommends that these items be included in the consent agenda.

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

FOR INFORMATION

NAME CHANGE OF SENATE-APPROVED CENTRE

On behalf of Senate, council approved the name change of the Centre for Contact Lens Research to “Centre for Ocular Research & Education (CORE)”.

MEMBERSHIP TO RESEARCH ETHICS COMMITTEES

On behalf of Senate, council approved new and continuing membership to research ethics committees.

CURRICULAR SUBMISSIONS

On behalf of Senate, new courses, course revisions, course inactivations, and minor program revisions were approved for the Faculties of arts (economics), engineering (collaborative water program, electrical and computer engineering, management sciences), mathematics (computer science) and Renison (multilingual speakers).

GRADUATE AWARDS

On behalf of Senate, council approved the Hira Ahuja Graduate Scholarship, the Ramakrishnan Award and the Exceptional Doctoral Student Scholarship.

ACADEMIC PROGRAM REVIEW REPORTS

a. Two-Year Progress Report – School of Planning [Attachment #1].

FRAMEWORK FOR THE ASSESSMENT OF UNDERGRADUATE PLAGIARISM

Members of council were apprised of a [new guideline](#) pertaining to the assessment of undergraduate plagiarism that will be effective 1 September 2017 and which will work in conjunction with Policy 71 – Student Discipline.

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

George Dixon
Vice President, University Research

Two Year Progress Report

BES, MA, MES, MAES AND PHD IN PLANNING

June 2016

Background:

The augmented review report for the School of Planning, which covers all of our accredited programs and addresses both Provincial and accrediting body (Professional Standards Board of the Canadian Institute of Planning) requirements. The written report covers the period of Fall 2007 to Spring 2012, was submitted in July of 2013, and formed the foundation for the site visit which occurred in May of 2014 (with PSB site visit in March 2015). The final reviewers report did not include specific recommendations but it did draw attention to a number of issues which were subsequently addressed in the unit response to that review. The issues and our planned response to them are now updated in this progress report.

Progress on Implementation Plan:

1. Issue of Communications Course "PLAN 102"

Status: completed

Details: The course has been offered twice since the original review. The instructor consulted with School of Planning faculty, alumni employers, past students of the course, and CTE in revamping the course. Subsequent course ratings and student comments both support the positive changes that the instructor has initiated and this issue is resolved.

2. Faculty Course Load/Work Load

Status: in progress (see table below)

Details: The basis of this issue is faculty workload and the high student faculty ratio within our unit. The workplan indicated that we would develop a plan to expand our faculty complement by 2016. We are currently interviewing for a lectureship position to take on some of the pressure of teaching large practice oriented courses. We have also discussed with the Dean the potential to expand our complement in response to our sustained high enrollments. Over the past 5 years, our undergraduate 1st year enrolment has consistently exceeded initial targets. Although there is not a specific plan in place, in part because of the adjustments to the new budget model at University of

Waterloo, there is an understanding with the Dean's office that expanding our faculty numbers is a long term objective provided we maintain our current trajectory.

3. Issue of Mixed Grad/Undergraduate Courses

Status: in progress (see table below)

Details: There is a concern expressed around the number of 600 level graduate courses that mix undergraduate and graduate students. The work plan required we evaluate graduate student experience in mixed courses. We have initiated major changes in our graduate offerings in Fall 2015 to the MA/MES programs which have included more 700 level courses and few options for mixed courses. The Graduate officer will initiate an evaluation project in Winter of 2017 with reporting in Spring 2017

4. Issue of Urban Design Courses Student-Faculty Ratios

Status: in progress

Details: The issue concerns the high student-instructor ratios in our intensive design courses. The delay in addressing the work place presented in our response relates to a combination of sabbaticals and other leaves. We are committed to continuing to work towards resolving this issue as laid out in the table below. This work includes understanding how the core design courses fit into the broader planning degree learning outcomes and how they work as part of the urban design specialization.

5. Issue of Thesis completion times in revised MA/ MES degree

Status: completed

Details: The issue raised was our average time to completion for our professional Masters students (who also are required to complete a thesis) which stands at 2.5 years. The response was to provide timeline guidance for our students which we have – and monitoring and follow up which we have also initiated. Therefore, it is listed as “completed” rather than in progress. The monitoring and ongoing evaluation is an important element of the response.

6. Issue of face to face interaction in On-line Course Offerings

Status: completed

Details: The concern was raised about the potential for face to face interaction in our online courses. Our response explained the challenges this presents in terms of the appeal of an online program (for those that are geographically constrained). However, we did suggest a monitoring of our enrollments and satisfaction levels with course experiences to determine if this is an issue that needs a more focused response. Regular

review of course evaluations and discussion with course instructors is informing our assessment of the situation.

Updated Implementation Plan:

	Recommendations	Proposed Actions	Responsibility for Leading and Resourcing (if applicable) the Actions	Timeline for addressing Recommendations
1.	Faculty Course Load/Work Load	Expansion of School of Planning Faculty complement	Director SOP / Dean	2018
2.	Mixed Grad/Undergraduate Courses	Evaluate student experience	Graduate Officer SOP	2017
3.	Address Urban Design Courses Student-Faculty Ratios	define the learning outcomes in our core \specialization courses in design Approve proposed changes and implement official approval for (through course change process) Fall 2016	Director, Associate Chair Undergraduate SOP Design Course Instructors within School, Associate Chair Undergraduate	2017

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

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

Overall, the programs remain very healthy and it is an exciting time to focus on our cities and communities. Enrollments in our undergraduate co-op program remain strong, exceeding target for the 5th year in a row. The major challenge for that program is the high demand for co-op work placements. Similarly, our graduate programs are vibrant, and also have increasing demands for the Masters level work experiences (work placements, internships etc.).

University of Waterloo
SENATE UNDERGRADUATE COUNCIL
Report to Senate
18 September 2017

Senate Undergraduate Council met on 20 June 2017, and on behalf of Senate approved course submissions, minor plan changes. 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: <https://uwaterloo.ca/secretariat/committees-and-councils/senate-undergraduate-council>

FOR INFORMATION

CURRICULAR MODIFICATIONS

Course submissions, minor plan changes and Faculty regulation changes were approved for the Faculties of arts (accounting and finance; anthropology; applied language studies; Arabic language; arts and business; bachelor of arts breadth requirements; Chinese language; East Asian studies; economics; fine arts; global business and digital arts; history; human sciences; Japanese language; Korean language; management studies; music; mutually exclusive plans; political science; religious studies; sexuality, marriage, and family studies; social development studies; speech communication; studies in Islam), engineering (business, entrepreneurship and technology; management engineering; management sciences), science (biochemistry; biology; chemistry; chemical physics; Earth and environmental sciences; medicinal chemistry), and Renison University College (social work).

FRAMEWORK FOR THE ASSESSMENT OF UNDERGRADUATE PLAGIARISM

Members of council were apprised of a [new guideline](#) pertaining to the assessment of undergraduate plagiarism that will be effective 1 September 2017 and which will work in conjunction with Policy 71 – Student Discipline.

/mg

Mario Coniglio
Associate Vice-President, Academic

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FOR INFORMATION

Recognition and Commendation

Effective May 1, 2005, in accordance with the 2003 Faculty Salary Settlement, the University of Waterloo established an Outstanding Performance Fund to reward faculty members for outstanding contribution in teaching and scholarship. The award recipients for 2016 are: **Applied Health Sciences:** Lora Giangregorio, Corey Johnson, Scott Leatherdale, JoonWu Lee, Marina Mourtzakis, Steven Mock, and Elena Neiterman; **Arts:** Sheila Ager, Karen Collins, Philip Curry, Bruce Dadey, Robert Danisch, David DeVidi, Vince Di Ruzza, Jay Dolmage, Richard Eibach, Ori Friedman, Jennifer Harris, Heather Henderson, Svetlana Kaminskaia, Alice Kuzniar, Elise Lepage, Ashley Rose Mehlenbacher, David Moscovitch, Guy Poirier, Julia Roberts, John Turri, Paul Wehr, and Heather Whiteside; **Engineering:** Hany Aziz, Dayan Ban, Adrian Blackwell, Eline Boghaert, Catherine Burns, David Brush, Michael Collins, Sebastian Fischmeister, Michael Fowler, Lukasz Golab, Guang Gong, Carl Haas, Ada Hurst, Marc Hurwitz, Kaan Inal, Igor Ivkovic, Hamidreza Jahedmotlagh, Patrick Mitran, Sean Peterson, Simarjeet Saini, Peter Teerstra, and Scott Walbridge; **Environment:** Rob de Loe, Susan Elliott, Peter Johnson, Merrin Macrae, John McLevey, Simron Singh, and Maria Strack; **Mathematics:** Therese Biedl, Raouf Boutaba, Richard Cook, Khuzaima Daudjee, Brian Forrest, Christopher Godsil, Kathryn Hare, Mohammad Kohandel, David Landriault, Ondrej Lhotak, Johnny Li, David McKinnon, Francis Poulin, Pascal Poupart, Diana Skrzydlo, Chaitanya Swamy, and Daniel Vogel; **Science:** Monica Barra, David Blowes, Anton Burkov, Laura Deakin, Michael Hudson, Barbara Katzenback, Brian Kendall, Raymond Laflamme, Tammy Labreche, Sarah MacIver, Colleen Maxwell, Marcel Pinheiro, Pierre-Nicholas Roy, Heidi Swanson, and Nancy Waite. (adapted from the *Daily Bulletin*, 26 May 2017)

More than 550 Waterloo students applied for 100 spots at the first annual **Waterloo Datathon**, which was held on 13 May. Like a hackathon, students were given a set of materials and asked to solve a structured problem. It involved working with a dataset, predictive modeling, interpretation and presentation of results. This event was sponsored by Citadel and powered by Correlation One in partnership with the Department of Statistics and Actuarial Science. The organizers awarded a top prize of \$20,000 and second prize of \$5,000 to the top two winning teams. Congratulations to: first place team winners: **Christopher Warren, Ryan Kinnear, Thomas Alexander, Richard Wu;** second place team winners: **Shouzhen Gu, Austin Tripp, Wuhan Zhou, Shun Dac Simon Suo.** (adapted from the *Daily Bulletin*, 9 June 2017)

John Yeow, a systems design engineering professor, is an IEEE Nanotechnology Council Distinguished Lecturer for 2017 as well the Editor-in-Chief of the IEEE Nanotechnology Magazine, the flagship publication of the council. It's the first time a Canadian researcher has held both roles on the council, a multi-disciplinary group whose purpose is to advance and coordinate work in the field of nanotechnology carried out throughout the IEEE in scientific, literary and educational areas. As the Canada Research Chair in Micro and Nano Devices, Yeow is developing nanodevices and highly selective sensors that will help create new medical instruments for diagnosing and treating disease. He is also creating miniature radiation instruments and sensors for cancer treatment that will allow for a more focused, yet less invasive, delivery of radiation treatment, as well as real-time measurement of the delivered dose during radiation therapy. (adapted from the *Daily Bulletin*, 12 June 2017)

In June, Waterloo brought home seven national and international awards recognizing outstanding publications, videos and programs. On 14 June, the Council for Advancement and Support of Education (CASE) named a video and feature article among their Circle of Excellence award winners, including a **gold award in the Feature**

Writing: Profile category for The Thinnest Line, which appeared in the spring issue of Waterloo magazine, and a **gold award in the General Information Videos: Short** category for the Waterloo video. On 7 June, at the Canadian Council for the Advancement of Education Prix D'Excellence Awards in Hamilton, Ontario, the Waterloo winners included: a **gold award in the Best Fundraising Activity** category for StartUp Pledge from the Office Advancement; a **gold award in the Best Community Outreach Initiative** category for the Opioid Crisis Awareness Campaign from the School of Pharmacy; a **gold award for Best Brochure, Newsletter or Flyer** category for Health in 3D from the Faculty of Applied Health Sciences; a **silver award for Best News Release or Media Communiqué** category for Omega 3 Supplements Can Prevent Childhood Asthma from the Faculty of Applied Health Sciences and University Relations; a **silver award for Best Print Ad or Poster** category for The Future is in our Hands – Engineering Day from the Faculty of Engineering. Building on a strong record of wins year over year, these programs, publications and videos reflect the creative and innovative work of staff across campus, representing the best of Canadian and North American post-secondary education support. Additionally, Waterloo's **Alex Farley**, Alumni Officer, Volunteer Engagement received the Rising Star Award from CCAE. This award is given to professionals with three to five years' experience who demonstrate early success, commitment and accomplishments in the field of advancement. Alex received a \$2,000 scholarship for professional development to support her career growth. (adapted from the *Daily Bulletin*, 15 June 2017)

Professor **Steven Bednarski** has won the Society for Teaching and Learning in Higher Education's *D2L Innovation Award in Teaching and Learning*. This is the second year in a row that the Society has bestowed this prize upon a faculty member from the University of Waterloo. Steven Bednarski is a social historian of late medieval crime, gender, and natural environment at St. Jerome's University, where he also Co-Directs the Medieval Studies Program. Bednarski has funded about fifty trips for Canadian students to Herstmonceux Castle, where they learn about the past by doing. These "junior research partners" acquire important skills working on a live archaeological site and training in local archives. Bednarski and his team's goal is to understand how medieval climate change affected the ways in which people lived six centuries ago. To ensure that students continue to learn once they return to Canada, Bednarski, with the support of St. Jerome's University, designed and launched the Medieval Digital Research in Arts and Graphical Environmental Networks Lab (D.R.A.G.E.N.) last September. In the D.R.A.G.E.N. Lab, a team of undergraduate research interns works alongside MA and PhD candidates. Lab members, including young undergraduate students, collaborate in teams; they apply for grants and deliver public conferences. Most importantly, Bednarski's students also contribute to the writing process, working on teams to co-author print and digital publications. (adapted from the *Daily Bulletin*, 21 June 2017)

Renowned aviation academic **Suzanne Kearns**, has been named to WINGS and Helicopters Magazine's Top 20 Under 40; a list that includes 2017's finest young leaders in the aviation and aerospace industry. According to WINGS, candidates for the annual award are nominated based on their influence at work, leadership in their communities and commitment to their profession. "Aviation at Waterloo is pleased that Professor Kearns has been recognized as one of the top 20 under 40 leaders in aviation in Canada," said Ian McKenzie, Director of Aviation at Waterloo. "It's nice to see her dedication and contributions to the industry recognized in such a significant way." (Faculty of Environment news website, 27 June 2017)

The director of Renison's English Language Studies program, **Julia Williams**, has won the Teachers of English as a Second Language (TESL) Canada Innovation Award for her series of Learning English for Academic Purposes (LEAP) textbooks. The award celebrates the innovation of English language teaching professionals who produce relevant and creative resources used in thousands of classrooms across Canada and around the world. "These awards for textbook innovation are the first to be awarded by TESL Canada. It's an honour to win an inaugural award that recognizes quality in materials development," said Williams. "It takes a long time to write a high quality book – and even longer to develop a high quality series. These awards recognize the impact textbooks have on our students and in our field." The eight book series began with a single textbook Williams wrote in 2005, titled *Learning English for Academic Purposes*. The textbook was well received, leading Pearson Publishing to approach Williams to develop a full series. Between 2011 and 2013 Williams and co-author Ken Beatty published an additional seven textbooks. The series is currently into its third round of revisions and the new editions will be released in early 2018. The LEAP series is designed to support English language skills development at four levels of proficiency. The series covers Listening and Speaking and Reading and Writing

skills through a cross-curricular approach to teaching students the vocabulary and skills they need to thrive in real-life academic contexts, while helping them apply critical thinking to a variety of global issues. (adapted from the *Daily Bulletin*, 7 July 2017)

Sarah Wiley, a psychology major with a sexuality, marriage, and family minor has been honoured as one of the summer 2017 award recipients of the province’s “Draw-the-Line” Post-Secondary Sexual Violence Prevention Awards for her contributions to the fight against unacceptable attitudes and behaviours about sexual violence on campus. Wiley has been a board member of the Ontario Undergraduate Student Alliance, for whom she co-authored the 2016 Sexual Violence Prevention and Response Policy Paper. In the wake of the paper, she has actively lobbied the Government of Ontario to adopt its key policy recommendations. In June of 2017, a new bill incorporating one of the paper’s key proposals for sexual violence prevention was tabled. She recently finished her term as the Vice-President Education with the Federation of Students and has been a very active student leader with the Women’s Centre and HeforShe. (adapted from the *Daily Bulletin*, 10 July 2017)

SAE International has announced that Waterloo Mechanical and Mechatronics Engineering Professor **Michael J. Worswick** has been elected as a 2016-17 SAE Fellow. He was one of 22 fellow inductees recognized during ceremonies at the recent SAE World Congress Experience in Detroit. Professor Worswick was recognized as an SAE Fellow for his field research in structural crash worthiness, high-strain-rate material behavior, and sheet forming for auto weight reduction. Worswick holds a Tier 1 Canada Research Chair in Light Weight Materials Under Extreme Deformation: Forming and Impact. “Dr. Worswick conducts collaborative research with automotive companies across the sector, including numerous car companies and automotive parts and material suppliers,” says his award citation. SAE Fellow is the highest grade of membership bestowed by SAE International. It recognizes outstanding engineering, scientific and leadership accomplishments by an individual that have resulted in meaningful advances in automotive, aerospace, and commercial vehicle technologies. The program, established in 1975, recognizes an average of 20 recipients worldwide each year. (adapted from the *Daily Bulletin*, 20 July 2017)

MEMORANDUM

September 18, 2017

To: Members of Senate
Chairs of Departments and Directors of Schools

Copy: Daily Bulletin

From: D. George Dixon, Interim, Vice-President Academic & Provost

Re: **Call for “University Professor” Nominations**

To date, Waterloo has awarded this distinction to twenty five individuals: Garry Rempel (chemical engineering), Mary Thompson (statistics & actuarial science) and Mark Zanna (psychology) in 2004; Terry McMahon (chemistry), Cam Stewart (pure mathematics) and Robert Jan van Pelt (architecture) in 2005; Phelim Boyle (accountancy) and Ian Munro (computer science) in 2006; Ken Davidson (pure mathematics), Keith Hipel (systems design engineering) and Jake Sivak (optometry) in 2007; Roy Cameron (health studies & gerontology) and Flora Ng (chemical engineering) in 2008; Ellsworth LeDrew (geography & environmental management) and Ming Li (computer science) in 2009; Stuart McGill (kinesiology) and Janusz Pawliszyn (chemistry) in 2010; Robert Le Roy (chemistry) in 2011; François Paré (french studies) in 2012; Doug Stinson (computer science) in 2013; William Coleman (political science), and William Cook (combinatorics and optimization) in 2015; Linda Nazar (Chemistry) in 2016; Xuemin “Sherman” Shen (Electrical and Computer Engineering) and Joanne Wood (Psychology) in 2017.

The selection process is reproduced below for your information. Please ensure that nomination material is submitted to my office before the December break.

UNIVERSITY PROFESSOR

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

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

Selection Process

1. Annually, nominations will be sought from Faculty deans, directors of schools and department chairs, as well as from the university community generally. A nominee shall have demonstrated exceptional scholarly achievement and international pre-eminence in a particular field or fields of knowledge. The individual who nominates a colleague is responsible for gathering the documentation and submitting it to the vice-president academic & provost before the December break. The University Tenure & Promotion Committee will act as the selection committee; its decisions are final.
2. A nomination must be supported by at least six signatures from at least two UW departments/schools and must be accompanied by a curriculum vitae and a short, non-technical description of the nominee’s contributions.

3. A nomination must also be accompanied by letters from the nominee's Dean, and from at least two and no more than five scholars of international standing in the nominee's field from outside the University. The scholars are to be chosen by the nominee's Chair/Director in consultation with the Dean and the nominator. The letter of nomination should explain why these particular scholars were chosen.
4. Letters soliciting comments from scholars shall be sent by the Chair/Director. Scholars shall be asked to comment on the impact and specific nature of the nominee's most influential contributions, addressing their responses directly to the Vice-President, Academic & Provost.
5. The dossiers of unsuccessful nominees remain in the pool for two additional years. The appropriate Dean should provide updated information each year.

University of Waterloo
SENATE
Report of the Vice-President Academic & Provost
18 September 2017

FOR INFORMATION

Further to the June 19, 2017 Report to Senate, two new 2017 University Research Chairs have been awarded:

Juewen Liu (chemistry) and **Colleen Maxwell** (pharmacy).

UNIVERSITY RESEARCH CHAIRS

University of Waterloo owes much of its reputation and stature to the quality of its professors and their scholarly accomplishments. University of Waterloo recognizes exceptional achievement and pre-eminence in a particular field of knowledge through the designation 'University Research Chair' - a title which may be held for up to seven years, with the possibility of a re-nomination. A faculty member with this title will receive either a teaching reduction of one course per year or an annual stipend of \$10,000, which will be allocated to the Department/School if teaching reduction is chosen. The University Research Chair title and benefits will be relinquished if a Canada Research Chair or other major research chair is awarded.

It is anticipated that there will be a limited number of University Research Chairs; at steady state, the intention is to make at most five appointments each year. The number of appointments will be reviewed annually by the Vice-President Academic & Provost in consultation with Deans' Council and the program will be reviewed after an initial period of five to ten years.

D. George Dixon
Interim Vice-President Academic & Provost

University of Waterloo
REPORT OF THE DEAN OF APPLIED HEALTH SCIENCES TO SENATE
18 September 2017

FOR INFORMATION

A. APPOINTMENTS

Probationary- term Appointment

DODD, Warren, Assistant Professor, School of Public Health and Health Systems, May 1, 2018 – June 30, 2021. Honours BA, International Development, University of Guelph; 2011, PhD, Population Medicine & International Development Studies, University of Guelph, 2016. Dr. Dodd's research is in the area of International Development with a focus on social and environmental determinants of health among vulnerable populations nationally and internationally. His research is a good fit and will strengthen the School's global health initiative.

Appointment Transfer

HALL, Peter, Associate Professor, Department of Kinesiology (80%), Faculty of Applied Health Sciences to School of Public Health and Health Systems (from 20% to 100%), Faculty of Applied Health Sciences effective June 21, 2017.

Definite Term – appointment – full time

McCLINCHEY, Kelley, Lecturer, Department of Recreation and Leisure Studies, August 15, 2017 – August 13, 2019, [BSc (Honours), Lakehead University, 1997, MES, WLU, 1999, Bed, Queen's University, 2000, PhD, WLU, 2011].

Definite Term – Reappointment – full time

BOYKO, Jennifer, Research Assistant Professor, Propel Centre for Population Health Impact, Faculty of Applied Health Sciences, July 1, 2017 – June 30, 2018, [BA, Brock University, 1999, MHSc, University of Toronto, 2002, PhD, McMaster University, 2010].

CHEN, Helen, Assistant Professor, School of Public Health and Health Systems, October 30, 2017 – October 28, 2019, BSc. (Hons) Engineering Mechanics, 1987, [M.Sc. Engineering, 1989, Tsinghua University, China; Ph.D., Biomechanics, 1998, University of Waterloo].

Adjunct Appointments

Graduate Supervision

BERG, Katherine, Associate Professor, School of Public Health and Health Systems, July 1, 2017 – December 31, 2018.

DRYSDALE, Maureen, Associate Professor, School of Public Health and Health Systems, July 1, 2017 – August 31, 2020.

KOFF, David, M.D. and Professor, School of Public Health and Health Systems, July 1, 2017 – August 31, 2018.

Graduate Supervision and Research

DODD, Warren, Assistant Professor, School of Public Health and Health Systems, June 1, 2017-April 30, 2018.

MANSKE, Steve, Research Associate (retired), Propel Centre for Population Health Impact and Faculty of Applied Health Sciences, August 1, 2017- December 31, 2019.

McKELVIE, Robert, M.D. and Ph.D., Department of Kinesiology, July 1, 2017 – June 30, 2019.

TAYLOR, Martin, Professor, School of Public Health and Health Systems, July 1, 2017 – June 30, 2020.

VARGA, Peter, Lecturer, School of Public Health and Health Systems, May 1, 2017 – April 30, 2019.

Graduate Instruction

ELTON-MARSHALL, Tara, Assistant Professor, School of Public Health and Health Systems, June 1, 2017 – December 31, 2020.

Adjunct Reappointments

Graduate Instruction

BOSCART, Veronique, Assistant Professor, School of Public Health and Health Systems, July 1, 2017 – August 31, 2021.

Graduate Supervision

CARSON, Valerie, Assistant Professor, School of Public Health and Health Systems, September 1, 2017 – December 31, 2019.

HADFIELD, Chris, Professor, Faculty of Applied Health Sciences, July 1, 2017 – June 30, 2020.

HOFFMAN-GOETZ, Laurie, Distinguished Professor Emerita, School of Public Health and Health Systems, September 1, 2017 – August 31, 2018.

LAGARDE, Emmanuel, Professor, School of Public Health and Health Systems, September 1, 2017 – August 31, 2018.

SELISKE, Patrick, Assistant Professor, School of Public Health and Health Systems, September 1, 2017 – August 31, 2019.

Graduate Supervision and Research

PARKINSON, Robert, Assistant Professor, Department of Kinesiology, July 1, 2017 – June 30, 2020.

Graduate Instruction and Supervision

SHARAFODDINI, Anis, Lecturer, School of Public Health and Health Systems, September 1, 2017 – December 31, 2017.

VINE, Michelle, Lecturer, School of Public Health and Health Systems, September 1, 2017 – December 31, 2017.

Special Appointments

Undergraduate Instruction

BRISCOE, Carrie, Lecturer, Department of Recreation and Leisure Studies, September 1, 2017 – April 30, 2018.

DOLSON, Mark, Lecturer, School of Public Health and Health Systems, September 1, 2017 – December 31, 2017.

KNUTSON, Shannon, Lecturer, Department of Recreation and Leisure Studies, May 1, 2017 – August 31, 2017.

MORTON NINOMIYA, Melody, Lecturer, School of Public Health and Health Systems, September 1, 2017 – December 31, 2017.

SATVAT, Elham, Lecturer, School of Public Health and Health Systems, September 1, 2017 – December 31, 2017.

Visiting Scholar

DUARTE DYCK, David, Department of Kinesiology, July 1, 2017 – December 31, 2017.

Postdoctoral Fellow to Research Appointment

BELL, Kristen, Department of Kinesiology, July 4, 2017 – July 3, 2018.

DAVLETSHIN, Yevgeniy, School of Public Health and Health Systems, May 8, 2017 – May 7, 2018.

FERNANDES, Maria Fernanda, Department of Kinesiology, July 1, 2017 – June 30, 2018.

STRUICK, Laura, Propel Centre for Population Health Impact, Faculty of Applied Health Sciences, September 5, 2017 – September 4, 2018.

WEECH, Séamas, Department of Kinesiology, July 1, 2017 – June 30, 2019.

Postdoctoral Fellow to Research Reappointment

RATELLE, Mylène, School of Public Health and Health Systems, September 1, 2017 – August 31, 2018.

VALAITIS, Renata, School of Public Health and Health Systems, September 11, 2017 – September 10, 2018.

ZUJ, Kathryn, Department of Kinesiology, appointment extended until November 30, 2017.

Cross-appointments

BOGER, Jennifer, Assistant Professor, Systems Design Engineering, Faculty of Engineering to School of Public Health and Health Systems, Faculty of Applied Health Sciences, June 1, 2017 – June 30, 2020.

LIU, Jennifer, Assistant Professor, Department of Anthropology, Faculty of Arts to School of Public Health and Health Systems, Faculty of Applied Health Sciences, July 1, 2017 – June 30, 2022.

B. ADMINISTRATIVE REAPPOINTMENT

HUGHSON, Richard, Professor and Schlegel Research Chair, Vascular Aging, Department of Kinesiology and Schlegel-UW Research Institute for Aging, July 1, 2017 – June 30, 2020.

C. SABBATICAL

For Approval by the Board of Governors

KIRKPATRICK, Sharon, Assistant Professor, School of Public Health and Health Systems, special early leave January 1, 2018 – June 30, 2018, at 100% salary.



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

UNIVERSITY OF WATERLOO
REPORT OF THE DEAN OF THE FACULTY OF ARTS TO SENATE
September 18, 2017

FOR INFORMATION

A. APPOINTMENTS

Probationary Term Reappointments

DAGTAS, Secil (BA 2004 Bogazici University, MA 2007 York University, PhD 2014 University of Toronto), Assistant Professor, Department of Anthropology, July 1, 2017 to June 30, 2020.

KELLY, Allison (BA 2004 Queen's University, PhD 2010 McGill University) Assistant Professor, Department of Psychology, July 1, 2017 to June 30, 2020.

MACDONALD, Shana (BFA 2001 Ryerson University, MA 2005 PhD 2013 York University), Assistant Professor, July 1, 2017 to June 30, 2020.

MUFTI, Mariam (BS 2003 Lahore University, MA 2006 Johns Hopkins University, PhD 2011 University of Toronto), Assistant Professor, Department of Political Science, July 1, 2017 to June 30, 2020.

NGUYEN, Kim (BS 2002 Old Dominion University, PhD 2008 University of Iowa), Assistant Professor, Department of Drama and Speech Communication, July 1, 2017 to June 30, 2020.

PARKER, Thomas (BA 2003, BS 2003, PhD 2011 University of Illinois at Urbana-Champaign, MA 2004 University of British Columbia), Assistant Professor, Department of Economics, July 1, 2017 to June 30, 2020.

SAVARESE, John (BA 2005 New York University, MA 2009 PhD 2012 Rutgers University), Assistant Professor, Department of English Language and Literature, July 1, 2017 to June 30, 2020.

SHEN, Winny (BA 2006 California State University, PhD 2011 University of Minnesota), Assistant Professor, Department of Psychology, July 1, 2017 to June 30, 2020.

VIDEKANIC, Bojana (BFA 2001 Zagreb Croatia, 1995 Concordia University, MA 2003 PhD 2013 York University), Assistant Professor, Department of Fine Arts, July 1, 2017 to June 30, 2020.

WATTS, Christopher (BA 1995 Trent University, MSc 1997 PhD 2006 University of Toronto), Assistant Professor, Department of Anthropology, July 1, 2017 to June 30, 2020.

Definite Term Appointments

BILODEAU, Annik (BA 2010 Université Laval, MA 2011 PhD 2016 University of Ottawa), Lecturer, Department of Spanish and Latin American Studies, August 1, 2017 to July 31, 2020. Dr. Bilodeau's doctoral dissertation assessed evolution in the treatment of cosmopolitanism in Spanish American literature and was nominated for both the Governor General's Gold Medal for best dissertation in the Social Sciences and Humanities and the CALACS (The Canadian Association for Latin American and Caribbean Studies) Outstanding Dissertation Prize. Her current work has her examining the representation of the female cosmopolitan artist in the works of Elena Poniatowska.

DOMINGUEZ, Tabatha (MA 1999 Wilfrid Laurier University), Lecturer, Faculty of Arts, Stratford Programs, August 1, 2017 to July 31, 2019. In addition to nearly 20 years of industry experience, Ms

Dominguez has worked as a lecturer in the Lazaridis School of Business and Economics at Wilfrid Laurier University since 2006. In 2015 and 2016, she worked as a sessional instructor for the University of Waterloo Stratford Campus, teaching Introduction to Global Business and Business Ethics.

JONAHS, Andrea (BSc 2001 Andrews University, MFA 2007 University of Iowa, PhD 2017 University of Calgary), Lecturer, Department of English Language & Literature, August 1, 2017 to July 31, 2020. Dr. Jonahs will be teaching GENE199 Communications in the Engineering Profession, as well as other courses in Science and Technical Communication. She also brings strengths in the rhetoric of science and technology and in the area of critical race theory.

LAMONT, George (BA 1995 UBC, MA 2004 PhD 2014 University of Toronto), Department of English Language & Literature, August 1, 2017 to July 31, 2020. Dr. Lamont is an experienced teacher of STEM communications. He will be teaching GENE199 Communications in the Engineering Profession, as well as other courses in Science and Technical Communication. He also brings broad strengths in English literature and rhetoric.

SIEBEL-ACHENBACH, Sebastian (BA 1981 University of Toronto, PhD 1988 University of Oxford, UK, MBA 1999 Wilfrid Laurier University), Lecturer, Faculty of Arts, Stratford Programs, September 1, 2017 to August 31, 2019. Dr. Siebel-Achenbach has been employed as definite-term Assistant Professor and Adjunct/Sessional Instructor in the Department of History, the Arts and Business Program and the Stratford Campus since 2007. In these roles, he has taught courses ranging from Cross-cultural Digital Business, Entrepreneurship, Project Management, Applied Leadership and Management and modern European history courses. Sebastian also has six years working in industry as general manager and product manager.

Definite Term Reappointments

ANDRES, Greg, Lecturer, Department of Philosophy, July 1, 2017 to June 30, 2020.

CARTY, Lynn, Lecturer, School of Accounting and Finance, July 1, 2017 to June 30, 2018.

DELAMERE, D'Arcy, Lecturer, School of Account and Finance, July 1, 2017 to June 30, 2018.

ECCLESTONE, Andrew, Lecturer, School of Accounting and Finance, July 1, 2017 to June 30, 2018.

HAYES, Frank, Lecturer, School of Accounting and Finance, July 1, 2017 to June 30, 2018.

HEBBINCKUYS, Nicolas, Lecturer, Department of French Studies, January 1, 2018 to December 31, 2019.

MANN, Shari, Lecturer, School of Accounting and Finance, July 1, 2017 to June 30, 2018.

MOLL, Sorouja, Lecturer, Department of Drama and Speech Communication, August 1, 2017 to July 31, 2019.

PENATE, Rocky, Lecturer, Department of French Studies, September 1, 2017 to August 31, 2020.

Visiting Appointment

AKMAN, Canan Aslan, Visiting Researcher, Department of Philosophy, August 15, 2017 to August 15, 2018.

CHAO, Huang, Visiting Scholar, Department of Political Science, September 10, 2017 to September 10, 2018.

DECOCK, Miriam, Visiting Researcher, Department of Classical Studies, September 1, 2017 to August 31, 2018.

LEFEBVRE, Benjamin, Visiting Scholar, Department of English Language and Literature, July 1, 2017 to June 30, 2019.

WANG, Yan, Visiting Scholar, Department of English Language and Literature, August 1, 2017 to July 31, 2018.

ZHANG, Qian, Visiting Scholar, Department of Economics, September 1, 2017 to August 31, 2018.

Post-Doctoral Appointment

PAYEN, Germain, Postdoctoral Fellow, Department of Classical Studies, September 1, 2017 to December 31, 2018.

Adjunct Appointments – Instruction

BRAZIER, Brenda, Lecturer, School of Accounting and Finance, September 1, 2017 to December 31, 2017.

GUZIK, Elysia, Lecturer, Department of Religious Studies, September 1, 2017 to December 31, 2017.

MALLOY, Adam, Lecturer, Department of Political Science, September 1, 2017 to December 31, 2017.

MERGO, Teferi, Assistant Professor, Department of Economics, July 1, 2017 to June 30, 2020.

O'NEILL, Terry, Lecturer, Faculty of Arts, Stratford Programmes, September 1, 2017 to December 31, 2017.

OZKARDAS, Ahmet, Lecturer, Department of Economics, September 1, 2017 to December 31, 2017.

SMITH, Greg, Lecturer, Faculty of Arts, Stratford Programmes, September 1, 2017 to December 31, 2017.

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

ADAMS, Russell, Assistant Professor, Department of Anthropology, July 1, 2017 to June 30, 2020.

SCHULZE, Mathias, Professor, Department of Germanic and Slavic Studies, August 16, 2017 to April 30, 2019.

Adjunct Reappointments – Instruction

ALEKBEROV, Elshan, Lecturer, Department of Economics, September 1, 2017 to December 31, 2017.

AYTENFISU, Million Tadesse, Lecturer, Department of Economics, September 1, 2017 to December 31, 2017.

BASHIR, Mohsin, Lecturer, School of Accounting and Finance, September 1, 2017 to December 31, 2017.

COCARLA, Sasha, Lecturer, Department of Philosophy, September 1, 2017 to December 31, 2017.

- D'AMATO, John**, Lecturer, School of Accounting and Finance, September 1, 2017 to December 31, 2017.
- DOLSON, Mark**, Lecturer, Department of Anthropology, September 1, 2017 to December 31, 2017.
- DUCHARME, Robert**, Lecturer, School of Accounting and Finance, September 1, 2017 to December 31, 2017.
- FATIMA, Nafeez**, Lecturer, Department of Economics, September 1, 2017 to December 31, 2017.
- GAMEZ, Hector**, Lecturer, School of Accounting and Finance, September 1, 2017 to December 31, 2017.
- HAYDON, Nathan**, Lecturer, Department of Philosophy, September 1, 2017 to December 31, 2017.
- HAYES, Nicole**, Lecturer, Department of Anthropology, September 1, 2017 to December 31, 2017.
- JAVED, Hira**, Lecturer, Stratford Programmes, September 1, 2017 to December 31, 2017.
- KHOLDI, Amir-Shahram**, Lecturer, Department of History, September 1, 2017 to December 31, 2017.
- KLANN, Julia**, Lecturer, School of Accounting and Finance, September 1, 2017 to December 31, 2017.
- KUMASE, Wokia**, Lecturer, Department of Economics, September 1, 2017 to December 31, 2017.
- LAIKEN, Stan**, Professor, (Professor Emeritus), School of Accounting and Finance, June 12, 2017 to July 31, 2017.
- LIAQAT, Zara**, Lecturer, Department of Economics, September 1, 2017 to December 31, 2017.
- MARCOVITZ, Richard**, Lecturer, School of Accounting and Finance, May 1, 2017 to August 31, 2017.
- MCGOWAN, Rosemary**, Lecturer, Department of Political Science (MPS), September 1, 2017 to December 31, 2017.
- MEMARTOLUIE, Ghazal**, Lecturer, Department of Economics, September 1, 2017 to December 31, 2017.
- MILLOY, John**, Lecturer, Department of Political Science (MPS), July 1, 2017 to June 30, 2018.
- OLDHAM, Andrew**, Lecturer, School of Accounting and Finance, May 1, 2017 to August 31, 2017.
- RAJSIC, Pregrag**, Lecturer, Department of Economics, September 1, 2017 to December 31, 2017.
- RAY, Nicholas**, Lecturer, Department of Philosophy, September 1, 2017 to December 31, 2017.
- RUFFUDEEN, Zamal**, Lecturer, School of Accounting and Finance, September 1, 2017 to December 31, 2017.
- THARMALINGAM, Pirapa**, Lecturer, Department of Economics, September 1, 2017 to December 31, 2017.

TIMBERG, Robert, Lecturer, School of Accounting and Finance, September 1, 2017 to December 31, 2017.

WOOD, Peter, Lecturer, School of Accounting and Finance, September 1, 2017 to December 31, 2017.

Adjunct Reappointments – Graduate Supervision

EULETTE, Lynette, Lecturer, Department of Psychology, May 1, 2017 to August 31, 2017.

Graduate Students Appointed as Part-Time Lecturers

FORD, Katherine, Department of Sociology and Legal Studies, September 1, 2017 to December 31, 2017.

JORDAN, William, Department of Philosophy, September 1, 2017 to December 31, 2017.

LAJOIE, Jason, Department of English Language and Literature, September 1, 2017 to December 31, 2017.

RICHINS, Greg, School of Accounting and Finance, September 1, 2017 to December 31, 2017.

SILK, Matthew, Department of Philosophy, September 1, 2017 to December 31, 2017.

Staff Appointments to Faculty

HAYDEN, Jayne, Lecturer, Faculty of Arts, September 1, 2017 to April 30, 2018.

B. ADMINISTRATIVE APPOINTMENTS

NACKE, Lennart, Associate Director, Graduate Program at UW Stratford, August 1, 2017 to July 31, 2018.

TINGLEY, Jane, Associate Director, Undergraduate Program at UW Stratford, July 1, 2017 to June 30, 2018.

Administrative Reappointment

FERRER, Ana, Associate Chair, Graduate Studies, Department of Economics, July 1, 2017 to December 31, 2017.

ROBERTS-SMITH, Jennifer, Associate Chair, Undergraduate Studies (Drama), Department of Drama and Speech Communication, July 1, 2017 to June 30, 2018.

C. RETIREMENT

BANDYOPADHYAY, Satiprasad, Associate Professor, School of Accounting & Finance, effective January 1, 2018.

SILLATO, Maria del Carmen, Professor, Department of Spanish & Latin American Studies, effective October 1, 2017.

D. RESIGNATION

BLATHERWICK, David, Associate Professor, Department of Fine Arts, effective May 31, 2017.

CHIANG, Howard, Assistant Professor, Department of History, effective August 31, 2017.

POLANCO, Geraldina, Assistant Professor, Department of Sociology and Legal Studies, effective June 30, 2017.

E. SABBATICAL LEAVES

Approved by the Board of Governors:

NGUYEN, Trien, Professor, Department of Economics, September 1, 2017 to August 31, 2018, twelve months at full salary.

For approval by the Board of Governors:

BOYLE, Philip, Assistant Professor, Department of Sociology and Legal Studies, January 1, 2018 to June 30, 2018, six months at 100% salary.

BOYCHUK, Gerard, Professor, Department of Political Science, January 1, 2018 to June 30, 2018, six months at 100% salary.

COOPER, Tara, Associate Professor, Department of Fine Arts, January 1, 2018 to June 30, 2018, six months at 85% salary.

CURTIS, Lori, Professor, Department of Economics, January 1, 2018 to June 30, 2018, six months at 85% salary.

DAGTAS, Secil, Assistant Professor, Department of Anthropology, January 1, 2018 to June 30, 2018, six months at 100% salary.

FERNANDES, Myra, Professor, Department of Psychology, March 1, 2018 to August 31, 2018, six months at 85% salary.

FERRER, Ana, Professor, Department of Economics, January 1, 2018 to June 30, 2018, six months at 85% salary.

FRASER, Doreen, Associate Professor, Department of Philosophy, January 1, 2018 to June 30, 2018, six months at 80.3% salary.

GONZALEZ, Francisco, Professor, Department of Economics, January 1, 2018 to June 30, 2018, six months at 85% salary.

ITIER, Roxane, Associate Professor, Department of Psychology, January 1, 2018 to June 30, 2018, six months at 85% salary.

LIU, Jennifer, Associate Professor, Department of Anthropology, January 1, 2018 to June 30, 2018, six months at 85% salary.

MACDOUGALL, Heather, Associate Professor, Department of History, January 1, 2018 to June 30, 2018, six months at 100% salary.

MALONE, Paul, Associate Professor, Department of Germanic and Slavic Studies, January 1, 2018 to June 30, 2018, six months at 100% salary.

MOMANI, Bessma, Professor, Department of Political Science, November 1, 2017 to April 30, 2018, six months at 85% salary.

MORRISON, Aimée, Associate Professor, Department of English Language and Literature, January 1, 2018 to December 31, 2018, twelve months at 85% salary.

SIEMERLING, Winfried, Professor, Department of English Language and Literature, January 1, 2018 to June 30, 2018, six months at 85% salary.

STATIEV, Alex, Associate Professor, Department of History, January 1, 2018 to June 30, 2018, six months at 85% salary.

TAYLOR, Bruce, Professor, Department of Fine Arts, January 1, 2018 to June 30, 2018, six months at 100% salary.

TURRI, John, Professor, Department of Philosophy, January 1, 2018 to June 30, 2018, six months at 85% salary.

WHITSON, Jennifer, Assistant Professor, Department of Sociology and Legal Studies, January 1, 2018 to June 30, 2018, six months at 100% salary.

F. LEAVE of ABSENCE

KENYON, Tim, Professor, Department of Philosophy, January 1, 2018 to December 31, 2019, unpaid leave.

SIMPSON, Jennifer, Professor, Department of Drama & Speech Communication, October 1, 2017 to September 30, 2019, unpaid leave.

WALKER, James, Professor, Department of History, January 1, 2018 to April 30, 2018, four months unpaid leave.



Douglas M. Peers
Dean, Faculty of Arts

UNIVERSITY OF WATERLOO
REPORT OF THE DEAN OF ENGINEERING TO SENATE
September 18, 2017

For information:

A. APPOINTMENTS

Tenured - Subject to approval by the Board of Governors

MITRA, Sushanta, Full Professor, Department of Mechanical & Mechatronics Engineering, August 1, 2017. PhD University of Waterloo 2001; MASc University of Victoria, British Columbia 1997; BA Jadavpur University, Kolkata, India 1995. Dr. Mitra's research is in the area of microfluidics with expertise in the fundamental aspects of fluid transport in micro and nano-scale confinements and their applications in energy, environment monitoring and bio-systems. Dr. Mitra's work will bridge several key research focuses of the department in bio-engineering, energy, and nano/MEMS devices.

Probationary Term

MEKONNEN Tizazu, Assistant Professor, Department of Chemical Engineering, November 1, 2017 – June 30, 2021. PhD University of Alberta 2014; MSc Addis Ababa University, Ethiopia 2009; BSc Addis Ababa University 2004. Dr. Mekonnen will bring to our Department new and complementary strengths in polymer engineering, especially in the growing important field of bio-polymer. In addition, he will also bring to the Department strong links with the industry.

Definite Term Appointment (full-time)

ROUFAIL, Reem Adel, Lecturer, Department of Systems Design Engineering, September 15, 2017 – September 14, 2020. PhD The University of British Columbia 2011; MSc The American University in Cairo 1997; Diploma in Materials Engineering The American University in Cairo 1994; BSc The American University in Cairo, Egypt 1992. Dr. Reem Roufail brings significant experience in the planning and coordination of outcomes-based education, which will be essential for Systems Design as we need to focus on long-term outcomes-based curricular improvements for accreditation purposes. Outside of curricular planning, Dr. Roufail's research interests lie in the area of materials and mining.

SHAH, Muhammad Umair, Lecturer, Department of Management Sciences, September 1, 2017 – August 31, 2018. PhD University of Waterloo 2016; MASc University of Waterloo 2011; BBA National University of Computer and Emerging Sciences, Lahore, Pakistan 2009. Dr. Shah will teach courses in the area of Management of Technology and will help with an internal review of the MMSc online program.

Definite Term Appointment (part-time)

POURMOHAMMADALI, Homeyra, Lecturer, Department of Mechanical & Mechatronics Engineering, September 1, 2017 – December 31, 2019. PhD University of Waterloo, 2014; MASc University of Waterloo 2007; Post-Graduate Certificate Program Systems Analyst, Conestoga College 2002; BSc Amirkabir University of Technology, Tehran, Iran 1997. Dr. Pourmohammadali's field of interest includes tissue engineering and regenerative therapy with extensive experience in application of mechanical engineering principles to biomedical research. Her appointment will play an important role in the new Faculty of Engineering joint biomedical engineering program.

Definite Term Reappointment (full-time)

JIN, Chao, Research Assistant Professor, Department of Systems Design Engineering, April 1, 2017 – June 30, 2017.

Visiting Appointments

ADIBI-ASL, Hadi, Researcher, Department of Systems Design Engineering, July 1, 2017 – August 31, 2017.

ALWASEL, Abdullatif Abdu, Researcher, Department of Systems Design Engineering, June 10, 2017 – September 30, 2017.

CAO, Qinghua, Scholar, Department of Electrical & Computer Engineering, September 1, 2017 – August 31, 2018.

GHARAEI GARAKANI, Hossein, Assistant Professor, Department of Electrical & Computer Engineering, June 5, 2017 – October 31, 2017.

GRACIOLI, Giovani, Scientist, Department of Electrical & Computer Engineering, October 1, 2017 – September 30, 2019.

IRAVANI, Amir, Researcher, Department of Chemical Engineering, May 15, 2017 – May 14, 2018.

Ji, Yancheng, Scholar, Department of Electrical & Computer Engineering, May 15, 2017 - May 14, 2018.

LAFFITTE, Yohan, Researcher, Department of Electrical & Computer Engineering, July 1, 2017 – June 30, 2018.

LIU, Guocheng, Scholar, Department of Electrical & Computer Engineering, June 7, 2017 – June 6, 2018.

LIU, Miaoqing, Scholar, Department of Chemical Engineering, June 27, 2017 – June 30, 2018.

LIU, Ruidi, Scholar, Department of Chemical Engineering, October 1, 2017 – September 30, 2019.

MOUSAVI, Jamshid, Professor, Department of Systems Design Engineering, August 1, 2017 – January 31, 2018.

ROHANI, Arash, Scientist, Department of Electrical & Computer Engineering, May 16, 2017 – May 15, 2018.

FAYCAL Saffih, Assistant Professor, Department of Electrical & Computer Engineering, June 1, 2017 – December 31, 2017.

SCHMILL, Ulises, Researcher, Department of Electrical & Computer Engineering, July 1, 2017 – June 30, 2018.

TALUKDER, Byomkesh, Scholar, Department of Systems Design Engineering, June 1, 2017 – December 31, 2018.

WANG, Liang, Associate Professor, Department of Chemical Engineering, October 20, 2017 – October 19, 2018.

WANG, Zhenfeng, Scholar, Department of Mechanical & Mechatronics Engineering, October 25, 2017 – April 24, 2018.

XIAO, Shaohua, Scholar, Department of Chemical Engineering, August 1, 2017 – July 31, 2018.

XU, Min, Researcher, Department of Electrical & Computer Engineering, September 17, 2017 – April 30, 2018.

YANG, Jie, Scholar, Department of Systems Engineering, September 1, 2017 – August 31, 2018.

YIN, Haibing, Scholar, Department of Electrical & Computer Engineering, May 19, 2017 – April 30, 2018.

ZAMANI SIBONI, Hossein, Scholar, Department of Electrical & Computer Engineering, May 1, 2017 – April 30, 2018.

ZHANG, Naisi, Scholar, Department of Mechanical & Mechatronics Engineering, November 1, 2017 – October 31, 2018.

ZHU, Xiaojun, Scholar, Department of Electrical & Computer Engineering, May 15, 2017 – May 14, 2018.

Visiting Reappointments

FANI, Mehrnaz, Researcher, Department of Systems Design Engineering, July 1, 2017 – September 30, 2017.

Special Appointments – Undergraduate Instruction

BELLINI, Christian, Lecturer, School of Architecture, May 1, 2017 – August 31, 2017.

BETTIO, Walter, Lecturer, School of Architecture, May 1, 2017 – August 31, 2017.

BISSETT, Tara, Lecturer, School of Architecture, May 1, 2017 – August 31, 2017.

ENGLAND, Craig, Lecturer, School of Architecture, May 1, 2017 – August 31, 2017.

HRYCYSHYN, Matthew, Department of Systems Design Engineering, May 1, 2017 – August 31, 2017.

HOOD, Kevin, Lecturer, Conrad Business, Entrepreneurship and Technology Centre, September 1, 2017 – December 31, 2017.

LEVITT, Janna, Lecturer, School of Architecture, May 1, 2017– August 31, 2017.

LIM TUNG, Fiona, Lecturer, School of Architecture, May 1, 2017 – August 31, 2017.

MANNING Thomas, Lecturer, Department of Management Sciences, September 1, 2017 – December 31, 2017.

MAYADUNNE, Anthony, Lecturer, Department of Management Sciences, September 1, 2017 – December 31, 2017.

MORENO, Carlos, Lecturer, Department of Electrical & Computer Engineering, May 1, 2017 – August 31, 2017.

MORYOUSSEF, Anya, Lecturer, School of Architecture, May 1, 2017 – August 31, 2017

PRETTI, Tracey Judene, Lecturer, Department of Management Sciences, September 1, 2017 – December 31, 2017.

SCOTT, Tim, Lecturer, School of Architecture, May 1, 2017 – August 31, 2017.

SOLEIMANI DAHAJ, Arash, Lecturer, Department of Management Sciences, September 1, 2017 – December 31, 2017.

SORLI, Scott, Lecturer, School of Architecture, May 1, 2017 – August 31, 2017.

ZURELL, Cory, Lecturer, School of Architecture, May 1, 2017 – August 31, 2017.

Special Appointments – Graduate Instruction

BARTHOLOMEW, Rachel, Lecturer, Conrad Business, Entrepreneurship and Technology Centre, May 1, 2017 – August 31, 2017.

FADER, Christina, Lecturer, Department of Management Sciences, September 1, 2017 – December 31, 2017.

ROHANI-TABATABAI, Mina, Lecturer, Department of Management Sciences, September 1, 2017 – December 31, 2017.

SORKHABI, Ali Ashasi, Lecturer, Department of Civil & Environmental Engineering, September 1, 2017 – December 31, 2017.

WASEF, Albert, Lecturer, Department of Electrical & Computer Engineering, September 1, 2016 – December 31, 2017.

Special Reappointments – Undergraduate Instruction

ATKINS, Andrea, Lecturer, School of Architecture, May 1, 2017 – August 31, 2017.

FARD, Ali, Lecturer, School of Architecture, May 1, 2017 – August 31, 2017.

MORENO, Carlos, Lecturer, Department of Electrical & Computer Engineering, September 1, 2017 – December 31, 2017.

PEARSON, Christine, Lecturer, School of Architecture, May 1, 2017 – August 31, 2017.

SAAD, John, Lecturer, Department of Electrical & Computer Engineering, September 1, 2017 – December 31, 2017.

Special Reappointments – Graduate Instruction and Supervision

ALLARAKHIA, Minna, Lecturer, Department of Management Sciences, September 1, 2017 – December 31, 2017.

Special Reappointments – Other

BEYNON, Douglas, Entrepreneur-in-Residence, Conrad Business, Entrepreneurship and Technology Centre, September 1, 2017 – August 31, 2018.

Adjunct Appointments – Graduate Supervision & Research

CZUIJKO, Tomas, Professor, Department of Mechanical & Mechatronics Engineering, June 1, 2017 – May 31, 2020.

GALLANT, Michael, Professor, Department of Systems Design Engineering, January 3, 2017 – December 31, 2019.

GHADDAR, Bissan, Assistant Professor, Department of Management Sciences, August 1, 2017 – July 31, 2020.

HAJMIRAGHA, Amir, Associate Professor, Department of Electrical & Computer Engineering, March 1, 2017 – February 28, 2020.

MUMFORD, Kevin, Associate Professor, Department of Civil & Environmental Engineering, July 1, 2017 – June 30, 2019.

SALISBURY, Christopher, Assistant Professor, Department of Mechanical & Mechatronics Engineering, May 1, 2017 – April 30, 2019.

VARAMINI, Sina, Assistant Professor, Department of Civil & Environmental Engineering, June 1, 2017 – May 31, 2019.

Adjunct Appointments – Graduate Instruction & Research

YOUSEFI, Leila, Assistant Professor, Department of Electrical & Computer Engineering, June 1, 2017 – May 31, 2020.

Adjunct Appointments – Graduate Supervision

KANG, Jidong, Professor, Department of Mechanical & Mechatronics Engineering, May 1, 2017 – March 30, 2019.

Adjunct Appointments – Research

JABBARZADEH GANGEH, Mehrdad, Associate Professor, Department of Systems Design Engineering, February 1, 2017 – January 31, 2019.

PAVLIN, Michael, Assistant Professor, Department of Management Sciences, July 1, 2017 – June 30, 2020.

Adjunct Reappointments – Graduate Instruction & Research

BOHNS, Vanessa, Assistant Professor, Department of Management Sciences, July 1, 2017 – June 30, 2020.

NAOUM-SAWAYA, Joe, Assistant Professor, Department of Management Sciences, July 1, 2017 – August 31, 2020.

SACCOMANNO, Frank, Professor, Department of Civil & Environmental Engineering, July 1, 2017 – June 30, 2018.

Adjunct Reappointments – Research

SEGLENIEKS, Frank, Assistant Professor, Department of Civil & Environmental Engineering, July 1, 2017 – June 30, 2019.

Cross Appointments

FOWLER, Michael, Professor, Department of Chemical Engineering to Department of Mechanical & Mechatronics Engineering, June 15, 2017 – June 14, 2020.

LEONENKO, Yuri, Associate Professor, Department of Earth and Environmental Sciences, Faculty of Science to Department of Chemical Engineering, September 1, 2017 – August 30, 2020.

MORITA, Plinio, Assistant Professor, School of Public Health and Health Systems, Faculty of Applied Health Sciences to Department of Systems Design Engineering, May 1, 2017 – April 30, 2020.

NARASIMHAN, Sriram, Associate Professor, Department of Civil & Environmental Engineering to Mechanical & Mechatronics Engineering, June 22, 2017 – June 21, 2020.

PARKER, Wayne, Professor, Department of Civil & Environmental Engineering to Systems Design Engineering, May 1, 2017 – April 30, 2020.

Cross Reappointment

ARMITAGE, Howard, Professor, Conrad Business, Entrepreneurship and Technology Centre to Department of Management Sciences, September 1, 2017 – August 31, 2020.

BIZHEVA, Kostadinka, Associate Professor, Department of Physics & Astronomy, Faculty of Science, to Department of Systems Design Engineering, June 1, 2017 – May 31, 2020.

DUSSEAULT, Maurice, Professor, Department of Earth & Environmental Sciences, Faculty of Science to Department of Civil & Environmental Engineering, July 1, 2017 – June 30, 2020.

HANCOCK, Mark, Associate Professor, Department of Management Sciences to Department of Systems Design Engineering, September 1, 2017 – August 31, 2020.

Changes in Appointments

BASIR, Nada, Probationary Term, Assistant Professor, Conrad Business, Entrepreneurship and Technology Centre, was October 1, 2015 – June 30, 2019 changed to October 1, 2015 to June 30, 2020.

WEST, Jeff, Administrative Appointment, Professor, Chair, Department of Civil & Environmental Engineering, January 1, 2017 – December 31, 2020 changed to January 1, 2017 – August 31, 2017.

ADMINISTRATIVE APPOINTMENTS

HAAS, Carl, Interim Chair, Department of Civil & Environmental Engineering, September 20, 2017 – April 30, 2018

NEILSEN, Chris, Co-ordinator, MAsc/PhD Programs, Department of Electrical & Computer Engineering, July 1, 2017 – June 30, 2020.

SAFAYENI, Frank, Interim Associate Chair for Graduate Studies, Department of Management Sciences, July 1, 2017 – August 31, 2017.

ADMINISTRATIVE REAPPOINTMENTS

BLACKWELL, Adrian, Associate Director, Graduate Studies and Research, School of Architecture, September 1, 2017 – August 31, 2019.

CULHAM, Richard, Associate Dean, International, Department of Mechanical & Mechatronics Engineering, July 1, 2017 – December 31, 2018.

CULHAM, Richard, Vice Dean, International, Department of Mechanical & Mechatronics Engineering, July 1, 2017 – December 31, 2018.

IOANNIDIS, Marios, Associate Chair, Undergraduate Studies, Department of Chemical Engineering, May 1, 2017 – April 30, 2019.

C. *RESIGNATIONS*

CHAN, Ariel, Definite Term Lecturer, Department of Chemical Engineering, June 30, 2017.

GHADDAR, Bissan, Probationary Term Assistant Professor, Department of Management Sciences, July 31, 2017.

KHOSHNEGAR SHAHRESTANI, Milad, Visiting Scholar, Department of Electrical & Computer Engineering, June 1, 2017.

FOR APPROVAL BY THE BOARD OF GOVERNORS

D. *SABBATICALS*

DAMEN, Mohamed Oussama, Professor, Department of Electrical & Computer Engineering, January 1, 2018 – June 30, 2018, six months at 100% salary.

DAVISON, Daniel, Associate Professor, Department of Electrical & Computer Engineering, May 1, 2018 – April 30, 2019, twelve months at 100% salary.

DUIMERING, P. Robert, Associate Professor, Department of Management Sciences, January 1, 2018 – December 31, 2018, twelve months at 85% salary.

CUI, Bo, Associate Professor, Department of Electrical & Computer Engineering, January 1, 2018 – June 30, 2018, six months at 85% salary.

EMELKO, Monica, Professor, Department of Civil & Environmental Engineering, January 1, 2018 – December 31, 2018, twelve months at 85% salary.

HAAS, Carl, Professor, Department of Civil & Environmental Engineering, September 1, 2018 – August 31, 2019, twelve months at 90.6% salary.

MCKAY, Kenneth N., Professor, Department of Management Sciences, January 1, 2018 – June 30, 2018, six months at 100% salary.

POPE, Michael, Assistant Professor, Department of Chemical Engineering, July 1, 2018 – December 31, 2018, six months at 100% salary.

TAHVILDARI, Ladan, Associate Professor, Department of Electrical & Computer Engineering, January 1, 2018 – December 31, 2018, twelve months at 100% salary.

WILSON, Christopher, Professor, Department of Electrical & Computer Engineering and Institute for Quantum Computing, January 1, 2018 – June 30, 2018, six months at 85% salary.

ALREADY APPROVED BY THE BOARD OF GOVERNORS

ANDERSON, William, Professor, Department of Chemical Engineering, September 1, 2018 – August 31, 2019, twelve months at 100% salary.

PIGNATTI, Lorenzo, Associate Professor, School of Architecture, July 1, 2017 – December 31, 2017, six months at 100% salary.

STRAUBE, John, Associate Professor, Department of Civil & Environmental Engineering, July 1, 2017 – December 31, 2017, six months at 85% salary.

E. SPECIAL LEAVE

EL-SAADANY, Ehab, Professor, Department of Electrical & Computer Engineering, September 1, 2017 – August 31, 2018, twelve months unpaid.

PIGNATTI, Lorenzo, Associate Professor, School of Architecture, May 1, 2017 – November 30, 2019, two years, six months unpaid.

WELLS, Mary, Professor, Department of Mechanical & Mechatronics Engineering, November 1, 2017 – October 31, 2018, twelve months unpaid.



Pearl Sullivan
Dean, Faculty of Engineering

University of Waterloo
REPORT OF THE DEAN OF ENVIRONMENT TO SENATE
September 18, 2017

FOR INFORMATION

A. APPOINTMENTS

Probationary Term Appointments

AUGUST, Martine, Assistant Professor, School of Planning, September 1, 2017 to June 30, 2020: PhD, Toronto, 2014; MScPl, Toronto, 2007; BA, Winnipeg, 2004; BSc, Winnipeg, 2002. Dr. August's research focuses on the political economy of housing, the production of socio-spatial inequality and the pursuit of urban social justice, all of which directly complements the work of other faculty members in the School of Planning and provides exciting opportunities to enhance the Faculty of Environment's emerging capacity in social innovation, equity and sustainable communities.

PITTMAN, Jeremy, Assistant Professor, School of Planning, September 1, 2017 to June 30, 2020: PhD, Waterloo, 2016; MSc, Regina, 2009; BSc, Regina, 2004. Dr. Pittman's research focuses on the governance and policy dimensions of environmental conservation and sustainability, with emphasis on mixed methods research and the integration of social-ecological systems as applied to conservation issues. His work with a variety of communities (Indigenous, rural farmers, etc.) and his focus on the intersection of research and planning practice are an excellent fit with the School's professionally accredited planning programs.

Definite Term Appointment

BARBEAU, Christine, Lecturer, School of Environment, Resources and Sustainability, September 1, 2017 to August 31, 2020: PhD, Waterloo, 2017; MES, Waterloo, 2011; BSc, Queen's University, 2009. Dr. Barbeau's demonstrated teaching skill and her ability to deliver intensive block courses in field ecology and experiential courses focused on ecological monitoring, conservation and restoration ecology techniques and concepts, and environmental assessment, will be an asset to the School - as will her energy and enthusiasm for integrated research and the pursuit of sustainability.

Adjunct Appointments

Graduate Supervision

ANGLIN, Paul, Associate Professor, School of Planning, May 1, 2017 to April 30, 2020.

BALLANTYNE, Brian, PhD Committee Member [Professional], Department of Geography and Environmental Management, August 1, 2017 to July 31, 2022.

BAZELY, Dawn, Professor, Faculty of Environment, July 1, 2017 to December 31, 2020.

BOLAND, Alana, Associate Professor, School of Planning, June 1, 2017 to May 31, 2020.

BROWN, Graham, Professor, School of Environment, Enterprise and Development, September 1, 2017 to August 31, 2020.

CLARKE, Ann, Professor, Department of Geography and Environmental Management, August 1, 2017 to July 31, 2020.

FISHMAN, Tomer, Assistant Professor, School of Environment, Enterprise and Development, May 1, 2017 to December 31, 2018.

FITZPATRICK, Patricia, Associate Professor, Faculty of Environment, July 1, 2017 to December 31, 2020.

GROULX, Mark, Assistant Professor, Department of Geography and Environmental Management, August 1, 2017 to December 31, 2020.

HAIGHT, Murray, Associate Professor, Department of Geography and Environmental Management, April 1, 2017 to March 31, 2021.

JIN, Xiongbing, PhD Committee Member [Professional], School of Planning, June 1, 2017 to May 31, 2018.

McINTYRE, Donald, Assistant Professor, School of Environment, Resources and Sustainability, August 1, 2017 to December 31, 2020.

STRACHAN, Ian, Associate Professor, Department of Geography and Environmental Management, August 1, 2017 to July 31, 2022.

TSUJI, Leonard, Professor, School of Environment, Resources and Sustainability, January 1, 2018 to December 31, 2021.

WESTLEY, Frances, Professor, School of Environment, Enterprise and Development, August 1, 2017 to June 30, 2020.

Graduate Supervision and Research

BISUNG, Elijah, Assistant Professor, Department of Geography and Environmental Management, July 1, 2017 to June 30, 2022.

SWERDFAGER, Trevor, Graduate Committee Member [Professional], Faculty of Environment, July 1, 2017 to June 30 2020.

Instruction and Research

HADFIELD, Chris, Professor, Faculty of Environment, July 1, 2017 to June 30, 2020.

Special Appointments

Instruction

AYER, Nathan, Lecturer, School of Environment, Enterprise and Development, September 1, 2017 to December 31, 2017.

BEEBE, John, Lecturer, Department of Geography and Environmental Management, September 1, 2017 to December 31, 2017.

CASTON, Wayne, Lecturer, School of Planning, September 1, 2017 to December 31, 2017.

JOHANNSON, Lynn, Lecturer, School of Environment, Enterprise and Development, September 1, 2017 to December 31, 2017.

McKENZIE, Janet, Lecturer, School of Environment, Enterprise and Development, September 1, 2017 to December 31, 2017.

MURRAY, Daniel, Lecturer, School of Environment, Enterprise and Development, September 1, 2017 to December 31, 2017.

O'CONNELL, Erin, Lecturer, Faculty of Environment, September 1, 2017 to December 31, 2017.

RAY, Nicholas, Lecturer, Department of Knowledge Integration, September 1, 2017 to December 31, 2017.

SCHUMILAS, Theresa, Lecturer, School of Environment, Enterprise and Development, September 1, 2017 to December 31, 2017.

STEWART, Douglas, Lecturer, School of Environment, Resources and Sustainability, September 1, 2017 to December 31, 2017.

Cross Appointment

STONE, Micheal, Professor, Department of Geography and Environmental Management to the School of Planning, June 1, 2017 to May 31, 2020.

Graduate Student Appointed as Part-Time Lecturer

KARROW, Thomas, Department of Geography and Environmental Management, September 1, 2017 to December 31, 2017.

Postdoctoral Fellow Appointed as Part-Time Lecturer

McCORDIC, Cameron, School of Environment, Enterprise and Development, September 1, 2017 to December 31, 2017.

B. ADMINISTRATIVE APPOINTMENTS

SWATUK, Larry, Director, Development Practice Master's Program, School of Environment, Enterprise and Development, July 1, 2017 to June 30, 2020.

WEBER, Olaf, Graduate Officer, School of Environment, Enterprise and Development, September 1, 2017 to August 31, 2020.

ADMINISTRATIVE REAPPOINTMENT

SCOTT, Dan, Director, Interdisciplinary Centre on Climate Change, July 1, 2017 to December 31, 2017.

C. RETIREMENT

WESTLEY, Frances, Professor, School of Environment, Enterprise and Development, August 1, 2017.

D. SABBATICAL LEAVES

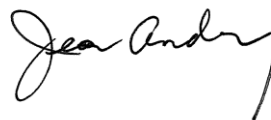
For Approval by the Board of Governors

ARMITAGE, Derek, Professor, School of Environment, Resources and Sustainability, July 1, 2018 to December 31, 2018, at full salary.

COURTENAY, Simon, Professor, School of Environment, Resources and Sustainability, January 1, 2018 to December 31, 2018, at full salary.

STONE, Micheal, Professor, Department of Geography and Environmental Management, January 1, 2018 to December 31, 2018, at full salary.

WOLFE, Sarah, Associate Professor, School of Environment, Resources and Sustainability, July 1, 2018 to December 31, 2018, at full salary.



Jean Andrey
Dean

University of Waterloo
REPORT OF THE DEAN OF MATHEMATICS TO SENATE
September 18, 2017

FOR INFORMATION

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

Probationary-Term Appointments

ABARI, Omid (BEng, 2010, Carleton University; MSc, 2013; PhD, exp 2017, both from the Massachusetts Institute of Technology), Assistant Professor, David R. Cheriton School of Computer Science, May 1, 2018 – June 30, 2021. Mr. Abari's research focuses on computer networks, wireless systems, software-hardware systems, embedded systems, mmWave communications, internet-of-things (IoT), and smart cities. His prolific and diverse publication record is exceptional, with 16 conference papers. Much of his work has been published in the premier conferences of his area, including NSDI, SIGCOMM, HotNets, MobiCom, and INFOCOM. Two of his papers were ACM Student Research Competition Winners.

BEN-DAVID, Shalev (BMath, 2011, University of Waterloo; PhD, exp 2017, Massachusetts Institute of Technology), Assistant Professor, David R. Cheriton School of Computer Science, July 1, 2018 – June 30, 2021. Mr. Ben-David's research focuses on computational complexity and quantum computing, with a particular focus on communication complexity and information complexity. His publication record is already excellent two journal papers and seven conference papers in top research venues. One of his papers won the Best Student Paper at the annual Quantum Information Processing (QIP) conference.

MASHTIZADEH, Ali (BS, 2006, MEng, 2007, both from the Massachusetts Institute of Technology; PhD, exp 2017, Stanford University), Assistant Professor, David R. Cheriton School of Computer Science, September 1, 2017 – June 30, 2020. Mr. Mashtizadeh's research focuses on operating systems, distributed systems, and storage systems. His publication record is excellent, with nine conference papers. Much of his work has been published in the premier conferences for his research, including ASPLOS, CCS, SOSP, and USENIX. As well, he holds seven patents as well as being inventor on several patents from when he was employed at VMware Inc.

Probationary-Term Reappointments

BLAIS, Eric, Assistant Professor, David R. Cheriton School of Computer Science, July 1, 2017 – June 30, 2020.

NELSON, Peter, Assistant Professor, Dept. of Combinatorics and Optimization, July 1, 2018 – June 30, 2021.

Definite Term - Appointments

BRUNI, Carmen (BMath, 2009; MMath, 2010, both from the University of Waterloo; PhD, 2015, University of British Columbia), Lecturer, David R. Cheriton School of Computer Science, September 1, 2017 – August 30, 2019. Dr. Bruni will teach five courses per year, plus another task which could be another course or a more intensive service task, to be determined by the Director of the School and the Director of Undergraduate Studies.

GAO, Alice (BSc, 2008, University of British Columbia; PhD, 2014, Harvard University), Lecturer, David R. Cheriton School of Computer Science, August 1, 2017 – July 31, 2020. Dr. Gao will teach five courses per year as well as service duties as required. She will also conduct research and will carry an expectation of publishing refereed conference and journal papers.

ISTEAD, Lesley (PhD, exp 2017; MMath, 2009; BMath, 2007, all from the University of Waterloo), Lecturer, David R. Cheriton School of Computer Science, July 1, 2017 – June 29, 2019. Ms. Istead will teach five courses per year, plus other duties which could either be advising or course development.

RAMEZAN, Reza (BSc, 2003, Isfahan University of Technology; MSc, 2006, Allameh Tabatabaei University; PhD, 2013, University of Waterloo), Lecturer, Dept. of Statistics and Actuarial Science, July 1, 2017 – June 30, 2020. Dr. Ramezan will teach six courses per year at both graduate and undergraduate levels plus service as assigned by the Chair.

Definite Term - Reappointments

BLAKE, Peter, Lecturer, Office of the Dean, September 1, 2017 – August 31, 2020.

LIU, Zhiyong, Lecturer, David R. Cheriton School of Computer Science, September 1, 2017 – August 31, 2020.

PETRICK, Mark, Lecturer, David R. Cheriton School of Computer Science, July 1, 2017 – June 30, 2019.

Visiting Appointments

ASHRAFI, Nahid (Semnan University), Researcher, Dept. of Pure Mathematics, January 20, 2018 – September 20, 2018.

BEVRANI, Hossein (University of Tabriz), Researcher, Dept. of Statistics and Actuarial Science, September 1, 2017 – July 1, 2018.

BINGOL, Haluk (Bogazici University), Scholar, Office of the Dean, August 15, 2017 – August 31, 2018.

CHEN, Liang (Donghua University), Scientist, Dept. of Applied Mathematics, August 21, 2017 – August 20, 2018.

CHEN, Ruijuan (Huazhong University of Science and Technology), Scholar, Dept. of Applied Mathematics, October 5, 2017 – October 4, 2018.

LI, Qian (University of Electronic Science and Technology of China), Scholar, Dept. of Applied Mathematics, September 1, 2017 – February 28, 2019.

LUO, Jinnan (University of Electronic Science and Technology of China), Scholar, Dept. of Applied Mathematics, September 1, 2017 – August 31, 2019.

MARTIN, Robert (University of Cape Town), Scientist, Dept. of Applied Mathematics, September 1, 2017 – February 27, 2018.

MARZOUK, Mirette, Research Associate, David R. Cheriton School of Computer Science, September 1, 2017 – August 31, 2018.

MONDAL, Debajyoti (University of Saskatchewan), Assistant Professor, David R. Cheriton School of Computer Science, August 1, 2017 – December 31, 2017.

RAJABI, Marjan (Azad University), Scholar, Dept. of Statistics and Actuarial Science, September 1, 2017 – December 31, 2017.

SHENG, De-Lei (Shanxi University of Finance and Economics), Scholar, Dept. of Statistics and Actuarial Science, March 1, 2018 – February 28, 2019.

ZHAN, Tao (Shandong University), Scholar, Dept. of Applied Mathematics, September 1, 2017 – August 31, 2018.

ZHANG, Ruimei (University of Electronic Science and Technology of China), Scholar, Dept. of Applied Mathematics, September 1, 2017 – August 31, 2018.

ZHANG, Xili (Zhejiang University), Associate Professor, David R. Cheriton School of Computer Science, September 1, 2017 – August 31, 2018.

Adjunct Appointments

Instructor

KAZERANI, Ali, Lecturer, Office of the Dean, September 1, 2017 – December 31, 2017.

LEE, Brenda, Lecturer, Office of the Dean, September 1, 2017 – December 31, 2017.

TURNER, Graeme, Lecturer, Office of the Dean, September 1, 2017 – December 31, 2017.

WEEKES, Alex, Lecturer, Office of the Dean, September 1, 2017 – December 31, 2017.

Research

SALVY, Bruno (INRIA), Associate Professor, David R. Cheriton School of Computer Science, March 5, 2017 – June 30, 2019.

Adjunct Reappointments

Instructor

AKINYEMI, John, Lecturer, David R. Cheriton School of Computer Science, September 1, 2017 – December 31, 2017.

AL-MASRI, Eyhab, Lecturer, David R. Cheriton School of Computer Science, September 1, 2017 – December 31, 2017.

ALWAN, Mohamad, Lecturer, Dept. of Applied Mathematics, September 1, 2017 – December 31, 2017.

ESMAEILSABZALI, Shahram, Lecturer, David R. Cheriton School of Computer Science, September 1, 2017 – December 31, 2017.

FERNANDES, Brian, Lecturer, Office of the Dean, September 1, 2017 – December 31, 2017.

HEYDARNOORI, Abbas, Lecturer, David R. Cheriton School of Computer Science, September 1, 2017 – December 31, 2017.

HACKMAN, Robert, Lecturer, David R. Cheriton School of Computer Science, September 1, 2017 – December 31, 2017.

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

KAMAL, Zille Huma, Lecturer, David R. Cheriton School of Computer Science, September 1, 2017 – December 31, 2017.

KAUFFMAN, Sean, Lecturer, David R. Cheriton School of Computer Science, September 1, 2017 – December 31, 2017.

KESHAV, Nicole, Lecturer, David R. Cheriton School of Computer Science, September 1, 2017 – April 30, 2018.

McKINNON, Jennifer, Lecturer, Office of the Dean, September 1, 2017 – December 31, 2017.

NIJJAR, Paul, Lecturer, David R. Cheriton School of Computer Science, September 1, 2017 – December 31, 2017.

SELLAROLI, Giuseppe, Lecturer, Office of the Dean, September 1, 2017 – December 31, 2017.

SHARMA, Puneet, Lecturer, Dept. of Applied Mathematics, September 1, 2017 – August 31, 2018.

SMITH, Paula, Lecturer, Office of the Dean, September 1, 2017 – December 31, 2017.

TANG, Herbert, Lecturer, Office of the Dean, September 1, 2017 – December 31, 2017.

TONDELLO, Gustavo, Lecturer, David R. Cheriton School of Computer Science, September 1, 2017 – December 31, 2017.

VICENTE-COLMENARES, Alejandra, Lecturer, Office of the Dean, September 1, 2017 – December 31, 2017.

Research

BURRIS, Stanley, Professor Emeritus, Dept. of Pure Mathematics, July 1, 2017 – June 30, 2020.

FAREWELL, Vern (University of Cambridge), Professor, Dept. of Statistics and Actuarial Science, July 1, 2017 – June 30, 2020.

LAWLESS, Jerald, Professor Emeritus, Dept. of Statistics and Actuarial Science, September 1, 2017 – August 31, 2020.

McLEISH, Don, Professor Emeritus, Dept. of Statistics and Actuarial Science, July 1, 2017 – June 30, 2020.

O'HARA-HINES, Jeanette, Professor Emeritus, Dept. of Statistics and Actuarial Science, September 1, 2017 – August 31, 2020.

WU, Jeff (Georgia Institute of Technology), Professor, Dept. of Statistics and Actuarial Science, July 1, 2017 – June 30, 2020.

Cross Appointments

DIETL, Werner (Assistant Professor, Dept. of Electrical & Computer Engineering), in the David R. Cheriton School of Computer Science, January 23, 2017 – June 30, 2019.

Cross Reappointments

HIPEL, Keith (Professor, Systems Design Engineering), in the Dept. of Statistics and Actuarial Science, January 1, 2018 – December 31, 2020.

Changes in Appointments

NEKRICH, Iakov, Research Assistant Professor, David R. Cheriton School of Computer Science (*as reported in Senate June, 2017*)

From: May 1, 2017 – August 31, 2018

To: November 1, 2017 – February 28, 2019

Graduate Students appointed as Part-time Lecturers

KABIR, Ifaz, David R. Cheriton School of Computer Science, September 1, 2017 – December 31, 2017.

Graduate Students reappointed as Part-time Lecturers

AIREFAI, Ahmad Salam, David R. Cheriton School of Computer Science, September 1, 2017 – December 31, 2017.

AVERY, Leon, Dept. of Applied Mathematics, September 1, 2017 – December 31, 2017.

BURGER, Reinhold, David R. Cheriton School of Computer Science, September 1, 2017 – December 31, 2017.

CARIGNAN-DUGAS, Arnaud, Dept. of Applied Mathematics, September 1, 2017 – December 31, 2017.

CHURCH, Kevin, Dept. of Applied Mathematics, September 1, 2017 – December 31, 2017.

HE, Yangxin, Dept. of Applied Mathematics, September 1, 2017 – December 31, 2017.

PELLOWE, Moriah, Dept. of Applied Mathematics, September 1, 2017 – December 31, 2017.

PHARAON, Joe, Dept. of Applied Mathematics, September 1, 2017 – December 31, 2017.

SHARMA, Puneet, Dept. of Applied Mathematics, September 1, 2017 – December 31, 2017.

TAN, Luchen, David R. Cheriton School of Computer Science, September 1, 2017 – December 31, 2017.

XU, Cehngzhu, Dept. of Applied Mathematics, September 1, 2017 – December 31, 2017.

Postdoctoral Fellows appointed as Part-time Lecturers

ADESINA, Opeyemi, David R. Cheriton School of Computer Science, September 1, 2017 – August 31, 2018.

ADICEAM, Faustin, Dept. of Pure Mathematics, September 1, 2017 – August 31, 2019.

BINIAZ, Ahmad, David R. Cheriton School of Computer Science, Sept 1, 2017 – Aug 31, 2019.

RAHAMAN, Mizanur, Dept. of Pure Mathematics, August 1, 2017 – July 31, 2019.

SEPEHRI, Maryam, David R. Cheriton School of Computer Science, November 1, 2017 – April 30, 2018.

Postdoctoral Fellow reappointed as part-time Lecturers

RAHKOOY, Hamid, David R. Cheriton School of Computer Science, September 1, 2017 – August 31, 2018.

SINKOVIC, John, Dept. of Combinatorics and Optimization, August 1, 2017 – August 31, 2018.

B. ADMINISTRATIVE APPOINTMENTS

KARSTEN, Martin, Director, Infrastructure, David R. Cheriton School of Computer Science, July 1, 2017 – June 30, 2020.

KRIVODONOVA, Lilia, Associate Chair, Graduate Studies, Dept. of Applied Mathematics, July 1, 2017 – June 30, 2019.

C. RESIGNATIONS

DUPUIS, Maite, Research Assistant Professor, Dept. of Applied Mathematics, effective July 31, 2017.

D. RETIREMENT

SMITH, Paula, Lecturer, Office of the Dean, effective August 31, 2017.

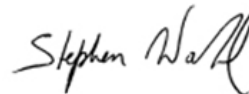
E. SABBATICALS (already approved by the Board of Governors)

STORJOHANN, Arne (Associate Professor), David R. Cheriton School of Computer Science, September 1, 2017 – August 31, 2018, with 85% salary.

F. SPECIAL LEAVE

CLARKE, Charles (Professor), David R. Cheriton School of Computer Science, July 1, 2017 – June 30, 2018. This is an unpaid leave.

DE STERCK, Hans (Professor), Dept. of Applied Mathematics, August 1, 2017 – August 31, 2017. This is an unpaid leave.



Stephen M. Watt
Dean

UNIVERSITY OF WATERLOO
REPORT OF THE DEAN OF SCIENCE TO SENATE
September 18, 2017

For information:

A. APPOINTMENTS

Tenured

GAMBLE, John-Michael, Clinical Associate Professor, School of Pharmacy, September 1, 2017. [B.Sc., Lakehead University (2001); B.Sc.Pharm., University of Alberta (2005); M.Sc., University of Alberta (2008); Ph.D., University of Alberta (2012).] Dr. Gamble was previously an Associate Professor at Memorial University of Newfoundland. Dr. Gamble's research area is pharmacoepidemiology and his research has been primarily focused on the safety and effectiveness of medications used in the treatment of diabetes. He is currently PI on a CIHR operating grant to study the comparative safety and effectiveness of the incretins for treatment of diabetes. In addition, he is a CIHR New Investigator (awarded through September 2018) and holds a Clinical Scientist Salary Award from the Canadian Diabetes Association.

HO, Emmanuel, Associate Professor, School of Pharmacy, September 1, 2017. [B.Sc., University of Toronto (2001); Ph.D., University of Toronto (2007).] Dr. Ho was previously the Leslie Buggey Professor of Pharmacy at the University of Manitoba. Dr. Ho's research area focused on drug delivery and dosage form design with an emphasis on delivery of nanomedicines and vaccines for the treatment of HIV/AIDS, cancer and wound healing. His research program has been supported by a diverse range of agencies including NSERC, CIHR, Manitoba Health Research Council, CFI and the Bill and Melinda Gates Foundation. In addition to his publications, he has been awarded or submitted a number of patent applications, some of which relate to his innovative work with intravaginal rings for delivery of anti-HIV drugs. He is currently the President of the Canadian Chapter of the Controlled Release Society.

WOO, Stanley, Clinical Professor, School of Optometry and Vision Science, July 1, 2017. [B.Sc., University of Toronto (1990); B.S., University of California at Berkeley (1992); O.D., University of California at Berkeley (1994); M.S., University of Houston (2000); M.B.A., Rice University (2013).] Dr. Woo joins the School of Optometry and Vision Science as Director after serving the past four years as the Dean of the Southern California College of Optometry at Marshall B. Ketchum University. We are excited that he will be joining the talented team of dedicated professional that are world leaders in optometric education, vision science and patient care. Dr. Woo's research interests include vision rehabilitation and public health policy.

Definite Term Appointment – Full-time

BRIGHT, Jenna, Clinical Lecturer, School of Optometry and Vision Science, July 1, 2017 to June 30, 2019. [B.Sc., University of Waterloo (2005); M.Sc., University of Waterloo (2007); OD, University of Waterloo (2011).] Dr. Bright has assumed the role of Director of the International Optometric Bridging Program (IOBP). She brings a wealth of experience having served as the Program Manager for the past six years.

GILBERT, Dara, Lecturer, Department of Chemistry, August 1, 2017 to June 30, 2020. [B.A., University of California at Berkeley (1982); Ph.D., University of California at Los Angeles (1991).] Dr. Gilbert was most recently serving as a sessional lecturer in the Department of Chemistry at the University of Waterloo. She has served a number of roles over the last twelve years at Waterloo, including numerous sessional lecturer positions in both general chemistry and biochemistry, and has also supported the MNS program through course development, teaching and lab instruction. She has also served as an analytical lab instructor from 2015-16. She has filled similar roles in the past at UC Davis, and has extensive biochemistry experience from both her graduate work at UCLA as well as postdoctoral training at both UCLA and Harvard Medical

School. Based on her strong training in biochemistry, as well as her strong rapport with students in both formal and informal settings and demonstrated teaching skills, the Chemistry Department is pleased to welcome her as a Lecturer in Biochemistry.

NAKHLA, Nardine, Lecturer, School of Pharmacy, July 1, 2017 to June 30, 2022. [Pharm.D., Albany College of Pharmacy and Health Sciences (2007).] Dr. Nardine Nakhla has significant teaching experience at both the University of Waterloo and University of Toronto. She is nationally recognized for her expertise in self-care, non-prescription drugs and common ailment prescribing. She has published a number of commentaries related to these topics in pharmacy journals and authored the book chapter “Pharmacist assessment of the self-treating patient” in the *Compendium of Therapeutics for Minor Ailments* published by the Canadian Pharmacists Association.

PARSONS, Christopher, Research Assistant Professor, Department of Earth and Environmental Sciences, June 1, 2017 to May 31, 2020. [M.Sc., University of Manchester (2007); Ph.D., Université Joseph Fourier (2011).] Dr. Parsons started with the CERC group in the Department of Earth and Environmental Sciences in 2012. He has acquired funding for three plus years and has been appointed as Research Assistant Professor. His duties include conducting and managing research on biogeochemical processes affecting the mobility and speciation of nutrients and contaminants under dynamic environmental conditions with the Ecohydrology Group.

WOO, Lisa, Clinical Lecturer, School of Optometry and Vision Science, September 1, 2017 to August 31, 2017. [BA, University of Texas at Austin (1996); OD, University of Houston (2000).] With 17 years of experience in clinical practice, Dr. Lisa Woo brings a real-world perspective to the School of Optometry and will be a valuable asset to the clinical program. Students in 3rd and 4th year prepare for clinical practice by seeing patients in the School of Optometry and Vision Science public clinic, while being supervised by a licensed optometrist. Dr. Woo will bring her practical knowledge and experience of optometry to those supervision encounters. Dr. Woo will also be a strong addition to the clinical techniques teaching program typically taking place in a lab setting where students learn and practice their clinical techniques on each other. Dr. Woo is well positioned to support student learning in that format.

Adjunct Appointments
Graduate Supervision

MOHAMMED, Rasheeduddin, Professor, Department of Earth and Environmental Sciences, May 1, 2017 to April 30, 2020.

Research

KARIMI, Reza, Assistant Professor, Department of Physics and Astronomy, June 1, 2017 to May 31, 2020.

Graduate Supervision and Research

DIXON, D. George, (Professor Emeritus), Professor, Department of Biology, July 1, 2017 to June 30, 2018.

LAUGHINGHOUSE, Dail, Assistant Professor, Department of Biology, May 1, 2017 to April 30, 2020.

Adjunct Reappointments
Graduate Supervision

AL-RAOUSH, Riyadh Ibrahim, Professor, Department of Earth and Environmental Sciences, May 1, 2017 to April 30, 2020.

AMOS, Richard, Professor, Department of Earth and Environmental Sciences, September 1, 2017 to August 31, 2020.

BADEA, Ildiko, Associate Professor, School of Pharmacy, May 1, 2017 to April 30, 2020.

FLANAGAN, John, (Professor Emeritus), Professor, School of Optometry and Vision Science, June 1, 2017 to May 1, 2020.

GUILMETTE, Carl, Assistant Professor, Department of Earth and Environmental Sciences, May 1, 2017 to June 30, 2020.

HANLEY, Jacob, Professor, Department of Earth and Environmental Sciences, May 1, 2017 to April 30, 2020.

HUNKELER, Daniel, Professor, Department of Earth and Environmental Sciences, August 1, 2017 to July 31, 2020.

KARROW, Paul, (Distinguished Professor Emeritus), Professor, Department of Earth and Environmental Sciences, September 1, 2017 to August 31, 2020.

LEE, David R., Professor, Department of Earth and Environmental Sciences, July 1, 2017 to June 30, 2020.

MOK, Chin Man, Professor, Department of Earth and Environmental Sciences, April 1, 2017 to March 31, 2020.

PARK, Chul B., Professor, Department of Physics and Astronomy, May 1, 2017 to April 30, 2020.

ROBERTSON, William, Associate Professor, Department of Earth and Environmental Sciences, May 1, 2017 to April 30, 2020.

SIVAK, Jeremy, Assistant Professor, School of Pharmacy, May 1, 2017 to April 30, 2020.

STEIN, Holly, Professor, Department of Earth and Environmental Sciences, May 1, 2017 to April 30, 2020.

VENKITESWARAN, Jason, Assistant Professor, Department of Earth and Environmental Sciences, September 1, 2017 to August 31, 2020.

Research

WERETILNYK, Elizabeth, Professor, Department of Biology, August 1, 2017 to July 31, 2020.

Other

BRUBACHER, Lewis, (Professor Emeritus), Associate Professor, Department of Chemistry, July 1, 2017 to August 31, 2020.

ELLIS, Julian, Clinical Lecturer, School of Pharmacy, September 1, 2017 to August 31, 2018.

LEE, Joseph, Assistant Professor, School of Pharmacy, July 1, 2017 to June 30, 2020.

Graduate Supervision and Research

GUINEL, Frédérique, Professor, Department of Biology, September 1, 2017 to August 31, 2019.

HANSON, Mark, Associate Professor, Department of Biology, September 1, 2017 to August 31, 2020.

PATERSON, Andrew, Assistant Professor, Department of Biology, October 1, 2017 to September 30, 2020.

SMITH, Matthew, Associate Professor, Department of Biology, May 1, 2017 to April 30, 2020.

THOMPSON, John E., (Distinguished Professor Emeritus), Professor, Department of Biology, July 1, 2017 to June 30, 2020.

TUROK, Neil, Professor, Department of Physics and Astronomy, October 1, 2017 to September 30, 2022.

VAN DER KRAAK, Glen, Professor, Department of Biology, October 1, 2017 to September 30, 2020.

Graduate Instruction, Graduate Supervision and Research

GAIOTTO, Davide, Assistant Professor, Department of Physics and Astronomy, May 18, 2017 to May 31, 2022.

Undergraduate Instruction, Research and Other

HADFIELD, Chris A., Professor, jointly between the Faculty of Applied Health Sciences/ Environment/Science, July 1, 2017 to June 30, 2020.

Cross Appointments

MELKO, Roger, Associate Professor, Department of Physics and Astronomy cross appointed to Department of Chemistry, July 1, 2017 to August 31, 2020.

Cross Reappointments

BAJCSY, Michal, Assistant Professor, Electrical and Computer Engineering cross appointed to Department of Physics and Astronomy, July 1, 2017 to June 30, 2020.

BEAZELY, Michael A., Associate Professor, School of Pharmacy cross appointed to Department of Biology, July 1, 2017 to June 30, 2020.

BROWN, Daniel G., Professor, Cheriton School of Computer Science cross appointed to Department of Biology, October 1, 2017 to September 30, 2020.

COOKE, Martin, Associate Professor, School of Public Health cross appointed to School of Pharmacy, June 1, 2017 to May 31, 2020.

DUNCKER, Bernard, Professor, Department of Biology cross appointed to School of Pharmacy, June 1, 2017 to May 31, 2020.

MIELKE, John G., Associate Professor, School of Public Health and Health Systems cross appointed to School of Pharmacy, September 1, 2016 to May 31, 2020 (please note dates are correct to expiry of previous appointment).

SCHIFF, Sherry, Professor, Department of Earth and Environmental Sciences cross appointed to Department of Biology, September 1, 2017 to August 31, 2020.

THOMSON, Neil, Department of Civil Engineering cross appointed to Department of Earth and Environmental Sciences, July 1, 2017 to June 30, 2019.

Special Appointments

Undergraduate Instruction

BRETZ, Kim, Lecturer, School of Pharmacy, September 1, 2017 to December 31, 2017.

CRAIG, Lisa, Lecturer, School of Pharmacy, September 1, 2017 to December 31, 2017.

HARVEY, Miln, Lecturer, Department of Earth and Environmental Sciences, May 1, 2017 to August 31, 2017.

MROUE, Kamal, Lecturer, Department of Chemistry, September 1, 2017 to December 31, 2017.

Special Reappointments
Undergraduate Instruction

AHMAD, Jauher K., Lecturer, School of Pharmacy, September 1, 2017 to December 31, 2017.

BEATTIE, Laura, Lecturer, School of Pharmacy, September 1, 2017 to December 31, 2017.

HUGHES, Dave, Lecturer, School of Pharmacy, September 1, 2017 to December 31, 2017.

LEKIN, Kristina, Lecturer, Department of Chemistry, September 1, 2017 to December 31, 2017.

MARTIN-MARTINEZ, Eduardo, Lecturer, Department of Physics and Astronomy, September 1, 2017 to December 31, 2017.

ROBERTS, Ken, Lecturer, School of Pharmacy, September 1, 2017 to December 31, 2017.

WASFI, Olla, Lecturer, School of Pharmacy, September 1, 2017 to December 31, 2017.

B. ADMINISTRATIVE APPOINTMENTS

ENDRES, Anthony, Associate Chair, Graduate Studies, Department of Earth and Environmental Sciences, January 1, 2018 to December 31, 2018.

MARSDEN, Mungo, Associate Chair, Graduate Studies, Department of Biology, September 1, 2017 to August 31, 2018.

McMAHON, Terrence, Materials and Nano Science (MNS) Program Liaison, Faculty of Science, May 1, 2017 to August 31, 2018.

MÜLLER, Kirsten, Associate Dean, Graduate Studies, Faculty of Science, September 1, 2017 to August 31, 2018.

RESCH, Kevin, Interim Director, Institute for Quantum Computing, July 1, 2017 to December 31, 2017.

ROSS, Martin, Associate Chair, Graduate Studies, Department of Earth and Environmental Sciences, July 1, 2017 to December 31, 2017.

RUDOLPH, David, Chair, Department of Earth and Environmental Sciences, July 1, 2017 to June 30, 2021.

THOMPSON, Ben, Associate Director, Research, School of Optometry and Vision Science, July 1, 2017 to December 31, 2017.

WITT, Jonathan, Associate Chair, Undergraduate Studies, January 1, 2018 to December 31, 2020.

WOO, Stanley, Director, School of Optometry and Vision Science and Associate Dean, Optometry, Faculty of Science, July 1, 2017 to June 30, 2021.

ADMINISTRATIVE REAPPOINTMENTS

DUHAMEL, Jean, Director, Institute for Polymer Research, Faculties of Science and Engineering, July 1, 2017 to June 30, 2020.

FRAPE, Shaun, Associate Chair, Undergraduate Studies, Department of Earth and Environmental Sciences, May 1, 2017 to April 30, 2019.

LIN, Shoufa, Associate Dean, International, Faculty of Science, January 1, 2018 to December 31, 2019.

C. *RESIGNATION*

WU, Lingling, Assistant Professor, Department of Earth and Environmental Sciences, effective July 1, 2017.

D. *RETIREMENT*

TURNOUR, Murray, Lecturer, School of Optometry and Vision Science, effective September 1, 2017.

FOR APPROVAL BY THE BOARD OF GOVERNORS

E. *SABBATICAL*

ORCHARD, Ian, Professor, Department of Biology, early sabbatical, July 1, 2017 to December 31, 2017, 100% salary arrangements.



R.P. Lemieux
Dean

University of Waterloo
SENATE GRADUATE & RESEARCH COUNCIL
Report to Senate
18 September 2017

Pending approval by Senate Graduate & Research Council on 12 June 2017 meeting, the following items are submitted to Senate for approval.

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

FOR APPROVAL

CHANGES TO ACADEMIC PLANS

Faculty of Mathematics

- 1. Motion:** To approve the deletion of the existing masters in health informatics (MHI) and MHI – co-operative program in computer science, as of January 2018, as presented in Attachment #1.

Rationale: Due to lack of applicants with sufficient computer science background, the School of Computer Science has not accepted MHI students after September 2012 and the last student in the program graduated in 2014. Students will not be affected by this program deletion as there are no students currently registered in the MHI in computer science. Applicants interested in a MHI program are accommodated by the MHI in the School of Public Health and Health Systems.

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

George Dixon
Vice President, University Research



Graduate Studies Program Revision Template

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

Faculty: Mathematics

Program: Master of Health Informatics (MHI)

Program contact name(s): Ian Goldberg, Margaret Towell

Form completed by: Margaret Towell

Description of proposed changes:

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

Cancellation of the Master of Health Informatics (MHI) program.

Is this a major modification to the program? Yes

Rationale for change(s):

Due to lack of applicants with sufficient CS background, the School of Computer Science has not accepted new MHI students after September 2012, and the last student in the program graduated in 2014.

Proposed effective date: Term: Winter Year: 2018

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

<https://uwaterloo.ca/graduate-studies-academic-calendar/mathematics/david-r-cheriton-school-computer-science/master-health-informatics-mhi>

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
<p>MASTER OF HEALTH INFORMATICS (MHI) The program information below is valid for the winter 2017 term (January 1, 2017 – April 30, 2017).</p> <p>The Graduate Studies Academic Calendar is updated 3 times per year, at the start of each academic term (January 1, May 1, September 1). Graduate Studies Academic Calendars from previous terms can be found in the <u>archives</u>.</p> <p>Students are responsible for reviewing the general information and regulations section of the Graduate</p>	<p><i>None, delete current content for this program.</i></p>

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
<p>Studies Academic Calendar.</p> <ul style="list-style-type: none"> • Program information • Admission requirements • Degree requirements <p>Program information</p> <ul style="list-style-type: none"> • Admit term(s) <ul style="list-style-type: none"> ○ Fall • Delivery mode <ul style="list-style-type: none"> ○ On campus • Program type <ul style="list-style-type: none"> ○ Master's ○ Professional • Registration option(s) <ul style="list-style-type: none"> ○ Full time ○ Part time • Study option(s) <ul style="list-style-type: none"> ○ Coursework • Additional program information <ul style="list-style-type: none"> ○ Note: The David R. Cheriton School of Computer Science is not currently accepting applications for the MHI program. <p>Admission requirements</p> <ul style="list-style-type: none"> • Minimum requirements- <ul style="list-style-type: none"> ○ An Honours Bachelor's degree (or equivalent) in Computer Science, Software Engineering, Information Systems, Systems Design Engineering, or equivalent with at least a 78% standing. ○ Graduate Record Examination (GRE) General test report for all applicants who have completed their post-secondary education outside of Canada or the United States. • Application materials <ul style="list-style-type: none"> ○ Résumé ○ Supplementary information form ○ Transcript(s) • References- <ul style="list-style-type: none"> ○ Number of references: 3 ○ Type of references: at least 2 academic • <u>English language proficiency (ELP)</u> (if applicable) <p>Degree requirements</p>	

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
<p>Coursework-option:</p> <ul style="list-style-type: none"> • Graduate Academic Integrity Module (Graduate AIM) • Courses <ul style="list-style-type: none"> ○ Required courses <ul style="list-style-type: none"> ▪ CS 645 Software Requirements Specification and Analysis ▪ CS 743 Principles of Database Management and Use ▪ CS 755 System and Network Architectures and Implementation ▪ CS 792 Data Structures and Standards in Health Informatics ▪ CS 793 Health Informatics – Applications Domains ▪ HSG 611 The Health Care System ▪ STAT 631 Introduction to Statistical Methods in Health Informatics ○ Elective courses: <ul style="list-style-type: none"> ▪ Students must complete 2 graduate courses chosen from Computer Science or, with permission, from course offerings in Statistics and/or Health Studies. ○ Students who have previously earned credit in a course equivalent to 1 of the required courses can replace the required course with another University of Waterloo graduate course in the same general area, subject to the approval of the Director of Graduate Studies in the David R. Cheriton School of Computer Science. • Link(s) to courses <ul style="list-style-type: none"> ○ Computer Science (CS) courses ○ Graduate course search <p>David R. Cheriton School of Computer Science website Discover Graduate Studies Master of Health Informatics (MHI) web page</p>	

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

Students will not be affected by this program deletion as there are no students currently registered in the MHI program in Computer Science. Applicants interested in a Masters of Health Informatics program are now accommodated best by the Master of Health Informatics program in SPHHS.

Departmental approval date: 04/12/2017

Reviewed by GSO (for GSO use only) date (mm/dd/yy): 04/25/2017

Faculty approval date (mm/dd/yy):

Senate Graduate & Research Council (SGRC) approval date (mm/dd/yy):

Senate approval date (mm/dd/yy) (if applicable):

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: Mathematics

Program: Master of Health Informatics (MHI) - Co-operative Program

Program contact name(s): Ian Goldberg, Margaret Towell

Form completed by: Margaret Towell

Description of proposed changes:

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

Cancellation of the Master of Health Informatics (MHI) - Co-operative Program program.

Is this a major modification to the program? Yes

Rationale for change(s):

Due to lack of applicants with sufficient CS background, the School of Computer Science has not accepted new MHI students after September 2012, and the last student in the program graduated in 2014.

Proposed effective date: Term: Winter Year: 2018

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

<https://uwaterloo.ca/graduate-studies-academic-calendar/mathematics/david-r-cheriton-school-computer-science/master-health-informatics-mhi-co-operative-program>

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
<p>MASTER OF HEALTH INFORMATICS (MHI) – CO-OPERATIVE PROGRAM The program information below is valid for the winter 2017 term (January 1, 2017 – April 30, 2017).</p> <p>The Graduate Studies Academic Calendar is updated 3 times per year, at the start of each academic term (January 1, May 1, September 1). Graduate Studies Academic Calendars from previous terms can be found in the archives.</p> <p>Students are responsible for reviewing the general information and regulations section of the Graduate</p>	<p><i>None, delete current content for this program.</i></p>

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
<p>Studies Academic Calendar.</p> <ul style="list-style-type: none"> • Program information • Admission requirements • Degree requirements <p>Program information</p> <ul style="list-style-type: none"> • Admit term(s) <ul style="list-style-type: none"> ○ Fall • Delivery mode <ul style="list-style-type: none"> ○ On campus • Program type <ul style="list-style-type: none"> ○ Co-operative ○ Master's ○ Professional • Registration option(s) <ul style="list-style-type: none"> ○ Full-time ○ Part-time • Study option(s) <ul style="list-style-type: none"> ○ Coursework • Additional program information <ul style="list-style-type: none"> ○ Note: The David R. Cheriton School of Computer Science is not currently accepting applications for the MHI program. <p>Admission requirements</p> <ul style="list-style-type: none"> • Minimum requirements <ul style="list-style-type: none"> ○ An Honours Bachelor's degree (or equivalent) in Computer Science, Software Engineering, Information Systems, Systems Design Engineering, or equivalent with at least a 78% standing. ○ Graduate Record Examination (GRE) General test report for all applicants who have completed their post-secondary education outside of Canada or the United States. • Application materials <ul style="list-style-type: none"> ○ Résumé ○ Supplementary information form ○ Transcript(s) • References <ul style="list-style-type: none"> ○ Number of references: 3 ○ Type of references: at least 2 academic • <u>English language proficiency (ELP)</u> (if applicable) 	

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
<p>Degree requirements</p> <p>Coursework option:</p> <ul style="list-style-type: none"> • <u>Graduate Academic Integrity Module (Graduate AIM)</u> • <u>Courses-</u> <ul style="list-style-type: none"> ○ <u>Required courses</u> <ul style="list-style-type: none"> ▪ <u>CS 645 Software Requirements Specification and Analysis</u> ▪ <u>CS 743 Principles of Database Management and Use</u> ▪ <u>CS 755 System and Network Architectures and Implementation</u> ▪ <u>CS 792 Data Structures and Standards in Health Informatics</u> ▪ <u>CS 793 Health Informatics – Applications Domains</u> ▪ <u>HSG 611 The Health Care System</u> ▪ <u>STAT 631 Introduction to Statistical Methods in Health Informatics</u> ○ <u>Elective courses:</u> <ul style="list-style-type: none"> ▪ <u>Students must complete 2 graduate courses chosen from Computer Science or, with permission, from course offerings in Statistics and/or Health Studies.</u> ○ <u>Students who have previously earned credit in a course equivalent to 1 of the required courses can replace the required course with another University of Waterloo graduate course in the same general area, subject to the approval of the Director of Graduate Studies in the David R. Cheriton School of Computer Science.</u> • <u>Link(s) to courses</u> <ul style="list-style-type: none"> ○ <u>Computer Science (CS) courses</u> ○ <u>Graduate course search</u> • <u>Graduate Studies Work Report</u> <ul style="list-style-type: none"> ○ <u>The program may be undertaken on a co-operative basis, enabling a student to combine graduate studies with some work experience. The usual pattern of study and work consists of two academic terms in which courses are taken, a one-term work placement, and a final academic term in which the courses are completed. Students may</u> 	

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
<p>indicate an interest in the co-op option in their application and can apply for the co-op option during their first or second term in the Master's program after securing a work placement.</p> <ul style="list-style-type: none"> ○ The work placement must be related to the student's research topic and requires the approval of the Director of Graduate Studies. Students will need to provide a work term report when they return to campus. <p><u>David R. Cheriton School of Computer Science website</u></p>	

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

Students will not be affected by this program deletion as there are no students currently registered in the MHI program in Computer Science. Applicants interested in a Masters of Health Informatics program are now accommodated best by the Master of Health Informatics program in SPHHS.

Departmental approval date: 04/12/2017

Reviewed by GSO (for GSO use only) date (mm/dd/yy): 04/25/2017

Faculty approval date (mm/dd/yy):

Senate Graduate & Research Council (SGRC) approval date (mm/dd/yy):

Senate approval date (mm/dd/yy) (if applicable):

University of Waterloo
SENATE UNDERGRADUATE COUNCIL
Report to Senate
18 September 2017

Senate Undergraduate Council met on 20 June 2017 considered proposals for two new academic plans, one articulation agreement, five 2+2 agreements, and changes to three academic plans. 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: <https://uwaterloo.ca/secretariat/committees-and-councils/senate-undergraduate-council>

FOR APPROVAL

NEW ACADEMIC PLANS

Faculty of Arts Articulation Agreement

1. **Motion:** To approve the articulation agreement with George Brown College as per Attachment #1.

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 George Brown College to transfer into the Honours Arts program in the Faculty of Arts. The agreement outlines admission, progression, and transfer credit requirement information.

Faculty of Arts 2+2 Agreements

2. **Motion:** To approve the five (5) new agreements for 2+2 programs with China University of Geosciences Beijing, East China University of Science and Technology, Harbin University of Technology, Shandong University of Finance and Economics, and Zhongnan University of Economics and Law as in Attachment #2 and effective 1 January 2018.

Rationale: Based on the Faculty's successful experience to date with six Chinese universities, these agreements will expand the 2+2 economics program to five highly ranked Chinese universities with the expectation of welcoming 30-35 new students each year. This program supports Waterloo's goal of internationalization by bringing high-quality international undergraduate students as well as in building a platform for mutually beneficial research collaborations.

CHANGES TO ACADEMIC PLANS

Faculty of Engineering School of Architecture

3. **Motion:** To approve changes to offerings within the School of Architecture as described.
 - ARCH 193, 232, 293 - Delete 2 hour lecture component
 - ARCH 392 - Delete 3 hour lecture component, change from 1.5 hours of contact to 14 contact hours of Studio
 - ARCH 393 and 492 - Change from 3 hours of Studio to 14 contact hours of Studio
 - ARCH 493 - Delete 3 hour lecture component, change from 18 contact hours of Studio to 14 contact hours of Studio
 - ARCH 142 - Delete 2 hour tutorial
 - ARCH 143 - Delete 4 hour tutorial, change from 4 Contact Lecture hours to 6 Contact Lecture hours

- ARCH 428, 446, 449 - Delete 2 hour Seminar, Change from 2 Contact Lecture hours to 3 Contact Lecture hours
- ARCH 276 - Delete 3 hour tutorial ARCH 473 - No contact hours currently scheduled - need to Schedule 3 hours
- ARCH 110 - Change from 4 hours Studio to 7 contact Studio hours
- ARCH 113 - Change from 2 Lab contact hours to 4 Lab contact hours and from 2 Lecture contact hours to 3 Lecture contact hours

Rationale: The changes detailed arise from an in-house review of the current course contact hours and the number of hours that are scheduled. These housekeeping changes will migrate the calendar descriptions to align with the content that has been taught for several years, and the change will standardize what is in the calendar. The Senate-approved Institutional Quality Assurance Process requires the consideration of the overall impact of these minor change changes as a whole, and it is the interpretation of Council that these changes, taken together, are sufficiently significant to warrant Senate approval.

Faculty of Engineering Conrad Business, Entrepreneurship and Technology Centre

4. **Motion:** To approve changes to the minor in entrepreneurship as described in Attachment #3 and effective 1 September 2018.

Rationale: These changes will eliminate the Venture and Commercialization streams in both the Option and Minor while introducing a “core plus” elective structure and retaining the experiential milestone.

5. **Motion:** To approve changes to the option in entrepreneurship as described in Attachment #4 and effective 1 September 2018.

Rationale: See rationale for item #4.

Faculty of Science Environmental Sciences

6. **Motion:** To approve a new plan in environmental science as described and effective 1 September 2018.

Honours Environmental Science (Water Science Specialization)

Advisor: See Faculty of Science, academic advisors.

The Water Science program is designed to provide students with the skills and knowledge to address global challenges relating to water; including scarcity, quality, and management. This unique program takes an integrative approach by combining the physical, chemical, biological and management aspects of water to provide students with the breadth of knowledge required to meet multidisciplinary challenges. Graduates will be prepared for employment in areas relating to water science including environmental concerns and water source management.

Continuing in Honours Environmental Science, Water Science Specialization requires a cumulative overall average of 60% and a cumulative Science average of 60%.

Successful completion of this program requires:

1. 21.75 units distributed as follows:
 - 5.75 BIOL units: BIOL 150, BIOL 165, BIOL 240, BIOL 240L, BIOL 241, BIOL 350, BIOL 351, BIOL 354, BIOL 361, BIOL 447, BIOL 450, and BIOL 470

- 2.25 CHEM units: CHEM 120, CHEM 120L, CHEM 123, CHEM 123L, CHEM 220, and CHEM 220L
- 5.25 EARTH units: EARTH 121, EARTH 121L, EARTH 122, EARTH 122L, EARTH 123, EARTH 221, EARTH 223, EARTH 342, EARTH 358, EARTH 444, EARTH 458, and EARTH 458L
- 0.5 PHYS unit: PHYS 111
- 0.5 EARTH elective unit chosen from: EARTH 439, EARTH 456 or EARTH 459
- 0.5 Program elective unit chosen from: CHEM 404 or EARTH 421
- 0.5 ERS unit: ERS 316
- 1.5 GEOG unit: GEOG 201, GEOG 407, and GEOG 453
- 0.5 MATH unit: MATH 127
- 0.5 STAT unit: STAT 202
- 0.5 SCCOM unit: SCCOM 100
- 3.5 elective lecture course units

Additional Program Conditions:

1. A second failure in a core required course will result in removal from the program.

Recommended Course Sequence

Year One

Fall

BIOL 150 Organismal and Evolutionary Ecology
CHEM 120/CHEM 120L Physical and Chemical Properties of Matter/Chemical Reaction Laboratory 1
EARTH 121/EARTH 121L Introductory Earth Sciences/Introductory Earth Sciences Laboratory
PHYS 111 Physics 1
One elective (0.5 unit)

Winter

BIOL 165 Diversity of Life
CHEM 123/CHEM 123L Chemical Reactions, Equilibria and Kinetics/Chemical Reaction Laboratory 2
EARTH 122/EARTH 122L Introduction to Environmental Science/Introductory Environmental Science Laboratory
MATH 127 Calculus 1 for the Sciences
SCCOM 100 Communication in the Sciences

Year Two

Fall

BIOL 240/BIOL 240L Introduction to Microbiology/Microbiology Laboratory
CHEM 220/CHEM 220L Analytical Chemistry/Analytical Chemistry Lab 1
EARTH 123 Introductory Hydrology
EARTH 223 Field Methods in Hydrology
GEOG 201 Fluvial Geomorphology

Winter

BIOL 241 Introduction to Applied Microbiology
EARTH 221 Geochemistry
STAT 202 Introductory Statistics for Scientists
Two electives (1.0 unit)

Year Three

Fall

BIOL 350 Ecosystem Ecology
BIOL 354 Environmental Toxicology
EARTH 342 Geomorphology and GIS applications

EARTH 444 Applied Wetland Science
ERS 316 Urban Water and Waste Water Systems: Integrated Planning and Management

Winter

BIOL 351 Aquatic Ecology
EARTH 358 Earth Systems Science
GEOG 407 Environmental Hydrology
Two electives (1.0 unit)

Year Four

Fall

BIOL 447 Environmental Microbiology
BIOL 470 Methods of Aquatic Ecology
EARTH 458/EARTH 458L Physical Hydrogeology/Field Methods in Hydrogeology
GEOG 453 Urban Storm Water Management
One Program elective (0.5 unit)

Winter

BIOL 361 Biostatistics and Experimental Design
BIOL 450 Marine Biology
One EARTH elective (0.5 unit)
Two electives (1.0 unit)

Rationale: Challenges pertaining to water, including scarcity, quality and management are expected to become more pervasive in Canada and globally over the coming years. This plan is designed to provide students with the skills and knowledge to meet these challenges through an integrative approach combining the physical, chemical, biological and management aspects of water to provide students the breadth of knowledge required to meet multidisciplinary challenges.

7. **Motion:** To approve a new co-operative plan in environmental science as described and effective 1 September 2018.

Honours Co-operative Environmental Science (Water Science Specialization)

Advisor: See Faculty of Science, [academic advisors](#).

The Water Science program is designed to provide students with the skills and knowledge to address global challenges relating to water; including scarcity, quality, and management. This unique program takes an integrative approach by combining the physical, chemical, biological and management aspects of water to provide students with the breadth of knowledge required to meet multidisciplinary challenges. Graduates will be prepared for employment in areas relating to water science including environmental concerns and water source management.

Continuing in Honours Co-operative Environmental Science, Water Science Specialization requires a cumulative overall average of 60% and a cumulative Science average of 60%.

Successful completion of this program requires:

1. 21.75 units distributed as follows:
 - 5.75 BIOL units: BIOL 150, BIOL 165, BIOL 240, BIOL 240L, BIOL 241, BIOL 350, BIOL 351, BIOL 354, BIOL 361, BIOL 447, BIOL 450, and BIOL 470
 - 2.25 CHEM units: CHEM 120, CHEM 120L, CHEM 123, CHEM 123L, CHEM 220, and CHEM 220L

- 5.25 EARTH units: EARTH 121, EARTH 121L, EARTH 122, EARTH 122L, EARTH 123, EARTH 221, EARTH 223, EARTH 342, EARTH 358, EARTH 444, EARTH 458, and EARTH 458L
 - 0.5 PHYS unit: PHYS 111
 - 0.5 EARTH elective unit chosen from: EARTH 439, EARTH 456 or EARTH 459
 - 0.5 Program elective unit chosen from: CHEM 404 or EARTH 421
 - 0.5 ERS unit: ERS 316
 - 1.5 GEOG unit: GEOG 201, GEOG 407, and GEOG 453
 - 0.5 MATH unit: MATH 127
 - 0.5 STAT unit: STAT 202
 - 0.5 SCCOM unit: SCCOM 100
 - 3.5 elective lecture course units
2. Co-operative education requirements that include:
- A minimum of four work terms
 - Four WatPD (professional development) courses that must include PD 1, PD 11, and two PD elective courses
 - Submission of four satisfactory work term-reports:
 - One completed as part of PD 11
 - Three completed in required WKRPT courses: WKRPT 200S, WKRPT 300S, and WKRPT 400S

Additional Program Conditions:

- 8. A failure in a core required course will result in removal from the program.
- 9. Additional Co-op program information is located in the Co-operative Education and Career Action section of this Calendar and in the Science Faculty work term report guidelines. Information on WatPD courses is located on the Professional Development Program website.

Recommended Course Sequence

Year One

Fall

BIOL 150 Organismal and Evolutionary Ecology
CHEM 120/CHEM 120L Physical and Chemical Properties of Matter/Chemical Reaction Laboratory 1
EARTH 121/EARTH 121L Introductory Earth Sciences/Introductory Earth Sciences Laboratory
PHYS 111 Physics 1
One elective (0.5 unit)

Winter

BIOL 165 Diversity of Life
CHEM 123/CHEM 123L Chemical Reactions, Equilibria and Kinetics/Chemical Reaction Laboratory 2
EARTH 122/EARTH 122L Introduction to Environmental Science/Introductory Environmental Science Laboratory
MATH 127 Calculus 1 for the Sciences
SCCOM 100 Communication in the Sciences

Year Two

Fall

BIOL 240/BIOL 240L Introduction to Microbiology/Microbiology Laboratory
CHEM 220/CHEM 220L Analytical Chemistry/Analytical Chemistry Lab 1
EARTH 123 Introductory Hydrology
EARTH 223 Field Methods in Hydrology
GEOG 201 Fluvial Geomorphology

Spring

BIOL 241 Introduction to Applied Microbiology⁶⁶
BIOL 354, Environmental Toxicology 1

EARTH 221 Geochemistry
EARTH 458/EARTH 458L Physical Hydrogeology/Field Methods in Hydrogeology
One elective (0.5 unit)

Year Three

Winter

STAT 202 Introductory Statistics for Scientists
BIOL 351 Aquatic Ecology
EARTH 358 Earth Systems Science
GEOG 407 Environmental Hydrology
One elective (0.5 unit)

Fall

BIOL 350 Ecosystem Ecology
BIOL 447 Environmental Microbiology
EARTH 444 Applied Wetland Science
ERS 316 Urban Water and Waste Water Systems: Integrated Planning and Management
One elective (0.5 unit)

Year Four

Fall

BIOL 470 Methods of Aquatic Ecology
EARTH 342 Geomorphology and GIS applications
GEOG 453 Urban Storm Water Management
One Program elective (0.5 unit)
One elective (0.5 unit)

Winter

BIOL 361 Biostatistics and Experimental Design
BIOL 450 Marine Biology
One Earth elective (0.5 unit)
Two electives (1.0 unit)

Rationale: Challenges pertaining to water, including scarcity, quality and management are expected to become more pervasive in Canada and globally over the coming years. This plan is designed to provide students with the skills and knowledge to meet these challenges through an integrative approach combining the physical, chemical, biological and management aspects of water to provide students the breadth of knowledge required to meet multidisciplinary challenges.

/mg

Mario Coniglio
Associate Vice-President, Academic



Articulated Admission and Transfer Credit Agreement

between

**University of Waterloo
Faculty of Arts
Waterloo, Ontario, Canada**

**Senate Undergraduate Council
Attachment #1 (Regular)**

and

**George Brown College
School of Liberal Arts and Sciences
Toronto, Ontario, Canada**

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

WHEREAS, University of Waterloo and George Brown 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;
- “George Brown” shall mean George Brown College;
- “Arts” shall mean the Honours Arts program offered at Waterloo;
- “GAS” shall mean the General Arts and Science 2 year Diploma program offered at George Brown.

**Article I
Organization Information**

Sending Organization

George Brown
School of Liberal Arts and Sciences

- General Arts and Science – Diploma (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 2020 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

George Brown 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 George Brown or anyone for whom George Brown is responsible at law. George Brown 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 George Brown or Waterloo for the purposes of this arrangement.

Waterloo shall indemnify and hold George Brown, 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 George Brown or which George Brown 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 George Brown 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 2018, 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

George Brown 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.

George Brown 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:
 Daniel Ramos
 Pathway Advisor
 George Brown College
 P.O. Box 1015 Station B
 Toronto, ON, M5T 2T9
 Phone: (416) 415-5000 Ext. 2562
 Email: dramos@georgebrown.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 GAS into Arts.

Academic year:	1			2			9.5 units of Transfer Credit	3			4			5
Program:	George Brown GAS		Off	George Brown GAS		Off		Waterloo Arts	Off	Waterloo Arts		Off	Waterloo Arts	
Academic term:	F	W	S	F	W	S		2B	3A	S	3B	4A	S	4B
Units per term:								2.5	2.5		2.5	2.5		0.5
Unit totals:								12.0	14.5		17.0	19.5		20.0

Co-op note: Due to the large amount of transfer credits offered through this agreement, the co-op program is not available due to sequencing issues and the number of credits transferred. Any student interested in co-op should contact their Waterloo 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 George Brown in the GAS program, with a minimum average of 75%, including a minimum of 70% in an acceptable English writing course (COMM 1007), 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. George Brown

applicants will be required to submit their high school transcript and all post-secondary transcripts, including their final George Brown transcript showing graduation from the program.

George Brown 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 George Brown students currently take and the confidence Waterloo's Faculty of Arts has in considering George Brown graduates for admission.

Transfer Credit

George Brown GAS graduates are eligible for up to 9.50 units of transfer credit (equivalent of 19 courses of 0.50 unit weight).

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

George Brown Course Code	George Brown Course Title	UW Course Code	Credit Weight
COMM1007	College English	ENGL 1XX	0.50
GSCII024	Environmental Science	ENVS 195	0.50
HUMN1111	Critical Thinking: A Reasoning Experience	PHIL 145	0.50
SSCI1011	Learning and the Brain	PSYCH 1XX	0.50
HUMN1035	Introduction to Media Studies	SPCOM 1XX	0.50
HUMN1114	Rhyme and Reasoning	SPCOM 223	0.50
GSSC1055	Fundamental Themes in Geography	GEOG 101	0.50
HUMN1029	Introduction to Philosophy I	PHIL 110B	0.50
HUMN1034	Introduction to Canadian Literature	ENGL 1XX	0.50
HUMN1030	Introduction to Philosophy II	PHIL 110A	0.50
HUMN1031	Canadian Studies	HIST 254	0.50
HUMN1033	Critical Approaches to Literature	ENGL 1XX	0.50
SSCI1012	Introduction to Psychology I	PSYCH 101 + PSYCH 1XX	1.00
SSCI1015	Introduction to Psychology II		
SSCI1013	Introduction to Sociology I	SOC 101	0.50
SSCI1014	Introduction to Sociology II		
REQUIRED COURSES UNITS TRANSFERRED: UP TO			7.50

Cont'd...

George Brown Course Code	George Brown Course Title	UW Course Code	Credit Weight
MATH ELECTIVE – ONE OF			
SSCI1106	Introduction to Research	SDS 2XX	0.50
STAT 1014	Quantitative Methods		
GSSC1027	Personal Finance	AFM 1XX	0.50
SCIENCE ELECTIVE – ONE OF			
GSCI1065	Human Biology	BIOL 1XX	0.50
GSCI1045	Nutrition	HLTH 1XX	0.50
GSCI1146	Plants and Society	BIOL 225	0.50
REQUIRED ELECTIVE COURSE UNITS TRANSFERRED: UP TO			1.00

George Brown Course Code	George Brown Course Title	UW Course Code	Credit Weight
GHUM1017	Children's Literature	ENGL 208C	0.50
GHUM1052	World Religions	RS 1XX	0.50
GHUM1181	Jazz History and Culture	MUSIC 240	0.50
GSSC1026	The Psychology of Human Behaviour	PSYCH 2XX	0.50
GSSC1080	Understanding Globalization	INDEV 200	0.50
GSSC1112	Deviance and Society	LS 223	0.50
LHUM1201	The Evolution of Filmmaking	FINE 1XX	0.50
LHUM1310	Existentialism	PHIL 265	0.50
LSCI1209	Social Psychology	PSYCH 253	0.50
LSCI1301	Troubled Waters: Our Future and the Global Ocean	ERS 1XX	0.50
LIBERAL STUDIES ELECTIVE COURSE UNITS TRANSFERRED: UP TO			1.00
TOTAL UNITS TRANSFERRED: UP TO			9.50

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 9.50 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 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 (4 year program)

Article IV Communication and Marketing

Communication

The Pathways Advisor, School of Work & College Preparation, at George Brown shall be responsible for the ongoing communication and monitoring of the Agreement at George Brown. 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. George Brown 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).

George Brown 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. George Brown 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

For George Brown

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

Dr. Cory Ross
Interim Vice-President Academic
George Brown College

I have the authority to bind the Corporation.

I have the authority to bind the Corporation.

Date

Date

Dr. Douglas Peers
Dean of Arts
University of Waterloo

Ian Wigglesworth
Interim Dean, Centre for Preparatory and Liberal
Studies
George Brown College

I have the authority to bind the Corporation.

I have the authority to bind the Corporation.

Date

Date

DRAFT June 1, 2017

THIS AGREEMENT FOR UNDERGRADUATE EDUCATIONAL COLLABORATION made this [insert date] day of [insert month], 20[.] (the “**Effective Date**”)

BETWEEN:

CHINA UNIVERSITY OF GEOSCIENCES BEIJING, a university established under the laws of the People’s Republic of China, with its main campus located at [?]. (“**CUGB**”)

AND

UNIVERSITY OF WATERLOO (Waterloo), a university established by an Act of the Legislature of the Province of Ontario, with its main campus located at 200 University Avenue West, Waterloo Ontario, Canada N2L 3G1. (“**Waterloo**”)

WHEREAS, the parties to this agreement wish to establish a collaborative undergraduate program in the Arts, Environment and Science (the “**Program**”) where students will spend two years at CUGB’s campus in China and two years at Waterloo’s campus in Canada.

WHEREAS, benefits of the Program for Waterloo are to: increase opportunities for Chinese students to experience Canadian higher education; promote Waterloo’s international reputation; increase interaction with Chinese universities; expose Waterloo’s students to Chinese culture and customs through interaction with CUGB’s students; and attract the most talented students worldwide.

AND WHEREAS, benefits of the Program for CUGB are to: promote CUGB’s international reputation; increase interaction with Canadian universities; enhance CUGB’s ability to attract top students; expose CUGB’s students to Canadian culture and customs; and enhance the ability of CUGB’s graduates to compete in the national and international job markets;

The parties therefore agree as follows:

1. Admissions

- 1.1. Potential participants (“**Applicants**”) will apply for admission to CUGB through its standard procedures in any of its eligible programs.
- 1.2. Waterloo and CUGB will work together to select up to 10 applicants for the Faculty of Arts, up to 10 applicants for the Faculty of Environment and up to 30 applicants for the Faculty of Science each year to participate in the Program. Higher allotments can be negotiated with written approval from both Parties.
 - 1.2.1. CUGB will pre-select Applicants according to qualification criteria established by Waterloo.

1.2.2.CUGB is responsible for making Applicants aware of the Program in order to attract the most talented students.

1.3. Admission decisions will be made by each university in accordance with this agreement, subject to each university's policies, procedures and regulations in effect at the time of the decision.

1.3.1.Applicants can apply to one of the following eligible undergraduate programs at Waterloo:

Honours Economics and Honours Mathematical Economics (in the Faculty of Arts)
Honours Geography and Environmental Management and Geomatics (in the Faculty of Environment)
Honours Biology, Chemistry, Biochemistry, Earth Sciences, Environmental Science, Physics and Science and Business (in the Faculty of Science)

1.3.2.Application forms for admission to Waterloo are currently available at:

<http://horizon.ouac.on.ca/uw/agreements/>

1.3.3.Waterloo admission deadlines and required supporting documents are subject to change. Waterloo will advise CUGB of relevant deadlines on an annual basis.

1.3.4.Waterloo reserves the right to refuse Applicants based on space limitations of the Program, fiscal constraints, an Applicant's failure to meet admission standards, or external factors such as failure of the Applicant to obtain a valid student visa.

1.3.5.Minimum admission requirements to Waterloo programs include both English Language Proficiency ("ELP") and program specific academic requirements.

1.4. Applicants are responsible for all relevant application fees at each university unless they are waived by either university.

2. Eligibility

2.1. Students wishing to enter the Program must obtain qualifying grades satisfactory to both universities.

2.2. Before entering Waterloo for study, Participating Students must:

2.2.1.Successfully complete the first two years of jointly recognized curriculum, including completing all courses with a minimum grade of 70%; and

2.2.2.Meet ELP standards established by the Waterloo as described in section 8 of this agreement.

3. Registration and Required Residence

3.1. Students requiring English language proficiency training will receive an official offer of admission requiring successful completion of the appropriate English for Academic Success (EFAS) program, or the submission of a satisfactory English language proficiency test result, prior to enrolment in fulltime regular studies.

- 3.2. Applicants who satisfy all of the academic and ELP requirements set out in this agreement (“**Participating Students**”), will be issued an unconditional letter of acceptance.
- 3.3. Applicants who are accepted to Waterloo will be responsible for maintaining continuous registration at both universities.
- 3.4. The Program is designed for completion within four years of full-time study comprised of two years of full-time residence at CUGB followed by four full-time academic terms in residence at Waterloo. The actual length of study at Waterloo will depend on the number of transfer credits and the number of courses a Participating Student takes each term.
- 3.5. Part-time enrolment in the Program is not permitted.
- 3.6. Waterloo is solely responsible for decisions regarding Participating Students’ progression in years three and four of the Program.

4. Tuition and Expenses

- 4.1. Participating Students will pay tuition and incidental fees to the university at which they are in residence, as set by that university according to its usual procedures. While at Waterloo, Participating Students will be charged according to the relevant international student tuition standard.
- 4.2. Participating Students are solely responsible for any and all expenses incurred under this agreement including travelling, living and accommodation, books, medical care, ELP training and personal expenses.
- 4.3. Participating Students are solely responsible for obtaining the necessary travel and study documents (e.g., passport, study permit and temporary resident visa) and for any and all related expenses. Participating Students will ensure that they maintain or renew their status in Canada in due time, and that it is their sole responsibility to do so, and that they may lose their status, in the event that they do not study full-time (as defined by the host institution) in Canada.
- 4.4. All Participating Students and faculty who travel to Waterloo as part of the Program must maintain appropriate health insurance (and other insurance, if required) while in residence at Waterloo.
- 4.5. All Participating Students studying at Waterloo are required to maintain coverage from the University Health Insurance Plan (UHIP) and UW’s FEDS/GSA Health and Dental Plan during the period of residence at Waterloo.
- 4.6. At Waterloo’s discretion, Participating Students may be awarded Waterloo entrance awards. Selection will be based on high academic standing.
- 4.7. While resident at Waterloo, Participating Students are entitled to apply for any scholarship or bursary funds for which they are eligible.

- 5. Academic Regulations.** Participating Students must comply with the regulations of the university at which they are then resident, including those governing academic and non-academic misconduct, and the ethical conduct of research.
- 6. Records**
 - 6.1. Each university will maintain official records for Participating Students during their time of residence.
 - 6.2. Participating Students will be issued official transcripts by each university as appropriate.
 - 6.3. Subject to applicable laws or regulations regarding privacy and access to student information, each university will transmit to the other:
 - 6.3.1. Grades for all courses completed or attempted by Participating Students and
 - 6.3.2. Discipline case summaries when a penalty has been imposed.
- 7. Transfer Credits and Degree Completion**
 - 7.1. Waterloo will grant transfer credits for the first two years of course work to Participating Students who obtain marks that are at, or above, 70% in examinations set by CUGB. Only courses that qualify as either core or electives in the relevant program at Waterloo will be considered for transfer, to a maximum of 10.0 credit units (or 20 semester courses).
 - 7.2. CUGB will provide sufficient course information, including typical exam questions and student responses, to allow Waterloo to determine which of its courses qualify for Waterloo transfer credits.
 - 7.3. Where possible, CUGB will incorporate courses, information and materials from Waterloo into its curricula in order to help Participating Students to meet Waterloo prerequisites for upper year courses.
 - 7.4. Waterloo will issue the appropriate Honours Bachelor's Degree to Participating Students who successfully fulfill all degree requirements, including requirements relating to enrolment, progression and coursework.
 - 7.5. CUGB agrees to accept returning Participating Students who cannot, for academic or other reasons, continue their study at Waterloo. For any Participating Students who return having not completed Waterloo degree requirements, CUGB will assess successfully completed Waterloo courses for possible credit transfer, so that these courses may count towards degree completion at CUGB.
- 8. English Language Proficiency Training**
 - 8.1. Waterloo's English language proficiency requirements for international students are outlined on Waterloo's admissions website (www.findoutmore.uwaterloo.ca). Students must complete one of the listed official English language proficiency tests, with satisfactory scores, for admission to fulltime regular studies.

- 8.2. Where possible, CUGB will create opportunities for Participating Students and encourage them to take part in extracurricular English language training while resident at CUGB.
- 8.3. Waterloo will send staff to examine and interview Applicants during the fall of their second year at CUGB for English language skills. Waterloo will be responsible for travel and living expenses of its staff while visiting CUGB. Emphasis will be on assessing Participating Students' potential for success in academic programs at Waterloo and ability to understand and communicate effectively in English.
- 8.4. Waterloo will coordinate placement of Participating Students who satisfy all conditions for admission to level 400 (for those in all Arts programs) and level 300 for those in all Environment and Science programs of the 6-week English for Academic Success ("EFAS") program offered through Renison University College. Students must obtain an overall average of 75% in the EFAS program to begin full-time undergraduate studies in the fall. Students who require additional intensive language training will have their enrollment deferred for up to one term (or more if required) until their English skills meet the standards.
- 8.5. Participating Students who are exempt from providing an ELP test score, as well as those who have successfully met one of the ELP test criteria, as published in Waterloo's Undergraduate Studies Academic Calendar, are exempt from completing the EFAS program.
- 8.6. Participating Students who qualify are responsible for applying, enrolling in and attending the EFAS program, which will begin in mid- or late July.
- 8.7. Participating Students are responsible for all costs associated with the English language training.

9. Term and Termination.

- 9.1. The Term of this agreement will commence on the Effective Date and continue for a period of five years, unless terminated earlier in accordance herewith. The agreement will automatically renew for subsequent five year periods unless a party delivers at least 12 months' prior written notice of termination to the other party in accordance with this section.
- 9.2. This agreement may be terminated by either party at any time upon 12 months' written notice, provided that: (i) the termination shall not affect any other contracts between the parties (including, but not limited to exchange agreements) and any such other contracts shall be completed in accordance with their terms; and (ii) the termination shall not affect any Participating Students in good standing in the Program, who will be permitted to complete the Program in accordance with the terms of this agreement.
- 9.3. If a party elects to terminate this agreement pursuant to this section, all Program arrangements will cease on the effective date of the termination, save and except for arrangements regarding Participating Students in the process of completing the Program as described above. Any changes or accommodations required to permit Participating Students to complete the Program will be negotiated in good faith.

9.4. This agreement replaces any previous agreement and may be amended or modified at any time by mutual written consent of the parties. Any such amendments or modifications will take the form of letters of agreement signed by all parties in support of this agreement.

9.5. This agreement requires approval from the Senate at the University of Waterloo prior to the enrollment of students.

10. Designated Representatives. Each party will appoint a Designated Representative for co-ordination and administration of this agreement. The universities may change their Designated Representatives at any time by providing written notice.

The Designated Representative(s) for Waterloo are:

Dr. Dinghai Xu
Department of Economics, Faculty of Arts
University of Waterloo, Ontario, Canada N2L 3G1
Telephone: (519) 888-4567 ext. 32047
Email: dhxu@uwaterloo.ca

Mr. Fulu Mao, Coordinator, International Education and Student Advisor
Faculty of Environment
University of Waterloo, Ontario, Canada N2L 3G1
Telephone: (519) 888-4567 ext 33871
Email: fmao@uwaterloo.ca

Dr. Jonathan Witt Acting Associate Dean, International Programs
Faculty of Science
University of Waterloo, Ontario, Canada N2L 3G1
Telephone: (519) 888-4567 ext 35951
Email: jwitt@uwaterloo.ca

Marilena Strambu (Central Administration)
Registrar's Office
University of Waterloo, Ontario, Canada N2L 3G1
Telephone: (519) 888-4567 ext. 31768
Email: mstrambu@uwaterloo.ca

The Designated Representative for CUGB is:

[Name, Title, Mailing Address, Telephone, Email]

11. Notices.

Any notice to be given under this Agreement should be in writing and addressed to:

Contact Person for Waterloo: Director, Waterloo International

Contact Person for CUGB is: Cathy Pen, Associate Director, International Operations Office
Email: huayanpian@cugb.edu.ca; tel 0086-10-82321994

Notice will be deemed given (i) when verified by written receipt if sent by courier, or when received if sent by mail without verification of receipt or (ii) when verified by automated receipt or electronic logs if sent by facsimile or email. Notices sent by facsimile or email should be followed as soon as possible by original signed documents.

12. Other Terms and Conditions

12.1. **Disruption of Academic Activity.** In the event of a disruption of academic activity at either university, the parties, through their Designated Representatives, will negotiate in good faith in the interest of the Participating Students to enable them to complete the Program.

12.2. **Non-Exclusivity.** This agreement in no way restricts the universities from participating in similar activities or arrangements with others.

12.3. **News Releases.** Any public announcements or news releases resulting from this agreement should be coordinated with Waterloo's Office of Marketing and Strategic Initiatives and CUGB's

12.4. **Dispute Resolution.** Any disputes in connection with this agreement should be settled by negotiation between the universities through their Designated Representatives.

12.5. **Independent Institutions.** Nothing contained in this agreement should be construed to create or imply a joint venture, partnership, principal-agent or employment relationship between the universities.

12.6. **Governing Law.** This agreement shall be exclusively governed by, and construed in accordance with, the laws of the Province of Ontario, and the federal laws of Canada applicable therein, for exclusive activity in Canada and this agreement shall be exclusively governed by, and construed in accordance with, the laws of the P.R. China for exclusive activity in China.

12.7. **Counterparts.** This agreement may be executed in one or more identical counterparts, each of which shall be deemed an original, but all of which taken together constitute one and the same instrument.

12.8. **Indemnification.** Each Institution shall at all times indemnify and hold harmless the other against all claims, actions, loss or damage arising from the indemnifying party's performance or lack of performance under the Agreement or the acts of commission or omission of its employees, agents or students while carrying out this agreement.

The parties have executed this agreement on the dates shown hereunder.

Dated at Waterloo, Ontario, Canada this day of , 20[...]

UNIVERSITY OF WATERLOO

per: _____
Dr. Feridun Hamdullahpur, President & Vice-Chancellor

per: _____
Dr. Ian Rowlands Associate Vice-President, International

per: _____
Dr. Douglas Peers, Dean of the Faculty of Arts

per: _____
Dr. Jean Andrey, Dean of the Faculty of Environment

per: _____
Dr. Robert Lemieux , Dean of the Faculty of Science

Dated at [place], [Province/State, Country] this day of , 20[...]

CHINA UNIVERSITY OF GEOSCIENCES BEJING

per: _____
Name, Title

per: _____
Name, Title

Draft May 31, 2017

THIS AGREEMENT FOR UNDERGRADUATE EDUCATIONAL COLLABORATION made this [insert date] day of [insert month], 20[.] (the “**Effective Date**”)

BETWEEN:

EAST CHINA UNIVERSITY OF SCIENCE AND TECHNOLOGY, a university established under the laws of the People’s Republic of China, with its main campus located at 130 meilong Rd, Xuhui, Shanghai, China, 200237. (“**ECUST**”)

AND

UNIVERSITY OF WATERLOO, a university established by an Act of the Legislature of the Province of Ontario, with its main campus located at 200 University Avenue West, Waterloo Ontario, Canada N2L 3G1. (“**Waterloo**”)

Whereas the parties to this agreement wish to establish a collaborative undergraduate program in Arts (the “**Program**”) where students will spend two years at ECUST’s campus in China and two years at Waterloo’s campus in Canada.

Whereas benefits of the Program for Waterloo are to: increase opportunities for Chinese students to experience Canadian higher education; promote Waterloo’s international reputation; increase interaction with Chinese universities; expose Waterloo’s students to Chinese culture and customs through interaction with ECUST’s students; and attract the most talented students worldwide.

Whereas benefits of the Program for ECUST are to: promote ECUST’s international reputation; increase interaction with Canadian universities; enhance ECUST’s ability to attract top students; expose ECUST’s students to Canadian culture and customs; and enhance the ability of ECUST’s graduates to compete in the national and international job markets;

The parties therefore agree as follows:

1. Admissions

- 1.1. Potential participants (“**Applicants**”) will apply for admission to ECUST through its standard procedures in any of its eligible programs.
- 1.2. Waterloo and ECUST will work together to select up to 10 Applicants each year to participate in the Program. Higher allotments can be negotiated with written approval from both Parties.
 - 1.2.1. ECUST will pre-select Applicants according to qualification criteria established by Waterloo.

1.2.2. ECUST is responsible for making Applicants aware of the Program in order to attract the most talented students.

1.3. Admission decisions will be made by each university in accordance with this agreement, subject to each university's policies, procedures and regulations in effect at the time of the decision.

1.3.1. Applicants can apply to the following eligible undergraduate programs at Waterloo:

Honours Economics and Honours Mathematical Economics (in the Faculty of Arts)

1.3.2. Application forms for admission to Waterloo are currently available at:

<http://horizon.ouac.on.ca/uw/agreements/>

1.3.3. Waterloo admission deadlines and required supporting documents are subject to change. Waterloo will advise ECUST of relevant deadlines on an annual basis.

1.3.4. Waterloo reserves the right to refuse Applicants based on space limitations of the Program, fiscal constraints, an Applicant's failure to meet admission standards, or external factors such as failure of the Applicant to obtain a valid student visa.

1.3.5. Minimum admission requirements to Waterloo programs include both English Language Proficiency ("ELP") and program specific academic requirements.

1.4. Applicants are responsible for all relevant application fees at each university unless they are waived by either university.

2. Eligibility

2.1. Students wishing to enter the Program must obtain qualifying grades satisfactory to both universities.

2.2. Before entering Waterloo for study, Participating Students must:

2.2.1. Successfully complete the first two years of jointly recognized curriculum, including completing all courses with a minimum grade of 70%; and

2.2.2. Meet English Language Proficiency (ELP) standards established by the Waterloo as described in section 8 of this agreement.

3. Registration and Required Residence

3.1 Students requiring English language proficiency training will receive an official offer of admission requiring successful completion of the appropriate English for Academic Success (EFAS) program, or the submission of a satisfactory English language proficiency test result, prior to enrolment in fulltime regular studies.

- 3.2 Applicants who satisfy all of the academic and ELP requirements set out in this agreement (“**Participating Students**”), will be issued an unconditional letter of acceptance.
- 3.3 Applicants who are accepted to Waterloo will be responsible for maintaining continuous registration at both universities.
- 3.4 The Program is designed for completion within four years of full-time study comprised of two years of full-time residence at ECUST followed by four full-time academic terms in residence at Waterloo. The actual length of study at Waterloo will depend on the number of transfer credits and the number of courses a Participating Student takes each term.
- 3.5 Part-time enrolment in the Program is not permitted.
- 3.6 Waterloo is solely responsible for decisions regarding Participating Students’ progression in years three and four of the Program.

4 Tuition and Expenses

- 4.1 Participating Students will pay tuition and incidental fees to the university at which they are in residence, as set by that university according to its usual procedures. While at Waterloo, Participating Students will be charged according to the relevant international student tuition standard.
- 4.2 Participating Students are solely responsible for any and all expenses incurred under this agreement including travelling, living and accommodation, books, medical care, ELP training and personal expenses.
- 4.3 Participating Students are solely responsible for obtaining the necessary travel and study documents (e.g., passport and study permit and temporary resident visa) and for any and all related expenses. **Participating students will ensure that they maintain or renew their status in Canada in due time, and that it is their sole responsibility to do so, and that they may lose their status, in the event that they do not study full - time (as defined by the host institution) in Canada.**
- 4.4 All Participating Students and faculty who travel to Waterloo as part of the Program must maintain appropriate health insurance (and other insurance, if required) while in residence at Waterloo.
- 4.5 All Participating Students studying at Waterloo are required to maintain coverage from the University Health Insurance Plan (UHIP) and UW’s FEDS/GSA Health and Dental Plan during the period of residence at Waterloo.
- 4.6 At Waterloo’s discretion, Participating Students may be awarded Waterloo entrance awards. Selection will be based on high academic standing.

4.7 While resident at Waterloo, Participating Students are entitled to apply for any scholarship or bursary funds for which they are eligible.

5 Academic Regulations. Participating Students must comply with the regulations of the university at which they are then resident, including those governing academic and non-academic misconduct, and the ethical conduct of research.

6 Records

6.1 Each university will maintain official records for Participating Students during their time of residence.

6.2 Participating Students will be issued official transcripts by each university as appropriate.

6.3 Subject to applicable laws or regulations regarding privacy and access to student information, each university will transmit to the other:

6.3.1 Grades for all courses completed or attempted by Participating Students and

6.3.2 Discipline case summaries when a penalty has been imposed.

7 Transfer Credits and Degree Completion

7.1 Waterloo will grant transfer credits for the first two years of course work to Participating Students who obtain marks that are at, or above, 70% in examinations set by ECUST. Only courses that qualify as either core or electives in the relevant program at Waterloo will be considered for transfer, to a maximum of 10.0 credit units (or 20 semester courses).

7.2 ECUST will provide sufficient course information, including typical exam questions and student responses, to allow Waterloo to determine which of its courses qualify for Waterloo transfer credits.

7.3 Where possible, ECUST will incorporate courses, information and materials from Waterloo into its curricula in order to help Participating Students to meet Waterloo prerequisites for upper year courses.

7.4 Waterloo and ECUST will issue the appropriate Honours Bachelor's Degree and ECUST Bachelor's Degree to Participating Students who successfully fulfill both degree requirements, including requirements relating to enrolment, progression and coursework (see Attachment A).

7.5 ECUST agrees to accept returning Participating Students who cannot, for academic or other reasons, continue their study at Waterloo. For any Participating Students who return having not completed Waterloo degree requirements, ECUST will assess successfully completed Waterloo courses for possible credit transfer, so that these courses may count towards degree completion at ECUST.

8 English Language Proficiency Training

- 8.1 Waterloo's English language proficiency requirements for international students are outlined on Waterloo's admissions website (www.findoutmore.uwaterloo.ca). Students must complete one of the listed official English language proficiency tests, with satisfactory scores, for admission to fulltime regular studies.
- 8.2 Where possible, ECUST will create opportunities for Participating Students and encourage them to take part in extracurricular English language training while resident at ECUST.
- 8.3 Waterloo will send staff to examine and interview Applicants during the fall of their second year at ECUST for English language skills. Waterloo will be responsible for travel and living expenses of its staff while visiting ECUST. Emphasis will be on assessing Participating Students' potential for success in academic programs at Waterloo and ability to understand and communicate effectively in English.
- 8.4 Waterloo will coordinate placement of Participating Students who satisfy all conditions for admission in level 400 of the 6-week English for Academic Success ("EFAS") program offered through Renison University College. Students must obtain an overall average of 75% in the EFAS program to begin full-time undergraduate studies in the fall. Students who require additional intensive language training will have their enrollment deferred for up to one term (or more if required) until their English skills meet the standards
- 8.5 Participating Students who are exempt from providing an ELP test score, as well as those who have successfully met one of the ELP test criteria, as published in Waterloo's Undergraduate Studies Academic Calendar, are exempt from completing the EFAS program although they are strongly recommended to take part in the program.
- 8.6 Participating Students who qualify are responsible for applying, enrolling in and attending the EFAS program, which will begin in mid- or late July.
- 8.7 Participating Students are responsible for all costs associated with the English language training.

9 Term and Termination.

- 9.1 The Term of this agreement will commence on the Effective Date and continue for a period of five years, unless terminated earlier in accordance herewith. The agreement will automatically renew for subsequent five year periods unless a party delivers at least 12 months' prior written notice of termination to the other party in accordance with this section.
- 9.2 This agreement may be terminated by either party at any time upon 12 months' written notice, provided that: (i) the termination shall not affect any other contracts between the parties (including, but not limited to exchange agreements) and any such other contracts shall be completed in accordance with their terms; and (ii) the termination shall not affect any Participating Students in good standing in the Program, who will be permitted to complete the Program in accordance with the terms of this agreement.

- 9.3 If a party elects to terminate this agreement pursuant to this section, all Program arrangements will cease on the effective date of the termination, save and except for arrangements regarding Participating Students in the process of completing the Program as described above. Any changes or accommodations required to permit Participating Students to complete the Program will be negotiated in good faith.
- 9.4 This agreement may be amended or modified at any time by mutual written consent of the parties. Any such amendments or modifications will take the form of letters of agreement signed by all parties in support of this agreement.
- 9.5 This agreement requires approval from the Senate at the University of Waterloo prior to the enrollment of students.
- 10 **Designated Representatives.** Each party will appoint a Designated Representative for co-ordination and administration of this agreement. The universities may change their Designated Representatives at any time by providing written notice.

The Designated Representative(s) for Waterloo are:

Dr. Dinghai Xu
Department of Economics
Faculty of Arts
University of Waterloo, Ontario, Canada N2L 3G1
Telephone: (519) 888-4567 ext. 32047
Email: dhxu@uwaterloo.ca

Marilena Strambu (Central Administration)
Registrar's Office
University of Waterloo, Ontario, Canada N2L 3G1
Telephone: (519) 888-4567 ext. 31768
Email: mstrambu@uwaterloo.ca

The Designated Representative for ECUST is:

Dr HUANG Lujin
Vice Dean, School of Business
East China University of Science & Technology
130 Meilong Road, 200237, Shanghai, China
Telephone: 0086-21-64251656
Email: reginah@ecust.edu.cn

11 Notices.

Any notice to be given under this Agreement should be in writing and addressed to:

Contact Person for Waterloo: Director, Waterloo International

Contact Person for ECUST is: Vice Dean in International Relations, School of Business

Notice will be deemed given (i) when verified by written receipt if sent by courier, or when received if sent by mail without verification of receipt or (ii) when verified by automated receipt or electronic logs if sent by facsimile or email. Notices sent by facsimile or email should be followed as soon as possible by original signed documents.

12 Other Terms and Conditions

12.1 **Disruption of Academic Activity.** In the event of a disruption of academic activity at either university, the parties, through their Designated Representatives, will negotiate in good faith in the interest of the Participating Students to enable them to complete the Program.

12.2 **Non-Exclusivity.** This agreement in no way restricts the universities from participating in similar activities or arrangements with others.

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12.4 **Dispute Resolution.** Any disputes in connection with this agreement should be settled by negotiation between the universities through their Designated Representatives.

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12.6 **Governing Law.** This agreement shall be exclusively governed by, and construed in accordance with, the laws of the Province of Ontario, and the federal laws of Canada applicable therein and the laws of the People's Republic of China for activity in China applicable therein.

12.7 **Counterparts.** This agreement may be executed in one or more identical counterparts, each of which shall be deemed an original, but all of which taken together constitute one and the same instrument.

12.8 **Indemnification.** Each Institution shall at all times indemnify and hold harmless the other against all claims, actions, loss or damage arising from the indemnifying party's performance or lack of performance under the Agreement or the acts of commission or omission of its employees, agents or students while carrying out this Agreement.

The parties have executed this agreement on the dates shown hereunder.

Dated at Waterloo, Ontario, Canada this day of , 2017

UNIVERSITY OF WATERLOO

per: _____
Dr. Feridun Hamdullahpur, President & Vice-Chancellor

per: _____
Dr. Ian Rowlands, Associate Vice-President, International

per: _____
Dr. Douglas Peers, Dean of Arts

Dated at Shanghai, China, this day of , 2017

EAST CHINA UNIVERSITY OF SCIENCE AND TECHNOLOGY

per: _____
Dr. Jingping QU, President

per: _____
Dr. Changsheng LIU, Vice President, International

per: _____
Dr. Haifeng YAN, Dean of School of Business

Attachment A

ECUST-WATERLOO 2+2 DOUBLE BA DEGREE

As the joint 2+2 double BA degree at ECUST (for the first two-year study) and UW (for the second-year study), both sides agree to the credits transferring and recognition of the students' performance both in their home university and partner university.

Part I: First two years at ECUST

During the first-two-year at ECUST, student will take 42 compulsory courses as well as another 8-Chinese-credit elective courses for Science, Arts and Humanity from other Schools at the ECUST.

Waterloo will recognize maximum of 10 units (20 courses) from the above-mentioned courses taken at the ECUST according to Bachelor of Arts Degree Requirements (<http://ugradcalendar.uwaterloo.ca/page/ARTS-BA-Degree-Requirements>), the Bachelor of Arts Breadth Requirements (<http://ugradcalendar.uwaterloo.ca/page/ARTS-BA-Breadth-Requirements>), as well as Economics Plan-level requirements:

- [Honours Economics](#)
- [Honours Mathematical Economics](#)

The suggested transferrable courses are to include, but not be limited to, the following:

Transferrable Course	UW Equivalency	Lecture Weight
Microeconomics	ECON 101	0.5
Macroeconomics	ECON 102	0.5
Multivariable Statistics	ECON 211	0.5
Principles of Statistics	ECON 221	0.5
Advanced Mathematics (1)	MATH128	0.5
Advanced Mathematics (2)	MATH207	0.5
The Principle of Econometrics	MATH127	0.5
Computing Fundamentals	CS1XX	0.5
VB Programming	CS1XX	0.5
Linear Algebra	MATH106	0.5

Intermediate Econometrics	MATH225	0.5
Probability Theory & Mathematical Statistics	one of STAT 221, STAT 231, STAT 241	0.5
Principles of Statistics	one of STAT 221, STAT 231, STAT 241	0.5
Management	AFM131	0.5
Accounting (1)	AFM1XX	0.5
College English (1)	ENGL1XX	0.5
College English (2)	ENGL1XX	0.5
College English (3)	ENGL2XX	0.5
Brief History of Modern Chinese History	HIST239	0.5
Civil and Commercial Law	PHIL2XX	0.5
An Introduction to Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics I	PSCI2XX	0.5

Part II: Second two years at WATERLOO

During the second two-year at Waterloo, students should take 10 units (20 courses) to meet

- A. UWaterloo Bachelor of Arts Degree Requirements (<http://ugradcalendar.uwaterloo.ca/page/ARTS-BA-Degree-Requirements>),
- B. UWaterloo Bachelor of Arts Breadth Requirements (<http://ugradcalendar.uwaterloo.ca/page/ARTS-BA-Breadth-Requirements>),
- C. UWaterloo Economics Plan-level requirements:
 - [Honours Economics](#)
 - [Honours Mathematical Economics](#)
- D. ECUST Degree Requirements

In, principle, to meet ECUST Bachelor Degree Requirements, students should take at least 70% courses above ECON 300-level from the list of Economics undergraduate course (<http://www.ucalendar.uwaterloo.ca/1617/COURSE/course-ECON.html>), among which ECON 472: Senior Honours Essay is a **MUST** for degree applying at both universities.

The credits will be transferred back to ECUST through the ECUST School of Business for the Academic Committee's approval. With the fulfilling of degree requirements indicated on the ECUST Curriculum Handbook, participating students will be granted the ECUST Bachelor Degree.

DRAFT May 29, 2017

THIS AGREEMENT FOR UNDERGRADUATE EDUCATIONAL COLLABORATION made this [] day of [], 20[17] (the “**Effective Date**”)

BETWEEN:

HARBIN INSTITUTE OF TECHNOLOGY, a university established under the laws of the People’s Republic of China, with its main campus located at Heilongjiang, Harbin.
(“**HIT**”)

AND

UNIVERSITY OF WATERLOO, a university established by an Act of the Legislature of the Province of Ontario, with its main campus located at 200 University Avenue West, Waterloo Ontario, Canada N2L 3G1.
(“**Waterloo**”)

WHEREAS, the parties to this agreement wish to establish a collaborative undergraduate program in the Arts and Science (the “**Program**”) where students will spend two years at HIT’s campus in China and two years at Waterloo’s campus in Canada.

AND WHEREAS, Benefits of the Program for Waterloo are to: increase opportunities for Chinese students to experience Canadian higher education; promote Waterloo’s international reputation; increase interaction with Chinese universities; expose Waterloo’s students to Chinese culture and customs through interaction with HIT’s students; and attract the most talented students worldwide.

AND WHEREAS, Benefits of the Program for HIT are to: promote HIT’s international reputation; increase interaction with Canadian universities; enhance HIT’s ability to attract top students; expose HIT’s students to Canadian culture and customs; and enhance the ability of HIT’s graduates to compete in the national and international job markets;

The parties therefore agree as follows:

1. Admissions

- 1.1. Potential participants (“**Applicants**”) will apply for admission to HIT through its standard procedures in any of its eligible programs.
- 1.2. Waterloo and HIT will work together to select up to 10 applicants for the Faculty of Arts and up to 30 applicants for the Faculty of Science each year to participate in the Program. Higher allotments can be negotiated with written approval from both Parties.
 - 1.2.1.HIT will pre-select Applicants according to qualification criteria established by Waterloo.

1.2.2.HIT is responsible for making Applicants aware of the Program in order to attract the most talented students.

1.3. Admission decisions will be made by each university in accordance with this agreement, subject to each university's policies, procedures and regulations in effect at the time of the decision.

1.3.1.Applicants can apply to one the following eligible undergraduate programs at Waterloo:

Honours Economics and Honours Mathematical Economics (in the Faculty of Arts)

Honours Biology, Chemistry, Biochemistry, Environmental Science, Physics and Science and Business (in the Faculty of Science)

1.3.2.Application forms for admission to Waterloo are currently available at:
<http://horizon.ouac.on.ca/uw/agreements/>

1.3.3.Waterloo admission deadlines and required supporting documents are subject to change. Waterloo will advise HIT of relevant deadlines on an annual basis.

1.3.4.Waterloo reserves the right to refuse Applicants based on space limitations of the Program, fiscal constraints, or external factors such as failure of the Applicant to obtain a valid student visa.

1.3.5.Minimum admission requirements to Waterloo programs include both English Language Proficiency ("ELP") and program specific academic requirements.

1.4. Applicants are responsible for all relevant application fees at each university.

2. Eligibility

2.1. Students wishing to enter the Program must obtain qualifying grades satisfactory to both universities.

2.2. Before entering Waterloo for study, Participating Students must:

2.2.1.Successfully complete the first two years of jointly recognized curriculum, including completing all courses with a minimum grade of 70%; and

2.2.2.Meet English Language Proficiency (ELP) standards established by the Waterloo as described in section 8 of this agreement.

3. Registration and Required Residence

3.1. Students requiring English language proficiency training will receive an official offer of admission requiring successful completion of the appropriate English for Academic Success (EFAS) program, or the submission of a satisfactory English language proficiency test result, prior to enrolment in fulltime regular studies.

- 3.2. Applicants who satisfy all of the academic and ELP requirements (official final grades and official ELP results) set out in this agreement (“**Participating Students**”), will be issued an unconditional letter of acceptance.
- 3.3. Applicants who are accepted to Waterloo will be responsible for maintaining continuous registration at both universities.
- 3.4. The Program is designed for completion within four years of full-time study comprised of two years of full-time residence at HIT followed by four full-time academic terms in residence at Waterloo. The actual length of study at Waterloo will depend on the number of transfer credits and the number of courses a Participating Student takes each term.
- 3.5. Part-time enrolment in the Program is not permitted.
- 3.6. Waterloo is solely responsible for decisions regarding Participating Students’ progression in years three and four of the Program.
- 3.7. Participating Students are solely responsible for obtaining the necessary travel and study documents (e.g. passport, study permit and temporary resident visa) and for any and all related expenses. Participating Students will ensure that they maintain and renew their status in Canada in due time and that it is their sole responsibility to do so, and that they may lose their status in the event that they do not study full-time (as defined by the host institution) in Canada.

4. Tuition and Expenses

- 4.1. Participating Students will pay tuition and incidental fees to the university at which they are in residence, as set by that university according to its usual procedures. While at Waterloo, Participating Students will be charged according to the relevant international student tuition standard.
- 4.2. Participating Students are solely responsible for any and all expenses incurred under this agreement including travelling, living and accommodation, books, medical care, ELP training and personal expenses.
- 4.3. All Participating Students and faculty who travel to Waterloo as part of the Program must maintain appropriate health insurance (and other insurance, if required) while in residence at Waterloo.
- 4.4. All Participating Students studying at Waterloo are required to maintain coverage from the University Health Insurance Plan (UHIP) and UW’s FEDS/GSA Health and Dental Plan during the period of residence at Waterloo.
- 4.5. At Waterloo’s discretion, Participating Students may be awarded Waterloo entrance awards. Selection will be based on high academic standing.
- 4.6. While resident at Waterloo, Participating Students are entitled to apply for any scholarship or bursary funds for which they are eligible.

5. Academic Regulations. Participating Students must comply with the regulations of the university at which they are then resident, including those governing academic and non-academic misconduct, and the ethical conduct of research.

6. Records

6.1. Each university will maintain official records for Participating Students during their time of residence. For Participating Students during registered terms at Waterloo, all Waterloo students have a formal academic record, and have access to an official transcript of their studies. The transcript reflects the studies undertaken each term, the grades received, and transfer credits granted.

6.2. Participating Students will be issued official transcripts by each university as appropriate.

6.3. Subject to applicable laws or regulations regarding privacy and access to student information, each university will transmit to the other:

6.3.1. Grades for all courses completed or attempted by Participating Students and

6.3.2. Discipline case summaries when a penalty has been imposed.

7. Transfer Credits and Degree Completion

7.1. Waterloo will grant transfer credits for the first two years of course work to Participating Students who obtain marks that are at, or above, 70% in examinations set by HIT. Only courses that qualify as either core or electives in the relevant program at Waterloo will be considered for transfer, to a maximum of 10.0 credit units (or 20 semester courses).

7.2. HIT will provide sufficient course information, including typical exam questions and student responses, to allow Waterloo to determine which of its courses qualify for Waterloo transfer credits.

7.3. Where possible, HIT will incorporate courses, information and materials from Waterloo into its curricula in order to help Participating Students to meet Waterloo prerequisites for upper year courses.

7.4. Waterloo will issue the appropriate Honours Bachelor's Degree to Participating Students who successfully fulfill all degree requirements, including requirements relating to enrolment, progression and coursework.

7.5. HIT agrees to accept returning Participating Students who cannot, for academic or other reasons, continue their study at Waterloo. For any Participating Students who return having not completed Waterloo degree requirements, HIT will assess successfully completed Waterloo courses for possible credit transfer, so that these courses may count towards degree completion at HIT.

8. English Language Proficiency Training

8.1. Waterloo's English language proficiency requirements for international students are outlined on Waterloo's admissions website (www.findoutmore.uwaterloo.ca). Students must complete one of the

listed official English language proficiency tests, with satisfactory scores, for admission to fulltime regular studies.

- 8.2. Where possible, HIT will create opportunities for Participating Students and encourage them to take part in extracurricular English language training while resident at HIT.
- 8.3. Waterloo will send staff to examine and interview Applicants during the fall of their second year at HIT for English language skills. Waterloo will be responsible for travel and living expenses of its staff while visiting HIT. Emphasis will be on assessing Participating Students' potential for success in academic programs at Waterloo and ability to understand and communicate effectively in English.
- 8.4. Waterloo will coordinate placement of Participating Students who satisfy all conditions for admission to level 400 (for those in all Arts programs) and level 300 (for those in all Science programs) of the 6-week English for Academic Success ("EFAS") program offered through Renison University College. Students must obtain an overall average of 75% in the EFAS program to begin full-time undergraduate studies in the fall. Students who require additional intensive language training will have their enrollment deferred for up to one term (or more if required) until their English skills meet the standards.
- 8.5. Participating Students who are exempt from providing an ELP test score, as well as those who have successfully met one of the ELP test criteria, as published in Waterloo's Undergraduate Studies Academic Calendar, are exempt from completing the EFAS program.
- 8.6. Participating Students who qualify are responsible for applying, enrolling in and attending the EFAS program, which will begin in mid- or late July.
- 8.7. Participating Students are responsible for all costs associated with the English language training.

9. Term and Termination.

- 9.1. The Term of this agreement will commence on the Effective Date and continue for a period of five years, unless terminated earlier in accordance herewith. The agreement will automatically renew for subsequent five year periods unless a party delivers at least 12 months' prior written notice of termination to the other party in accordance with this section.
- 9.2. This agreement may be terminated by either party at any time upon 12 months' written notice, provided that: (i) the termination shall not affect any other contracts between the parties (including, but not limited to exchange agreements) and any such other contracts shall be completed in accordance with their terms; and (ii) the termination shall not affect any Participating Students in good standing in the Program, who will be permitted to complete the Program in accordance with the terms of this agreement.
- 9.3. If a party elects to terminate this agreement pursuant to this section, all Program arrangements will cease on the effective date of the termination, save and except for arrangements regarding Participating Students in the process of completing the Program as described above. Any changes or accommodations required to permit Participating Students to complete the Program will be negotiated in good faith.

9.4. This agreement replaces any previous agreement and may be amended or modified at any time by mutual written consent of the parties. Any such amendments or modifications will take the form of letters of agreement signed by all parties in support of this agreement.

9.5. This agreement requires approval from the Senate at the University of Waterloo prior to the enrollment of students.

10. Designated Representatives. Each party will appoint a Designated Representative for co-ordination and administration of this agreement. The universities may change their Designated Representatives at any time by providing written notice.

The Designated Representative(s) for Waterloo are:

Dr. Dinghai Xu
Department of Economics
Faculty of Arts
University of Waterloo, Ontario, Canada N2L 3G1
Telephone: (519) 888-4567 ext. 32047
Email: dhxu@uwaterloo.ca

Dr. Jonathan Witt
Acting Associate Dean, International Programs
Faculty of Science
University of Waterloo, Ontario, Canada N2L 3G1
Telephone: (519) 888-4567 ext 35951
Email: jwitt@uwaterloo.ca

Marilena Strambu (Central Administration)
Registrar's Office
University of Waterloo, Ontario, Canada N2L 3G1
Telephone: (519) 888-4567 ext. 31768
Email: mstrambu@uwaterloo.ca

The Designated Representative for HIT is:

Ms. Yang Bai
Deputy Director, Office of Global Affairs
Harbin Institute of Technology, 92 West Dazhi Street, Harbin, 150001 P. R. China
Telephone: 86-451-86402586
Fax: 86-451-86416859

Email: trse@hit.edu.cn

Mr. Zhen Liu
Program Coordinator, Office of Global Affairs
Harbin Institute of Technology, 92 West Dazhi Street, Harbin, 150001 P. R. China
Telephone: 86-451-86412980
Fax: 86-451-86416859
Email: ieal@hit.edu.cn

11. Notices.

Any notice to be given under this Agreement should be in writing and addressed to:

Contact Person for Waterloo: Director, Waterloo International (Contact TBD)

Contact Person for HIT: Dr. Hongbo Fan
Director, Office of Global Affairs

Notice will be deemed given (i) when verified by written receipt if sent by courier, or when received if sent by mail without verification of receipt or (ii) when verified by automated receipt or electronic logs if sent by facsimile or email. Notices sent by facsimile or email should be followed as soon as possible by original signed documents.

12. Other Terms and Conditions

12.1. **Disruption of Academic Activity.** In the event of a disruption of academic activity at either university, the parties, through their Designated Representatives, will negotiate in good faith in the interest of the Participating Students to enable them to complete the Program.

12.2. **Non-Exclusivity.** This agreement in no way restricts the universities from participating in similar activities or arrangements with others.

12.3. **News Releases.** Any public announcements or news releases resulting from this agreement should be coordinated with Waterloo's Office of Marketing and Strategic Initiatives and HIT's Office of Global Affairs.

12.4. **Dispute Resolution.** Any disputes in connection with this agreement should be settled by negotiation between the universities through their Designated Representatives.

12.5. **Independent Institutions.** Nothing contained in this agreement should be construed to create or imply a joint venture, partnership, principal-agent or employment relationship between the universities.

12.6. **Governing Law.** This agreement shall be exclusively governed by, and construed in accordance with, the laws of the Province of Ontario, and the federal laws of Canada applicable therein, for exclusive activity in Canada and this agreement shall be exclusively governed by, and construed in accordance with, the laws of the P.R. China for exclusive activity in China.

12.7. **Counterparts.** This agreement may be executed in one or more identical counterparts, each of which shall be deemed an original, but all of which taken together constitute one and the same instrument.

12.8. **Indemnification.** Each Institution shall at all times indemnify and hold harmless the other against all claims, actions, loss or damage arising from the indemnifying party's performance or lack of performance under the Agreement or the acts of commission or omission of its employees, agents or students while carrying out this agreement.

The parties have executed this agreement on the dates shown hereunder.

Dated at Waterloo, Ontario, Canada this day of , 20[...]

UNIVERSITY OF WATERLOO

per: _____
Dr. Feridun Hamdullahpur, President & Vice-Chancellor

per: _____
Dr. Ian Rowlands Associate Vice-President, International

per: _____
Dr. Douglas Peers, Dean of the Faculty of Arts

per: _____
Dr. Robert Lemieux , Dean of the Faculty of Science

Dated at Harbin, Heilongjiang, China this day of , 2017

HARBIN INSTITUTE OF TECHNOLOGY

per: _____
Dr. Yu Zhou, President

per: _____
Dr. Nanqi Ren, Vice-President, International

per: _____
Dr. Hongbo Fan, Director, Office of Global Affairs

Draft June 1, 2017

THIS AGREEMENT FOR UNDERGRADUATE EDUCATIONAL COLLABORATION made this [insert date] day of [insert month], 20[.] (the “**Effective Date**”)

BETWEEN:

UNIVERSITY OF WATERLOO, a university established by an Act of the Legislature of the Province of Ontario, with its main campus located at 200 University Avenue West, Waterloo Ontario, Canada N2L 3G1.
(hereinafter referred to as “**Waterloo**”)

AND

SHANDONG UNIVERSITY OF FINANCE AND ECONOMICS, a university established under the laws of the People’s Republic of China, with its main campus located at 7366 East 2nd Ring Road, Jinan Shandong, P. R. China, 250014
(hereinafter referred to as “**SDUFE**”)

WHEREAS, the parties to this agreement wish to establish a collaborative undergraduate program in Arts (the “**Program**”) where students will spend two years at SDUFE’s campus in China and two years at Waterloo’s campus in Canada.

WHEREAS, benefits of the Program for Waterloo are to: increase opportunities for Chinese students to experience Canadian higher education; promote Waterloo’s international reputation; increase interaction with Chinese universities; expose Waterloo’s students to Chinese culture and customs through interaction with SDUFE’s students; and attract the most talented students worldwide.

AND WHEREAS, benefits of the Program for SDUFE are to: promote SDUFE’s international reputation; increase interaction with Canadian universities; enhance SDUFE’s ability to attract top students; expose SDUFE’s students to Canadian culture and customs; and enhance the ability of SDUFE’s graduates to compete in the national and international job markets;

The parties therefore agree as follows:

1. Admissions

1.1 Potential participants (“**Applicants**”) will apply for admission to SDUFE through its standard procedures in any of its eligible programs.

1.2 Waterloo and SDUFE will work together to select up to 10 Applicants each year to participate in the Program. Higher allotments can be negotiated with written approval from both Parties.

1.2.1 SDUFE will pre-select Applicants according to qualification criteria established by Waterloo.

1.2.2 SDUFE is responsible for making Applicants aware of the Program in order to attract the most talented students.

1.3 Admission decisions will be made by each university in accordance with this agreement, subject to each university’ s policies, procedures and regulations in effect at the time of the decision.

1.3.1 Applicants can apply to the following eligible undergraduate programs at Waterloo:

Honours Economics and Hounours Mathematical Economics (in the Faculty of Arts)

1.3.2 Application forms for admission to Waterloo are currently available at:
<http://horizon.ouac.on.ca/uw/agreements/>

1.3.3 Waterloo admission deadlines and required supporting documents are subject to change. Waterloo will advise SDUFE of relevant deadlines on an annual basis.

1.3.4 Waterloo reserves the right to refuse Applicants based on space limitations of the Program, fiscal constraints, an Applicant’ s failure to meet admission standards, or external factors such as failure of the Applicant to obtain a valid student visa.

1.3.5 Minimum admission requirements to Waterloo programs include both English Language Proficiency (“**ELP**”) and program specific academic requirements.

1.4 Applicants are responsible for all relevant application fees at each university unless they are waived by either university.

2. Eligibility

2.1 Students wishing to enter the Program must obtain qualifying grades satisfactory to both universities.

2.2 Before entering Waterloo for study, Participating Students must:

2.1.1 Successfully complete the first two years of jointly recognized curriculum, including completing all courses with a minimum grade of 70%; and

2.2.2 Meet ELP standards established by the Waterloo as described in section 8 of this agreement.

3. Registration and Required Residence

3.1 Students requiring English language proficiency training will receive an official offer of admission requiring successful completion of the appropriate English for Academic Success (EFAS) program, or the submission of a satisfactory English language proficiency test result, prior to enrolment in fulltime regular studies.

3.2 Applicants who satisfy all of the academic and ELP requirements set out in this agreement (“**Participating Students**”), will be issued an unconditional letter of acceptance.

3.3 Applicants who are accepted to Waterloo will be responsible for maintaining continuous registration at both universities.

3.4 The Program is designed for completion within four years of full-time study comprised of two years of full-time residence at SDUFE followed by four full-time academic terms in residence at Waterloo. The actual length of study at Waterloo will depend on the number of transfer credits and the number of courses a Participating Student takes each term.

3.5 Part-time enrolment in the Program is not permitted.

3.6 Waterloo is solely responsible for decisions regarding Participating Students' progression in years three and four of the Program.

4. Tuition and Expenses

4.1 Participating Students will pay tuition and incidental fees to the university at which they are in residence, as set by that university according to its usual procedures. While at Waterloo, Participating Students will be charged according to the relevant international student tuition standard.

4.2 Participating Students are solely responsible for any and all expenses incurred under this agreement including travelling, living and accommodation, books, medical care, ELP training and personal expenses.

4.3 Participating Students are solely responsible for obtaining the necessary travel and study documents (e.g., passport and study permit and temporary resident visa) and for any and all related expenses. Participating Students will ensure that they maintain or renew their status in Canada in due time, and that it is their sole responsibility to do so, and that they may lose their status, in the event that they do not study full-time (as defined by the host institution) in Canada.

4.4 All Participating Students and faculty who travel to Waterloo as part of the Program must maintain appropriate health insurance (and other insurance, if required) while in resident at Waterloo.

4.5 All Participating Students studying at Waterloo are required to maintain coverage from the University Health Insurance Plan (UHIP) and UW's FEDS/GSA Health and Dental Plan during the period of residence at Waterloo.

4.6 At Waterloos discretion, Participating Students may be awarded Waterloo entrance awards. Selection will be based on high academic standing.

4.7 While resident at Waterloo, Participating Students are entitled to apply for any scholarship or bursary funds for which they are eligible.

5. Academic Regulations

Participating Students must comply with the regulations of the university at which they are then resident, including those governing academic and non-academic misconduct, and the ethical conduct of research.

6. Records

6.1 Each university will maintain official records for Participating Students during their time of residence.

6.2 Participating Students will be issued official transcripts by each university as appropriate.

6.3 Subject to applicable laws or regulations regarding privacy and access to student information, each university will transmit to the other:

6.3.1 Grades for all courses completed or attempted by Participating Students and

6.3.2 Discipline case summaries when a penalty has been imposed.

7. Transfer Credits and Degree Completion

7.1 Waterloo will grant transfer credits for the first two years of course work to Participating Students who obtain marks that are at, or above, 70% in examinations set by SDUFE. Only courses that qualify as either core or electives in the relevant program at Waterloo will be considered for transfer, to a maximum of 10.0 credit units (or 20 semester courses).

7.2 SDUFE will provide sufficient course information, including typical exam questions and student responses, to allow Waterloo to determine which of its courses qualify for Waterloo transfer credits.

7.3 Where possible, SDUFE will incorporate courses, information and materials from Waterloo into its curricula in order to help Participating Students to meet Waterloo prerequisites for upper year courses.

7.4 Waterloo will issue the appropriate Honours Bachelor's Degree to Participating Students who successfully fulfill all degree requirements, including requirements relating to enrolment, progression and coursework.

7.5 SDUFE agrees to accept returning Participating Students who cannot, for academic or other reasons, continue their study at Waterloo. For any Participating Students who return having not completed Waterloo degree requirements, SDUFE will assess successfully completed Waterloo courses for possible credit transfer, so that these courses may count towards degree completion at SDUFE.

8. English Language Proficiency Training

8.1 Waterloo's English language proficiency requirements for international students are outlined on Waterloo's admissions website (www.findoutmore.uwaterloo.ca). Students must complete one of the listed official English language proficiency tests, with satisfactory scores, for admission to fulltime regular studies.

8.2 Where possible, SDUFE will create opportunities for Participating Students and encourage them to take part in extracurricular English language training while resident at SDUFE.

8.3 Waterloo will send staff to examine and interview Applicants during the fall of their second year at SDUFE for English language skills. Waterloo will be responsible for travel and living expenses of its staff while visiting SDUFE. Emphasis will be on assessing Participating Students' potential for success in academic programs at Waterloo and ability to understand and communicate effectively in English.

8.4 Waterloo will coordinate placement of Participating Students who satisfy all conditions for admission in level 400 of the 6-week English for Academic Success ("EFAS") program offered through Renison University College. Students must obtain an overall average of 75% in the EFAS program to begin full-time undergraduate studies in the fall. Students who require additional intensive language training will have their enrollment deferred for up to one term (or more if required) until their English skills meet the standards.

8.5 Participating Students who are exempt from providing an ELP test score, as well as those who have successfully met one of the ELP test criteria, as published in Waterloo's Undergraduate Studies Academic Calendar, are exempt from completing the EFAS program.

8.6 Participating Students who qualify are responsible for applying, enrolling in and attending the EFAS program, which will begin in mid- or late July.

8.7 Participating Students are responsible for all costs associated with the English language training.

9. Term and Termination

9.1 The Term of this agreement will commence on the Effective Date and continue for a period of five years, unless terminated earlier in accordance herewith. The agreement will automatically renew for subsequent five year periods unless a party delivers at least 12 months' prior written notice of termination to the other party in accordance with this section.

9.2 This agreement may be terminated by either party at any time upon 12 months' written notice, provided that: (i) the termination shall not affect any other contracts between the parties (including, but not limited to exchange agreements) and any such other contracts shall be completed in accordance with their terms; and (ii) the termination shall not affect any Participating Students in good standing in the Program, who will be permitted to complete the Program in accordance with the terms of this agreement.

9.3 If a party elects to terminate this agreement pursuant to this section, all Program arrangements will cease on the effective date of the termination, save and except for arrangements regarding Participating Students in the process of completing the Program as described above. Any changes or accommodations required to permit Participating Students to complete the Program will be negotiated in good faith.

9.4 This agreement may be amended or modified at any time by mutual written consent of the parties. Any such amendments or modifications will take the form of letters of agreement signed by all parties in support of this agreement.

9.5 This agreement requires approval from the Senate at the University of Waterloo prior to the enrolment of students.

10. Designated Representatives

Each party will appoint a Designated Representative for co-ordination and administration of this agreement. The universities may change their Designated Representatives at any time by providing written notice.

The Designated Representative(s) for Waterloo are:

Dr. Dinghai Xu

Department of Economics

Faculty of Arts
University of Waterloo, Ontario, Canada N2L 3G1
Telephone: (519) 888-4567 ext. 32047
Email: dhxu@uwaterloo.ca

Marilena Strambu (Central Administration)
Registrar's Office
University of Waterloo, Ontario, Canada N2L 3G1
Telephone: (519) 888-4567 ext. 31768
Email: mstrambu@uwaterloo.ca

The Designated Representative for SDUFE are:

Dr. WANG Jianbo
Director, International Office
Shandong University of Finance and Economics, Jinan Shandong, P. R. China 250014
Telephone: (531) 8859-6197
Email: wangjianbo1207@aliyun.com

Mr. YANG Chunxiao
Section Chief, Outbound Section of International office
Shandong University of Finance and Economics, Jinan Shandong, P. R. China 250014
Telephone: (531) 8291-1113
Email: jacky.yang@sdufe.edu.cn

11. Notices

Any notice to be given under this Agreement should be in writing and addressed to:

Contact Person for Waterloo: Director, Waterloo International

Contact Person for SDUFE is: YANG Chunxiao, Section Chief, Outbound Section of International office

Notice will be deemed given (i) when verified by written receipt if sent by courier, or when received if sent by mail without verification of receipt or (ii) when verified by automated receipt or

electronic logs if sent by facsimile or email. Notices sent by facsimile or email should be followed as soon as possible by original signed documents.

12. Other Terms and Conditions

12.1 Disruption of Academic Activity. In the event of a disruption of academic activity at either university, the parties, through their Designated Representatives, will negotiate in good faith in the interest of the Participating Students to enable them to complete the Program.

12.2 Non-Exclusivity. This agreement in no way restricts the universities from participating in similar activities or arrangements with others.

12.3 News Releases. Any public announcements or new releases resulting from this agreement should be coordinated with Waterloo's Office of Marketing and Strategic Initiatives and SDUFE's ...or other appropriate offices.

12.4 Dispute Resolution. Any disputes in connection with this agreement should be settled by negotiation between the universities through their Designated Representatives.

12.5 Independent Institutions. Nothing contained in this agreement should be construed to create or imply a joint venture, partnership, principal-agent or employment relationship between the universities.

12.6 Governing Law. This agreement shall be exclusively governed by, and construed in accordance with, the laws of the Province of Ontario, the federal laws of Canada for activity in Canada and the laws of the People's Republic of China for activity in China applicable therein.

12.7 Counterparts. This agreement may be executed in one or more identical counterparts, each of which shall be deemed an original, but all of which taken together constitute one and the same instrument.

12.8 Indemnification. Each Institution shall at all times indemnify and hold harmless the other against all claims, actions, loss or damage arising from the indemnifying party's performance or lack of performance under the Agreement or the acts of commission or omission of its employees, agents or students while carrying out this Agreement.

The parties have executed this agreement on the dates shown hereunder.

Dated at Waterloo, Ontario, Canada this day of , 20[...]

UNIVERSITY OF WATERLOO

per: _____
Dr. Feridun Hamdullahpur, President & Vice-Chancellor

per: _____
Dr. Ian Rowlands, Associate Vice-President, International

per: _____
Dr. Douglas Peers, Dean of Arts

Dated at Jinan, Shandong, P. R. China this day of , 20[...]

SHANDONG UNIVERSITY OF FINANCE AND ECONOMICS

per: _____
Dr. ZHUO Zhi, President

per: _____
Mr. HU Wenbo, Vice-President

per: _____
Dr. WANG Jianbo, Director of International Office

Draft June 1, 2017

THIS AGREEMENT FOR UNDERGRADUATE EDUCATIONAL COLLABORATION made this [insert date] day of [insert month], 20[.] (the “**Effective Date**”)

BETWEEN:

ZHONGNAN UNIVERISTY OF ECONOMICS AND LAW, a university established under the laws of the People’s Republic of China, with its main campus located at 1 NANHU AVE, JIANGXIA WUHAN, HUBEI, CHINA. (“**ZUEL**”)

AND

UNIVERSITY OF WATERLOO, a university established by an Act of the Legislature of the Province of Ontario, with its main campus located at 200 University Avenue West, Waterloo Ontario, Canada N2L 3G1. (“**Waterloo**”)

WHEREAS, the parties to this agreement wish to establish a collaborative undergraduate program in Arts (the “**Program**”) where students will spend two years at ZUEL’s campus in China and two years at Waterloo’s campus in Canada.

WHEREAS, benefits of the Program for Waterloo are to: increase opportunities for Chinese students to experience Canadian higher education; promote Waterloo’s international reputation; increase interaction with Chinese universities; expose Waterloo’s students to Chinese culture and customs through interaction with ZUEL’s students; and attract the most talented students worldwide.

AND WHEREAS, benefits of the Program for ZUEL are to: promote ZUEL’s international reputation; increase interaction with Canadian universities; enhance ZUEL’s ability to attract top students; expose ZUEL’s students to Canadian culture and customs; and enhance the ability of ZUEL’s graduates to compete in the national and international job markets;

The parties therefore agree as follows:

1. Admissions

- 1.1. Potential participants (“**Applicants**”) will apply for admission to ZUEL through its standard procedures in any of its eligible programs.
- 1.2. Waterloo and ZUEL will work together to select up to 20 Applicants each year to participate in the Program. Higher allotments can be negotiated with written approval from both Parties.
 - 1.2.1. ZUEL will pre-select Applicants according to qualification criteria established by Waterloo.

1.2.2.ZUEL is responsible for making Applicants aware of the Program in order to attract the most talented students.

1.3. Admission decisions will be made by each university in accordance with this agreement, subject to each university's policies, procedures and regulations in effect at the time of the decision.

1.3.1.Applicants can apply to the following eligible undergraduate programs at Waterloo:

Honours Economics and Honours Mathematical Economics (in the Faculty of Arts)

1.3.2.Application forms for admission to Waterloo are currently available at:

<http://horizon.ouac.on.ca/uw/agreements/>

1.3.3.Waterloo admission deadlines and required supporting documents are subject to change. Waterloo will advise ZUEL of relevant deadlines on an annual basis.

1.3.4.Waterloo reserves the right to refuse Applicants based on space limitations of the Program, fiscal constraints, an Applicant's failure to meet admission standards, or external factors such as failure of the Applicant to obtain a valid student visa.

1.3.5.Minimum admission requirements to Waterloo programs include both English Language Proficiency ("ELP") and program specific academic requirements.

1.4. Applicants are responsible for all relevant application fees at each university unless they are waived by either university.

2. Eligibility

2.1. Students wishing to enter the Program must obtain qualifying grades satisfactory to both universities.

2.2. Before entering Waterloo for study, Participating Students must:

2.2.1.Successfully complete the first two years of jointly recognized curriculum, including completing all courses with a minimum grade of 70%; and

2.2.2.Meet ELP standards established by the Waterloo as described in section 8 of this agreement.

3. Registration and Required Residence

3.1 Students requiring English language proficiency training will receive an official offer of admission requiring successful completion of the appropriate English for Academic Success (EFAS) program, or the submission of a satisfactory English language proficiency test result, prior to enrolment in fulltime regular studies.

- 3.2 Applicants who satisfy all of the academic and ELP requirements set out in this agreement (“**Participating Students**”), will be issued an unconditional letter of acceptance.
- 3.3 Applicants who are accepted to Waterloo will be responsible for maintaining continuous registration at both universities.
- 3.4 The Program is designed for completion within four years of full-time study comprised of two years of full-time residence at ZUEL followed by four full-time academic terms in residence at Waterloo. The actual length of study at Waterloo will depend on the number of transfer credits and the number of courses a Participating Student takes each term.
- 3.5 Part-time enrolment in the Program is not permitted.
- 3.6 Waterloo is solely responsible for decisions regarding Participating Students’ progression in years three and four of the Program.

4 Tuition and Expenses

- 4.1 Participating Students will pay tuition and incidental fees to the university at which they are in residence, as set by that university according to its usual procedures. While at Waterloo, Participating Students will be charged according to the relevant international student tuition standard.
- 4.2 Participating Students are solely responsible for any and all expenses incurred under this agreement including travelling, living and accommodation, books, medical care, ELP training and personal expenses.
- 4.3 Participating Students are solely responsible for obtaining the necessary travel and study documents (e.g., passport, study permit and temporary resident visa) and for any and all related expenses. Participating Students will ensure that they maintain or renew their status in Canada in due time, and that it is their sole responsibility to do so, and that they may lose their status, in the event that they do not study full-time (as defined by the host institution) in Canada.
- 4.4 All Participating Students and faculty who travel to Waterloo as part of the Program must maintain appropriate health insurance (and other insurance, if required) while in residence at Waterloo.
- 4.5 All Participating Students studying at Waterloo are required to maintain coverage from the University Health Insurance Plan (UHIP) and UW’s FEDS/GSA Health and Dental Plan during the period of residence at Waterloo.
- 4.6 At Waterloo’s discretion, Participating Students may be awarded Waterloo entrance awards. Selection will be based on high academic standing.
- 4.7 While resident at Waterloo, Participating Students are entitled to apply for any scholarship or bursary funds for which they are eligible.

5 Academic Regulations. Participating Students must comply with the regulations of the university at which they are then resident, including those governing academic and non-academic misconduct, and the ethical conduct of research.

6 Records

6.1 Each university will maintain official records for Participating Students during their time of residence.

6.2 Participating Students will be issued official transcripts by each university as appropriate.

6.3 Subject to applicable laws or regulations regarding privacy and access to student information, each university will transmit to the other:

6.3.1 Grades for all courses completed or attempted by Participating Students and

6.3.2 Discipline case summaries when a penalty has been imposed.

7 Transfer Credits and Degree Completion

7.1 Waterloo will grant transfer credits for the first two years of course work to Participating Students who obtain marks that are at, or above, 70% in examinations set by ZUEL. Only courses that qualify as either core or electives in the relevant program at Waterloo will be considered for transfer, to a maximum of 10.0 credit units (or 20 semester courses).

7.2 ZUEL will provide sufficient course information, including typical exam questions and student responses, to allow Waterloo to determine which of its courses qualify for Waterloo transfer credits.

7.3 Where possible, ZUEL will incorporate courses, information and materials from Waterloo into its curricula in order to help Participating Students to meet Waterloo prerequisites for upper year courses.

7.4 Waterloo will issue the appropriate Honours Bachelor's Degree to Participating Students who successfully fulfill all degree requirements, including requirements relating to enrolment, progression and coursework.

7.5 ZUEL agrees to accept returning Participating Students who cannot, for academic or other reasons, continue their study at Waterloo. For any Participating Students who return having not completed Waterloo degree requirements, ZUEL will assess successfully completed Waterloo courses for possible credit transfer, so that these courses may count towards degree completion at ZUEL.

8 English Language Proficiency Training

8.1 Waterloo's English language proficiency requirements for international students are outlined on Waterloo's admissions website (www.findoutmore.uwaterloo.ca).

8.2 Where possible, ZUEL will create opportunities for Participating Students and encourage them to take part in extracurricular English language training while resident at ZUEL.

- 8.3 Waterloo will send staff to examine and interview Applicants during the fall of their second year at ZUEL for English language skills. Waterloo will be responsible for travel and living expenses of its staff while visiting ZUEL. Emphasis will be on assessing Participating Students' potential for success in academic programs at Waterloo and ability to understand and communicate effectively in English.
- 8.4 Waterloo will coordinate placement of Participating Students who satisfy all conditions for admission in level 400 of the 6-week English for Academic Success ("EFAS") program offered through Renison University College. Students must obtain an overall average of 75% in the EFAS program to begin full-time undergraduate studies in the fall. Students who require additional intensive language training will have their enrollment deferred for up to one term (or more if required) until their English skills meet the standards. Students who require additional intensive language training will have their enrollment deferred for up to one term (or more if required) until their English skills meet the standards.
- 8.5 Participating Students who are exempt from providing an ELP test score, as well as those who have successfully met one of the ELP test criteria, as published in Waterloo's Undergraduate Studies Academic Calendar, are exempt from completing the EFAS program, although they are strongly recommended to take part in the program.
- 8.6 Participating Students who qualify are responsible for applying, enrolling in and attending the EFAS program, which will begin in mid- or late July.
- 8.7 Participating Students are responsible for all costs associated with the English language training.

9 Term and Termination.

- 9.1 The Term of this agreement will commence on the Effective Date and continue for a period of five years, unless terminated earlier in accordance herewith. The agreement will automatically renew for subsequent five year periods unless a party delivers at least 12 months' prior written notice of termination to the other party in accordance with this section.
- 9.2 This agreement may be terminated by either party at any time upon 12 months' written notice, provided that: (i) the termination shall not affect any other contracts between the parties (including, but not limited to exchange agreements) and any such other contracts shall be completed in accordance with their terms; and (ii) the termination shall not affect any Participating Students in good standing in the Program, who will be permitted to complete the Program in accordance with the terms of this agreement.
- 9.3 If a party elects to terminate this agreement pursuant to this section, all Program arrangements will cease on the effective date of the termination, save and except for arrangements regarding Participating Students in the process of completing the Program as described above. Any changes or accommodations required to permit Participating Students to complete the Program will be negotiated in good faith.

9.4 This agreement may be amended or modified at any time by mutual written consent of the parties. Any such amendments or modifications will take the form of letters of agreement signed by all parties in support of this agreement.

9.5 The agreement requires approval from the Senate at the University Of Waterloo prior to the enrollment of students.

10 **Designated Representatives.** Each party will appoint a Designated Representative for co-ordination and administration of this agreement. The universities may change their Designated Representatives at any time by providing written notice.

The Designated Representative(s) for Waterloo are:

Dr. Dinghai Xu
Department of Economics
Faculty of Arts
University of Waterloo, Ontario, Canada N2L 3G1
Telephone: (519) 888-4567 ext. 32047
Email: dhxu@uwaterloo.ca

Marilena Strambu (Central Administration)
Registrar's Office
University of Waterloo, Ontario, Canada N2L 3G1
Telephone: (519) 888-4567 ext. 31768
Email: mstrambu@uwaterloo.ca

The Designated Representative for ZUEL is:

[Name, Title, Mailing Address, Telephone, Fax, Email]

11 **Notices.**

Any notice to be given under this Agreement should be in writing and addressed to:

Contact Person for Waterloo: Director, Waterloo International

Contact Person for ZUEL is: (include contact)

Notice will be deemed given (i) when verified by written receipt if sent by courier, or when received if sent by mail without verification of receipt or (ii) when verified by automated receipt or electronic logs if sent by

facsimile or email. Notices sent by facsimile or email should be followed as soon as possible by original signed documents.

12 Other Terms and Conditions

- 12.1 **Disruption of Academic Activity.** In the event of a disruption of academic activity at either university, the parties, through their Designated Representatives, will negotiate in good faith in the interest of the Participating Students to enable them to complete the Program.
- 12.2 **Non-Exclusivity.** This agreement in no way restricts the universities from participating in similar activities or arrangements with others.
- 12.3 **News Releases.** Any public announcements or new releases resulting from this agreement should be coordinated with Waterloo's Office of Communications and Public Affairs and ZUEL's ...
- 12.4 **Dispute Resolution.** Any disputes in connection with this agreement should be settled by negotiation between the universities through their Designated Representatives.
- 12.5 **Independent Institutions.** Nothing contained in this agreement should be construed to create or imply a joint venture, partnership, principal-agent or employment relationship between the universities.
- 12.6 **Governing Law.** This agreement shall be exclusively governed by, and construed in accordance with, the laws of the Province of Ontario, and the federal laws of Canada applicable therein, without regard to its laws regarding conflicts of laws and this agreement shall be exclusively governed by, and construed in accordance with, the laws of the P.R. China for exclusive activity in China.
- 12.7 **Counterparts.** This agreement may be executed in one or more identical counterparts, each of which shall be deemed an original, but all of which taken together constitute one and the same instrument.
- 12.8 **Indemnification.** Each Institution shall at all times indemnify and hold harmless the other against all claims, actions, loss or damage arising from the indemnifying party's performance or lack of performance under the Agreement or the acts of commission or omission of its employees, agents or students while carrying out this Agreement.

The parties have executed this agreement on the dates shown hereunder.

Dated at Waterloo, Ontario, Canada this day of , 20[...]

UNIVERSITY OF WATERLOO

per: _____
Dr. Feridun Hamdullahpur, President & Vice-Chancellor

per: _____
Dr. Ian Rowlands, Associate Vice-President, International

per: _____
Dr. Douglas Peers, Dean of Arts

Dated at [place], [Province/State, Country] this day of , 20[...]

ZHONGNAN UNIVERSITY OF ECONOMICS AND LAW

per: _____
Name, Title

per: _____
Name, Title

Minor in Entrepreneurship

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

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

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

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

Three Core Courses ~~to both tracks~~

~~Must earn credit for all of the following courses:-~~

- 1. BET 100 or equivalent
- 2. BET 320
- 3. BET 340
- ~~BET 400~~
- ~~BET 420~~
- ~~Two electives intended to allow students to tailor their program through the choice of approved electives. Normally these electives would be chosen from the electives already accessible through the student's major program. A guiding principle for approval of elective courses is that they must support the student's entrepreneurship experiential component.~~

Five Electives

1. A minimum of three additional BET courses
2. Up to two more BET courses or electives available through the student's home faculty. A guiding principle for approval of discipline-based elective courses is that they support the experiential milestone.

~~Venture Creation Track~~

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

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

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

~~Corporate Entrepreneurship Track~~

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

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

Successful Completion of the Minor in Entrepreneurship

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

Specification for the Milestone associated with the Minor in Entrepreneurship

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

1. Completion of an approved E Co-op term, approval based on an application and interview with the co-ordinator, and demonstration that there is an accessible market, realistic potential to create and deliver the proposed product or service, and **suitable** a work plan **approved by the co-ordinator.**
2. Attendance at 100% of workshops and presentations during the initial week of the term ~~(this is for students on their first E Co-op term only, those in following terms are welcome to attend but it is not mandatory).~~ These workshops and presentations ¹²³ will be available by Skype.

3. Submission of an acceptable ~~bi-weekly~~ **regular** progress reports based on the agreed term work plan as assessed by the E Co-op co-ordinator.
4. Submission of an acceptable end-of-term progress ~~presentation~~ **report** (~~essentially a post-mortem analysis~~) as assessed by the E Co-op co-ordinator.

Entrepreneurship Experience Milestone Term: This milestone is available to ~~a student pursuing an entrepreneurial experience outside a co-op credit~~ **any student engaged in starting a business. It requires:**

1. Approval of the entrepreneurial experience is based ~~on~~ **upon** an application and interview with the **E Co-op** co-ordinator, ~~and demonstration that there is~~ **There must be** an accessible market, realistic potential to create and deliver the proposed product or service, and a work plan ~~approved by the co-ordinator~~. Note: It is expected that the experiential portion of this term will require engagement in the venture for 35 hours per week for a full 12- to 16-week term.
2. Attendance at 100% of workshops and presentations during the initial week of the term. ~~These workshops and presentations will be available by Skype.~~
3. Submission of ~~bi-weekly~~ **acceptable regular** progress reports based on the agreed ~~term~~ work plan as assessed by the E Co-op co-ordinator.
4. Submission of an acceptable end-of-term progress ~~presentation~~ **report** (~~essentially a post-mortem analysis~~) as assessed by the E Co-op co-ordinator.

Capstone, Thesis, or Project/Senior-Level Course with Major Assignment: This milestone is available to any student.

1. **A capstone project, thesis, or project/senior-level course with a major assignment satisfying the entrepreneurial experience requirement of the program, as determined by the program co-ordinator.**
2. **The milestone must have a faculty supervisor.**
3. **The milestone must be able to lead to a potential commercial or social application.**

Minor in Entrepreneurship

clean

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

While it is common to associate entrepreneurship with venture creation, there is an increasing demand for students who can act as 'entrepreneurs within organizations', sometimes referred to as corporate entrepreneurs, or intrapreneurs. As well, many students are interested in social entrepreneurship. The Minor is designed to allow students to focus on any of these vital aspects of entrepreneurship.

Experiential education is a critical component of the Minor. As such, students must participate in a milestone related to entrepreneurship. One possible milestone is an **Enterprise Co-op** (E Co-op) credit or Entrepreneurial Experience Term for non co-op students, pursuing opportunities that lead to the formation of commercial or social venture. Other milestones include a capstone style: project, thesis, major project course, or a senior course containing a major assignment that could lead to a corporate enhancement or

social contribution. Approval of capstone milestones as an appropriate entrepreneurial experience will rest with the [minor's academic co-ordinator](#), referred to as the program co-ordinator in the remainder of this section of the Calendar. This approval will be based on whether the proposed capstone satisfies the experiential intent of the program, as well as, having a suitable faculty supervisor for the project.

Three Core Courses

- [BET 100](#)
- [BET 320](#)
- [BET 340](#)

Five Electives

1. A minimum of three additional BET courses.
2. Up to two more BET courses or electives available through the student's home faculty. A guiding principle for approval of discipline-based elective courses is that they support the experiential milestone.

Successful Completion of the Minor in Entrepreneurship

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

Specification for the Milestone associated with the Minor in Entrepreneurship

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

1. Completion of an approved E Co-op term, approval based on an application and interview with the co-ordinator, and demonstration that there is an accessible market, realistic potential to create and deliver the proposed product or service, and suitable work plan.
2. Attendance at 100% of workshops and presentations during the initial week of the term.
3. Submission of acceptable regular progress reports based on the agreed term work plan as assessed by the E Co-op co-ordinator.
4. Submission of an acceptable end-of-term progress report as assessed by the E Co-op co-ordinator.

Entrepreneurship Experience Term: This milestone is available to any student engaged in starting a business. It requires:

1. Approval of the entrepreneurial experience based upon an application and interview with the E Co-op co-ordinator. There must be an accessible market, realistic potential to create and deliver the proposed product or service, and a work plan. Note: It is expected that the experiential portion of this term will require engagement in the venture for 35 hours per week for a full 12- to 16-week term.
2. Attendance at 100% of workshops and presentations during the initial week of the term.
3. Submission of acceptable regular progress reports based on the agreed work plan as assessed by the E Co-op co-ordinator.
4. Submission of an acceptable end-of-term progress report as assessed by the E Co-op co-ordinator.

Capstone, Thesis, or Project/Senior-Level Course with Major Assignment: This milestone is available to any student.

1. A capstone project, thesis, or project/senior-level course with a major assignment satisfying the entrepreneurial experience requirement of the program, as determined by the program coordinator.
2. The milestone must have a faculty supervisor.
3. The milestone must be able to lead to a potential commercial or social application.

Option in Entrepreneurship

Introduction

Overview

~~The option in entrepreneurship gives University of Waterloo engineering students an opportunity to pursue an innovative curriculum focused on two themes of entrepreneurship; venture creation and corporate entrepreneurship. While it is common to associate entrepreneurship with venture creation, there is growing demand for students who can act as "entrepreneurs within organizations", sometimes referred to as corporate entrepreneurs, or intrapreneurs. Both forms of entrepreneurship are critical to Canada's competitiveness in global markets and its economic vitality.~~

This option is designed for engineering students with a passion for entrepreneurship, ~~who wish to leverage their technical background with~~ whether that means starting a business, working in a start-up environment, or creating something new within an existing organization. It provides students with the business skills required to move ideas from concept to commercial and social success.

~~It~~ The Option is built upon ~~a uniquely UWaterloo~~ an approach to entrepreneurial education that recognizes the need to couple academic and experiential learning to develop an individual's ~~entrepreneurial~~ capabilities. This is achieved through a combination of ~~co-operative~~ venture development or capstone project ~~educational experiences and~~ with academic content tailored to the ~~entrepreneur's stage~~ different stages of development for new ventures.

Option Objectives

Successful students in the Option in Entrepreneurship will:

- be able to find and identify significant problems worth solving
- be able to create and grow new entrepreneurial businesses
- understand the strategy and process of commercializing new technologies
- develop core business skills useful for early stage ventures
- be able to manage the introduction and growth of new business opportunities within existing organizations

~~Specific~~ Course Requirements

~~Two Tracks: Venture Creation or Corporate Entrepreneurship~~

~~Students can pursue one of two tracks in the Entrepreneurship Option. Each track consists of required academic courses and an entrepreneurial experience component.~~

~~1. Venture Creation Track~~

~~Academic Requirements~~

~~All of the following courses:~~

- ~~—BET 100 (List D complementary studies course) or ECON 220 (List C complementary studies course)~~
- ~~—One complementary studies course from List B~~
- ~~—BET 300, BET 310, BET 400~~

~~Plus one technical course in an area related~~ ¹²⁷ ~~your entrepreneurial experience, approved~~

~~by the option co-ordinator.~~

The Option requires students to complete six courses. Three of those courses are required and three are electives.

Required Courses

- BET 100 (List C complementary studies course)
- BET 320 (List C complementary studies course)
- BET 340 (List C complementary studies course)

Electives: choose three courses from this list

- Any other BET courses
- Any technical courses in an area related to the milestone requirement, as approved by the Option co-ordinator
- At most one List B complementary studies course
- BET 410A and BET 410B courses, but only if taken concurrently with any of the capstone project courses:
CHE 482/CHE 483 or CIVE 400/CIVE 401 or ECE 498A/ECE 498B or ENVE 400/ENVE 401 or GENE 403/GENE 404 or GEOE 400/GEOE 401 or MSCI 401/MSCI 402 or ME 481/ME 482 or MTE 481/MTE 482 or NE 408/NE 409 or SE 490/SE 491 or SYDE 461/SYDE 462.

Entrepreneurial Experience

~~In this track, students demonstrate entrepreneurial experience by earning credit for an Enterprise Co-op (E Co-op) Milestone.~~

~~2. Corporate Entrepreneurship Track~~

Academic Requirements

~~All of the following courses:~~

- ~~• BET 100 (List D complementary studies course) or ECON 220 (List C complementary studies course)~~
- ~~• One complementary studies course from List B~~
- ~~• BET 320, BET 400, BET 410A (0.25) and BET 410B (0.25)~~

~~Plus one technical course in an area related to entrepreneurial experience, approved by the Option Co-ordinator.~~

Entrepreneurial ~~Experience~~ Milestone Requirement

~~In this track, students demonstrate entrepreneurial experience through a capstone design project. Students must take the BET 410A and BET 410B courses concurrently with capstone project courses.~~

~~Capstone project courses include: CHE 482/CHE 483 or CIVE 400/CIVE 401 or ECE 498A/ECE 498B or ENVE 400/ENVE 401 or GENE 403/GENE 404 or GEOE 400/GEOE 401 or MSCI 401/MSCI 402 or ME 481/ME 482 or MTE 481/MTE 482 or NE 408/NE 409 or SE 490/SE 491 or SYDE 461/SYDE 462.~~

Students can demonstrate entrepreneurial experience either by earning credit for an Enterprise Co-op (E Co-op) semester or through a capstone design project. Students choosing the capstone design milestone must take BET 410A and BET 410B.

Introduction

Overview

This option is designed for engineering students with a passion for entrepreneurship, whether that means starting a business, working in a start-up environment, or creating something new within an existing organization. It provides students with the business skills required to move ideas from concept to commercial and social success.

The Option is built upon an approach to entrepreneurial education that recognizes the need to couple academic and experiential learning to develop an individual's capabilities. This is achieved through a combination of venture development or capstone project with academic content tailored to the different stages of development for new ventures.

Option Objectives

Successful students in the Option in Entrepreneurship will:

- be able to find and identify significant problems worth solving
- be able to create and grow new entrepreneurial businesses
- understand the strategy and process of commercializing new technologies
- develop core business skills useful for early stage ventures
- be able to manage the introduction and growth of new business opportunities within existing organizations

Course Requirement

The Option requires students to complete six courses. Three of those courses are required and three are electives.

Required Courses

- [BET 100](#) (List C [complementary studies elective](#))
- [BET 320](#) (List C complementary studies elective)
- [BET 340](#) (List C complementary studies elective)

Electives: choose three courses from this list

- Any other [BET courses](#)
- Any technical courses in an area related to the milestone requirement, as approved by the [Option Co-ordinator](#)
- At most one List B complementary studies elective
- [BET 410A](#) and [BET 410B](#) courses, but only if taken concurrently with any of the capstone project courses: [CHE 482/CHE 483](#) or [CIVE 400/CIVE 401](#) or [ECE 498A/ECE 498B](#) or [ENVE 400/ENVE 401](#) or [GENE 403/GENE 404](#) or [GEOE 400/GEOE 401](#) or [MSCI 401/MSCI 402](#) or [ME 481/ME 482](#) or [MTE 481/MTE 482](#) or [NE 408/NE 409](#) or [SE 490/SE 491](#) or [SYDE 461/SYDE 462](#).

Students can demonstrate entrepreneurial experience either by earning credit for an Enterprise Co-op (E Co-op) term, or through a capstone design project. Students choosing the capstone design milestone must take [BET 410A](#) and [BET 410B](#).

University of Waterloo
SENATE
Report of the Vice-President, Academic & Provost
18 September 2017

FOR APPROVAL

Course Evaluation Project – Report and Recommendations

Background:

Course evaluation practices and instruments are varied and inconsistently applied at Waterloo. Most Waterloo course evaluation tools were developed in the 1980s, which means that the structure and question sets of our course evaluation instruments do not reflect current approaches to pedagogy and assessments of the learning experience. The university is unable to collect and analyze course evaluation information at an institutional level; student access to certain course-related data varies according to Faculty. Further, the information generated by existing course evaluation processes is interpreted and used in different ways across campus. Finally, Waterloo lags behind our peer institutions that have designed and adopted modern, progressive course evaluation models. In summary, the current approach to course evaluation at Waterloo is fragmented, out of date, and needs to change.

In 2014, the Associate Vice-President, Academic established the Course Evaluation Project Team (CEPT) to explore the potential for a new, campus-wide, course evaluation model that would respect Faculty and academic unit desires to adapt the course evaluation instrument to meet their specific information needs. This initiative arose from a commitment to (a) update the mechanism to capture Waterloo student feedback about the quality of the student educational experience, and to (b) move toward a system where student feedback is one of several metrics for evaluating instructor performance. The CEPT's mandate in Phase 1 of a two-phase program was to update the student feedback mechanism so that it aligns with current teaching and learning practices.

Findings and Advice:

Adopting a common set of university-wide course evaluation questions would bring Waterloo in line with other leading post-secondary institutions, and enable us to report institutionally on a key component of our mission – student perceptions of their learning experience. Accordingly, the CEPT has determined that:

- Course evaluations should be mandatory for all courses and forms of instruction on this campus. These are called Student Course perceptions (SCPs);
- The SCPs should be complemented by consistent, campus-wide use of associated methods such as peer teaching evaluations, teaching dossiers, etc.;
- A cascaded course evaluation instrument should be developed that is composed of core, generic questions. Additional optional Faculty and/or unit questions; and instructor-selected questions will provide the opportunity to provide more nuanced insights into the student experience.
- The *eValue* on-line system, which has been tested and/or adopted in every Faculty, should provide the platform for the proposed SCP instrument; and
- An orientation toolkit should be designed and implemented to explain why and how SCPs are used at Waterloo; the issue of bias in all its forms; and general advice about how to interpret and complete the question set.

Phase 2:

If the decision is made to proceed to fully develop the SCP framework, then the following major tasks would need to be accomplished:

- Develop, test, refine and validate a question set (both core and optional)
- Design and test the training/orientation toolkit
- Test the *eEvaluate* software and platform to ensure delivery capability
- Pre-launch test of the prototype in its entirety (i.e., question set, toolkit and *eEvaluate* platform).

Phase 2 would require the creation of a new project team and sub-groups. It is likely that these project elements would require at least one year to complete. The project would require hiring a project leader and possibly staff resources to conduct research, develop, and test the question set and toolkit. User testing and survey validation should be undertaken on the core questions. Items should also be developed for the additional question bank (i.e., the Faculty/academic unit and instructor questions). The prototype instrument should be field tested through pilots, the results of which would be used to change, refine, and finalize the question set.

The *eEvaluate* project team and IST will need to identify and explore issues and opportunities for system design. There will need to be a clear institutional commitment to support (i.e. technical, managerial, and communication resources) *eEvaluate* to ensure the SCP system operates robustly and efficiently in order to help promote good student engagement.

There will also be a need to keep the campus community informed regularly about project progress. This communication could include regular briefings for Senate and for campus interest groups. The prototype SCP framework would need to be reviewed by key university-level decision-making bodies (e.g., SUC, etc.) and Senate for their review and approval.

Motion:

That Senate endorse the principles and recommendations provided in the CEPT report dated April 27, 2017, and endorse Phase 2 of the project to commence in Fall 2017.

Mark Seasons
Chair
Course Evaluation Project Team (CEPT)

Attachment: CEPT Report (April 27, 2017)

August 10, 2017

REPORT OF THE COURSE EVALUATION PROJECT TEAM

April 27, 2017

1.0 Introduction

In 2014, the Associate Vice-President, Academic established the Course Evaluation Project Team (CEPT) to explore the potential for a new, campus-wide, course evaluation¹ model (see Appendix 1). This initiative arises from a commitment to (a) update the mechanism to capture Waterloo student feedback about the quality of the student educational experience, and to (b) move toward a system where student feedback is one of several metrics for evaluating instructor performance. The CEPT's mandate was to work on the first initiative: updating the student feedback mechanism so that it aligns with current teaching and learning practices (most Waterloo course evaluation tools were developed in the 1980s). Recognizing that current course evaluation tools are measures of student perceptions, the proposed assessment tool is described as "student course perceptions" (SCP)².

Since 2014, the project team has reviewed the literature on course evaluation and conducted consultations across campus with representative stakeholders regarding the possible development and implementation of a new course evaluation model. A draft report was produced on November 7, 2016. In Fall 2016, the team sought opinions from the campus community about its recommendations. A survey was run, with several open-ended questions about the proposed recommendations (see Appendix 2) and the preliminary question set (see Appendix 3). The literature review, extensive project team discussions, and results of the Fall 2016 consultation process have culminated in the recommendations in this report.

Important context

The project team recognizes the limitations of SCPs while also acknowledging the ways in which they serve an important function for university operation and success. Data from SCPs represent one source of evidence to be considered for promotion and tenure, and for annual performance review purposes. While it is beyond the mandate of the CEPT, the team strongly advocates for a subsequent university team being struck that continues the discussion about how methods such as peer evaluation, teaching dossiers and other approaches can be applied in a consistent, systematic manner campus-wide to evaluate teaching, course design and delivery. These other sources of evidence of teaching and course quality should take on a substantially enhanced role (see [Policy 77](#)). In order for SCPs to be credible sources of information, they must be validated and recognized as student perceptions of teaching effectiveness and the learning experience in a course.

¹ The term "course evaluation" is commonly used in the research literature and on many Canadian university campuses.

² Alternative names include Student Course Feedback, Student Course Evaluations, Student Evaluation of Teaching and Course, or Student Perceptions of Learning (SPLs), (among others). The final name would be determined in Phase 2.

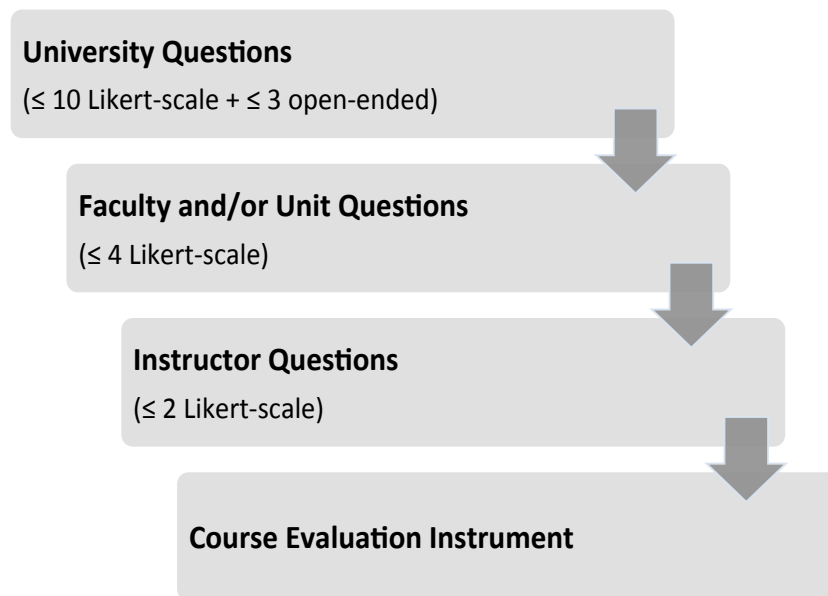
2.0 Key Research Themes and Findings

This section provides a summary of key research findings, organized by themes.

2.1 Reasons for a Cascaded Course Evaluation Model

The project team recommends the adoption of a cascaded course evaluation model. In this multi-level model, all Faculties include a common set of standard questions, complemented by optional additional questions chosen by each Faculty, academic unit, and instructor from an established, vetted, question bank. (See Figure 1).

Figure 1. Cascaded Course Evaluation Model



Course evaluation practices and instruments are varied at Waterloo. Adopting a common set of university-wide course evaluation questions would enable us to report institutionally on a key component of our mission – student perceptions of their learning experience.

Institutional reporting is fully consistent with the growing expectation from government and by the public for transparency and accountability from our post-secondary, publicly-funded universities. The Ontario Undergraduate Student Alliance has called for increased student access to course evaluation data, and Waterloo's Federation of Students has publicly advocated for access to aggregate data. A December 2015 report by the Ministry of Training, Colleges, and Universities (MTCU – renamed "Ministry of Advanced Education and Skills Development" in 2016) identified course evaluation data in its list of additional metrics that could be used in advancing an outcomes-based funding model for post-secondary education in Ontario.¹

This cascaded model also gives Faculties, departments, and individual instructors the ability to select additional questions for more customized feedback. Instructors may select different additional questions over time, such as when instructional practices are changed in a course. University-wide questions are common at other universities, as noted in a recent survey carried out for an MTCU-funded research project on evaluations of teaching. More than 90% of the Ontario universities surveyed (n=20) had institution-wide student evaluations of teachingⁱⁱ. In addition, Canadian universities of comparable size and prominence have already moved to a cascaded course evaluation model (e.g., Toronto, McGill, Simon Fraser).

2.2 Evaluation Instrument Design Principles

The evaluation model is structured on a set of guiding principles. The primary principle is that SCP questions need to connect to a well-grounded, empirically informed definition of effective teaching.

The project team's review of research into the elements of effective teachingⁱⁱⁱ shows that effective instructors design and deliver courses that result in meaningful student learning^{iv}. While course evaluations do not measure student learning (that is the role of tools such as assignments, tests, and exams), students can provide useful feedback about how well the design and delivery of a course facilitated their learning (or not) and affected their learning experience.

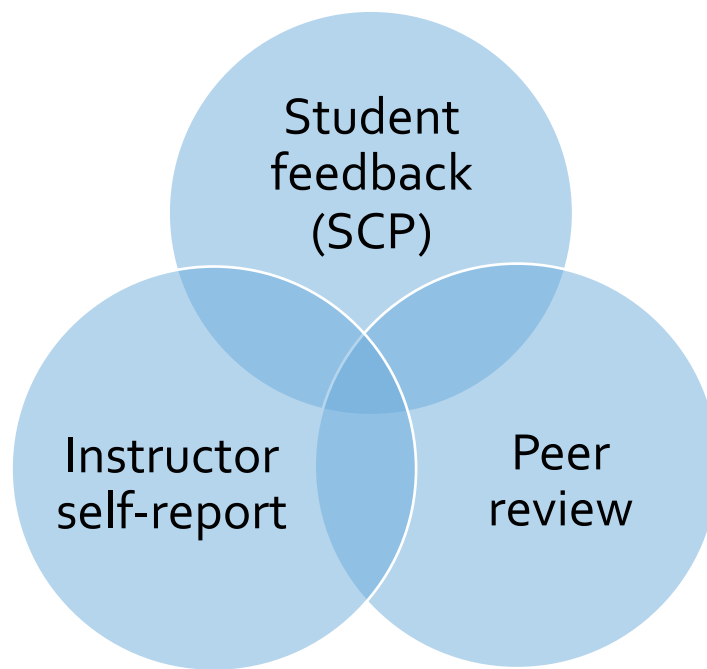
This understanding - together with reviewing course evaluation instruments^v used elsewhere and the current literature about such instruments^{vi} - allowed the project team to identify three main dimensions through which students provide feedback by way of the instrument: Course Design, Course Delivery, and Learning Experience³.

An analysis of Waterloo's in-use course evaluation instruments has revealed that few questions explicitly focus on the student learning experience. The questions also privilege lecture-based instructional practices^{vii}, and there is considerable variety in the wording and number of questions asked. Instructional and assessment practices have shifted over the past few decades to embrace an expanded repertoire of options (e.g., collaborative learning, active- and problem-based learning, authentic assessments). There has also been increased focus on learning outcomes and the use of educational technologies^{viii}. Evaluation instruments that capture this evolution in course design, delivery, and the student learning experience are considered necessary and valuable.

Finally, we wish to reinforce the important message that student course perceptions (SCPs) represent one of several lines of evidence, each of which plays an important and complementary role in establishing a complete picture of effective teaching and the learning experience. (See Figure 2).

³ See Appendix 3, which demonstrates the link between these three principles and a preliminary question set.

Figure 2. Three complementary lines of evidence



Accordingly, the project team recommends using the following principles to guide the development of evaluation questions:

1. SCPs should focus on students' perceptions of the quality of course design, course delivery, and the learning experience
2. SCPs should be designed to provide instructors with helpful, timely student feedback
3. unit chairs/directors should be able to use trends evident in successive SCPs as one means to help ensure high quality teaching for their academic programs
4. results from scaled questions should be viewed as student perceptions of teaching and a reflection of their learning experiences that may be further illuminated by open-ended comments
5. the selection of indicators of effective teaching and the wording of instrument items should be guided by the research literature as well as by ongoing assessment of evaluation instruments
6. evaluation questions should focus on instructional elements that students can reliably evaluate and avoid ones they cannot reliably evaluate^x
7. institution-wide questions should transcend course delivery formats and disciplines, and
8. the instrument should allow for the assessment of diverse teaching approaches with a combination of open-ended and Likert scale questions.

2.3 New and existing model use

Waterloo's [Policy 77](#) states that "student evaluations are an important source of information" in the assessment of teaching. However, teaching at Waterloo is assigned to a broader community than faculty and therefore the SCP process needs to consider the entire instructional community. "Instructor", as used in this report, includes all tenured and tenure-track faculty, adjunct appointments, lecturers, sessional instructors, and teaching assistants (TAs) who are in independent instructional roles.

Tenured professors and continuing instructors would use the new evaluation model. Instructors whose start date is after the commencement of a new evaluation process should be assessed with the new evaluation instrument. Faculties should offer instructors whose start date was prior to the commencement of a new course evaluation process the option to be assessed with (a) the previous Faculty-based instrument or (b) the new campus-wide instrument, until they have been awarded tenure and promotion to associate professor or attained continuing status.

2.4 Supportive Online Platform

The project team recognizes the benefits of online delivery of course evaluations. These include:

1. lowering resource costs when compared with paper-based approaches
2. easing the work to analyze, share and post data
3. adding flexibility to accommodate a cascaded evaluation model
4. increasing security of student access, and
5. enhancing accessibility by campus stakeholders to the evaluation process and its outcomes.

A locally developed online delivery system – *eEvaluate* – has been under development in the Faculty of Science for several years. Five of our six Faculties (Applied Health Sciences, Engineering, Environment, Mathematics and Science) have fully deployed *eEvaluate* using their existing instruments, and the Faculty of Arts has conducted an extensive pilot. Faculties have reported that *eEvaluate* has largely met expectations, and this software has effectively become the *de facto* campus solution. The project team concluded that the most reasonable and beneficial course of action would be for all Faculties to adopt *eEvaluate*.

An advisory committee has been struck to provide input to priorities for the technical development of *eEvaluate*. This committee is accountable to the office of the Associate Vice-President, Academic (AVPA) and the Associate Provost, Graduate Studies (APGS), and provides reports to the University Committee on Information Systems and Technology (UCIST). If the cascaded model of the instrument is adopted, a full review of software requirements to support the model will be initiated. The technical advisory committee would assist with that review.

2.5 Management of the SCP System

This section of the report addresses several high-profile issues that have been raised in project team discussions and through discussions with campus stakeholders.

2.5.1 The Issue of Bias

The team recognizes that every opportunity must be taken to enhance the clarity of each question's intent, and to minimize the potential for inappropriate comments. Research acknowledges that socio-cultural variables, biases, the "halo effect" and other influences can affect course evaluation results^x. For example, student participation in SCPs can be compromised by factors such as bias (e.g., gender and race) in perceptions of course and instructional quality; indifference to the exercise by students and/or instructors; immaturity of respondents; misunderstandings of the purpose and application of course evaluation results; and instrument questions that are inappropriate or simply cannot be answered in an informed manner by students, among other factors and variables. The inherent bias in evaluation tools is a strong reason for instructor evaluation to be multi-pronged (i.e., SCPs are conceptualized as one evaluation tool).

Institutional and individual bias regarding specific groups is a challenge that we face in our society and in higher education. There is no question that biases (e.g., sexism, racism, ageism) exist on any campus, and that these biases can be expressed in SCPs. For example, in a study carried out at the University of Waterloo, when students received low grades, they gave statistically lower overall ratings of quality (course and instructor quality ratings were combined) to female instructors than male instructors.⁴

These are serious issues that the project team has discussed extensively. While it is not possible to control individual behaviours and responses to SCPs, it is possible to reduce the potential for bias, in its many potential forms, through careful design of the instrument. In addition, a common set of questions, and data in electronic form, can provide tools to investigate, recognize and address bias, better than is possible with different sets of instruments that cannot be aggregated for broader trends and outliers.

Similarly, we note that bias can be a factor in the interpretation of SCP data by university administrators (e.g., academic chairs/directors, staff). A realizable action will be to provide educational opportunities for those who use the data. (See Section 2.5.2.)

As noted already, the project team advocates for a multi-pronged evaluation of instructor performance and an investigation of the impacts of bias. Finally, a follow-up investigation of other assessment and evaluation methods, in addition to SCP information, would be a worthy undertaking. Other methods likely will require significant resources to scale up for department, Faculty, and or campus-wide use.

⁴ See Endnote x.

2.5.2 Designing Support for Evaluation Instrument Users

While it is impossible to anticipate every potential factor that could compromise the quality, validity and fairness of evaluation responses, a properly designed and implemented training and orientation program can enhance the utility and validity of these evaluations.

Many universities have designed and implemented training and education programs for students, staff and instructors to support and guide the course evaluation process. Accordingly, all University students, faculty, staff (Faculty and departmental) administrators and system administrators should be trained in, and oriented to, the SCP and the use and interpretation of results. In addition, there should be orientation to the *eEvaluate* platform. Training and orientation content should comprise a generic core of information, plus material that meets the information needs of specific evaluation users. These information needs should be determined following consultation with each evaluation user group. Showcasing, and potentially sharing, the data analysis already occurring in the Faculties (e.g., trends against class sizes) could be another beneficial part of the education program.

With regard to the SCP, training and orientation content must address issues such as the intent of this evaluation tool, how and why these evaluations are used, how to interpret the results, the need to acknowledge the importance/role of bias (especially concerning gender and race) when completing and interpreting evaluations, and ethical obligations generally. In terms of the *eEvaluate* platform/technology, training and orientation content should explain the key features of the *eEvaluate* system and provide links to useful on-line resources (e.g., FAQs, instructional videos) that meet the needs of different user groups.

Training and orientation content should be accessible “on demand” via a single, dedicated on-line portal which would also enable access to the *eEvaluate* SCP and useful resources. Mandatory training and orientation content should be presented as a “toolkit,” with online sub-sites dedicated to specific SCP user group information needs.

2.5.3 Testing, Monitoring and Evaluation: Instrument and Toolkit

The project team recognizes that validation of the SCP is needed. The testing of the instrument results will determine the reliability and validity of the instrument, including the influence of variables that could bias results at Waterloo. The results of this testing should be used to revise the instrument and/or the educational toolkit as appropriate before and following implementation to determine the influence of such variables at Waterloo.

Refinements to the SCP instrument should be made as necessary, following consultation with key campus stakeholders (including FAUW, GSA, and Feds) and regular expert review of operations and instrument design and performance. Further, a full assessment of the instrument and platform should take place after five years of campus-wide application, with monitoring and evaluation findings reported to Senate annually.

The Office of the Associate Vice-President, Academic (for undergraduate courses) and the Associate Provost, Graduate Studies (for graduate courses) should be responsible for oversight, coordination and reporting of campus-wide SCP assessment through the Quality Assurance Office, with consultation as required from the Centre for Teaching Excellence (CTE). Support for the technical use of the *eEvaluate* software would be provided by Information Systems and Technology (IST), and when required by the Centre for Teaching Excellence (CTE). Quality Assurance Office staff, along with the developers of *eEvaluate* (Science Computing) and IST staff, should determine an optimal strategy to ensure appropriate resourcing (sufficient capacity and operational support, user training and support) for *eEvaluate* for campus-wide use.

Quality Assurance Office staff should also monitor the performance of the SCP instrument and platform on a term-by-term basis, and report findings annually to Senate via the Senate Undergraduate Council (SUC), the Senate Graduate and Research Council (SGRC), and the Course Evaluation Advisory Group co-led by Science Computing and IST.

2.5.4 Data Management

The ownership of SCP data is an important issue. As such, information generated by the SCPs must be managed carefully. The collection, analysis and dissemination of student SCP data must be carried out in accordance with best practices concerning privacy of information, transparency and accountability. The collection, analysis and dissemination of evaluation data must adhere to privacy of information, transparency, and accountability in accordance with Policy 46 (Information Security).

Numeric information should be made accessible after authentication by the WatIAM system and should be available at the individual course level. These data should provide information generated by the core questions. The SCP data should present information to facilitate comparison with Faculty-wide ratings and program-specific ratings as determined to be statistically appropriate. Instructors should have access to all of their numeric information. The numeric results from these evaluations should be part of the instructor's record for annual performance review, and for tenure and promotion purposes. Written comments from students are intended for the instructor's use only.

Optional questions regarding TAs should be shared with the TAs; instructors are encouraged to engage in discussions about these results with TAs. Instructors, at their sole discretion, may use the written comments when seeking feedback and improvement. For example, they may show some or all of the comments to members of the Centre for Teaching Excellence (CTE) or colleagues when seeking advice about improving their teaching technique or course design.

2.5.5 SCP Administration Process

The project team believes that best practice for administering the SCP instrument includes the following obligations:

1. Provide students with information about the instrument at the outset of each term in each course so that they are aware of the type of feedback that will be requested. This information should be included in the course outline
2. Orient students to the purpose and applications of the SCP with reference to the toolkit
3. Conduct the SCP during the last two weeks of classes each term
4. Set aside approximately 15 minutes for in-class evaluation (for face-to-face courses); and
5. Close access to the SCP before the start of the exam period.

3.0 Recommendations:⁵

This set of recommendations reflects (a) the evolving analysis carried out by the project team, as represented in successive draft reports; (b) considerable debate amongst team members about key issues and responses; (c) the perspectives of stakeholder groups who were briefed about the project; and (d) the suggestions provided by individual respondents and groups in the Fall 2016 campus consultation program.

3.1 Teaching Evaluation

3.1.1 *Student course perceptions (SCP)*

- All UW course-based learning experiences, in all formats, should be evaluated.
- Students have a unique perspective to contribute regarding the course learning experience and, as such, their feedback should be solicited as part of the evaluation of teaching.
- The recommended nomenclature for this exercise is *Student Course Perceptions (SCP)*.

3.1.2 *Use of complementary evaluation methods*

- SCP results should be considered one of several potential data sources for annual performance appraisals, and for tenure and promotion purposes.
- As a priority, the university should explore the potential uses of additional, complementary teaching evaluation methods.
- The university should promote the use of additional teaching evaluation methods (e.g., peer evaluations, teaching dossiers, etc.). These complementary methods must be used in a consistent manner across campus.

⁵ Note that full consensus by team members was not possible on all recommendations. It is understood that these Recommendations may be refined following testing in Phase 2.

- Faculties should decide which and how often complementary evaluation methods should be used.
- Significant investment in training for instructors, chairs/directors, and relevant staff should be allocated to ensure consistent and effective use of all evaluation tools.

3.1.3 Teaching Quality Improvement

- Triangulation of teaching evaluation methods (i.e., student course perceptions (SCP), peer evaluations, teaching dossiers, and/or other methods) should be used.
- The resources and expertise of the university's Centre for Teaching Excellence (CTE) should be promoted and endorsed as a valuable and effective resource to help instructors enhance their teaching effectiveness (e.g., through workshops, individual consultations, etc.).

3.1.4 Tenure and tenure-track status

- Tenured professors, continuing instructors, and instructors whose start date is after the commencement of a new evaluation process should be assessed with the new SCP instrument.
- Instructors whose start date pre-dates the commencement of a new evaluation instrument could decide to use the new evaluation instrument, or the previous instrument used in the respective Faculty.

3.2 Information Management

3.2.1 Information Management – Instructors

- Instructors should have access to all numeric information generated for their courses by SCP exercises.
- The numeric results from SCP results (i.e. core questions, Faculty and instructor-selected questions) should be part of the instructor's record for annual performance review, and for tenure and promotion purposes.
- Instructors should have the opportunity to place into context SCP results when used for annual performance reviews and for tenure and promotion files.
- Instructors, solely at their discretion, may share SCP data (for example, when seeking feedback and advice).
- Individual Faculties should follow standard and uniform protocols established by the university concerning interpretation of SCP information, and about levels of access by Deans, chairs and directors to SCP comments data.

3.2.2 Information Management – Student Access

- Summary/overall ratings about individual courses (i.e. core questions) should be made available to all students.
- The names of individual instructors should not be listed or accessible.
- Access to SCP results should be limited to those members of the university community with WatIAM credentials.

3.2.3 Managing Offensive Comments

- The *eEvaluate* system should be designed to screen the Comments section for potentially offensive words or phrases. These comments should be eliminated from the Comments content that is reviewed by the instructor. The numerics (data) would also be deleted in these cases.
- In the event that *eEvaluate* would not have the capacity to scan for offensive comments, alternative means would need to be identified and implemented.
- A bank of offensive words or phrases that could be present in the Comments section should be developed with advice provided by FAUW, Feds, GSA and SWEC.
- Anonymity of responses and comments should be ensured, with the exception of comments considered threatening, in which case *eEvaluate* should be used to filter these comments and to identify the student. Relevant university policies would then be applied (e.g., Policy 33, 46 and/or 71; Guidelines for Managing Student Information) to be administered by the appropriate Faculty associate dean (undergraduate studies).
- Quality Assurance Office staff should be the responsibility centre for this oversight role.

3.3 Instrument Design and Analysis

3.3.1 Cascaded Model Design

- The three-level cascaded model (i.e., core, course-based and Faculty questions) should be implemented campus-wide.
- Core questions in the student course perceptions (SCP) instrument should identify common elements of effective instruction (i.e., the three dimensions of effective instruction: course design, course delivery, and learning experience).
- Decisions about the selection of complementary questions should take place at the Faculty, program and/or instructor level.
- Complementary questions should be drawn from a bank of validated questions maintained by the Quality Assurance office.

- The cascaded model should be mandatory for summative (end-of-term) evaluations, and used at the instructor’s discretion for formative (mid-term) evaluation purposes.

3.3.2 Number and Types of Questions

- The SCP question set should be finalized following extensive testing and refinement with a representative sample of students and instructors.
- Testing should include examination of the potential for bias in question choice, phrasing and sequence.
- The potential for, or evidence of, bias in instrument question design and responses should be a key element of pre-launch testing and of future assessments.
- The university’s Survey Research Centre (SRC) should be engaged to provide advice and help to design the instrument and to manage the testing process.
- An optional question regarding experiential learning should be available in the bank of complementary questions.

3.3.3 Compatibility with existing instruments

- The cascaded student course perception (SCP) model structure should support and extend past and current data capture efforts used in previous course evaluation instruments.

3.3.4 Differentiation between Course and Instructor

- The instrument design should distinguish between course design and delivery elements to address cases when instructors teach courses they did not design.

3.3.5 Analysis of Numeric Data

- Statisticians and data visualization experts on campus should be consulted to determine how best to analyze and represent numeric data.
- Numeric data analyses should include reports on trends once sufficient data have been collected.

3.4 Instrument Implementation

3.4.1 Training and Orientation Toolkit

- A toolkit should be developed to support the SCP instrument . When additional evaluation methods of teaching are implemented, the toolkit should also support these methods.
- The toolkit should emphasize how to interpret the numeric data and comments in the context of the SCP’s limitations.

- All students and faculty should be required to complete an on-line training and orientation module before use of the instrument.
- Experts (i.e., educational psychologists) should design the toolkit.
- Instructors (and the toolkit) should convey to students that course contexts differ (e.g., the time to return machine-scored tests will not be the same as for essays, tests or assignments).
- In-class explanations of course design and intent should be provided to promote clarity and understanding.

3.5 Monitoring and Evaluation

3.5.1 Role of Quality Assurance Office

- The Quality Assurance office should monitor the SCP instrument and toolkit on an annual basis.
- The Quality Assurance office should provide annual reports to Senate about the status of the SCP instrument and toolkit. These reports should also be provided to Senate Underground Council (SUC) and the Senate Graduate and Research Council (SGRC).
- The Quality Assurance office should carry out a full assessment of the SCP instrument and toolkit on a 5-year cycle.
- Refinements to the SCP instrument and toolkit should be made in consultation with key campus stakeholders (i.e., FAUW, Feds, GSA, SWEC).

4.0 Next Steps: Phase 2

The Vice-President Academic and Provost will determine next steps as they relate to SCPs at Waterloo. If the decision is made to proceed to fully develop the SCP framework, then the following major tasks would need to be accomplished:

- Develop, test, refine and validate a question set (both core and optional)
- Design and test the training/orientation toolkit
- Test the *eEvaluate* software and platform to ensure delivery capability using a cascaded model
- Pre-launch test of the prototype in its entirety (i.e., question set, toolkit and *eEvaluate* platform).

This work would require the creation of a new project team and sub-groups. It is likely that these project elements would require at least one year to complete. The project could require hiring a project leader and possibly staff resources to conduct research, develop, and test the question set and toolkit.

If there is approval to pursue a cascaded evaluation model, a sub-committee should be struck and user testing and survey validation should be undertaken on the core questions. Items should also be developed for the additional question bank (i.e., the Faculty/academic unit and instructor questions). The prototype instrument should be field tested through pilots, the results of which would be used to change, refine, and finalize the question set.

The *eEvaluate* project team and IST will need to work closely with Phase 2 project colleagues to identify and explore issues and opportunities for system design.

There will also be a need to keep the campus community informed regularly about project progress. This communication could include regular briefings for Senate and for campus interest groups. The prototype SCP framework would need to be reviewed by key university-level decision-making bodies (e.g., SUC, etc.) and Senate for their review and approval.

Report submitted by:
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Chair
Course Evaluation Project Team

April 27, 2017

Appendix 1 – Course Evaluation Project Project Mandate and Process

In 2014, the Associate Vice-President, Academic established the Course Evaluation Project Team (CEPT) to explore the potential for a new, campus-wide, course evaluation model. For the past two years, the project team has reviewed literature on course evaluation and conducted consultations across campus with representative stakeholders regarding the possible implementation of a new course evaluation model. Specifically, the project team was mandated to accomplish the following:

1. Examine the various administrative, logistical, technological, and cultural issues pertaining to course evaluations at the University of Waterloo
2. Establish best practices concerning all aspects of course evaluations based on a review of the literature
3. Consider the implications of adopting changes to current course evaluation procedures in relation to Policy 77, the [MOA](#) (Memorandum of Agreement with the Faculty Association), and faculty annual performance evaluations
4. Assess the feasibility of designing a common institutional survey instrument, with customizable sections at the Faculty, department, or instructor level (referred to here as a “cascaded” model)

The project team is composed of representatives from the major stakeholder groups at the University: faculty representation (academic Faculties; Faculty Association of the University of Waterloo – FAUW); undergraduate students (Federation of Students - Feds); graduate students (Graduate Students Association – GSA); academic support units (Centre for Extended Learning – CEL; the Centre for Teaching Excellence – CTE); and the University’s Information Systems and Technology group – IST.

The project team and its subgroups have met regularly since May 2014. Recommendations have been informed by the review of appropriate literature, consultations with colleagues at other universities, and the review of a number of peer university websites to identify best practices and factors to consider when designing, implementing, and interpreting course evaluations.

In addition, the team has carefully considered perspectives and advice offered by the university’s AccessAbility Services (AAS), the Office of the President (Special Advisor on Women’s and Gender Issues), as well as subject matter specialists, including social psychologists, survey design methodologists, and teaching fellows at Waterloo. A consultation process was undertaken throughout 2015 with the Senate, Deans Council, FAUW, FEDS, GSA and all six Faculties (Applied Health Sciences, Arts, Engineering, Environment, Mathematics, Science). Three key concerns emerged from these consultations: (1) inherent biases in course evaluation, (2) the advisability of university-wide questions, and (3) the privacy of and access to data. The recommendations in this report address these and related concerns.

Appendix 2 – 2016 Survey Process and Results

Survey Design and Management:

In Fall 2016, the course evaluation project team decided that it was time to seek opinions from the campus community about the project team's recommendations. Accordingly, a survey was designed with the following open-ended questions that related to key aspects of the proposed approach to course evaluation:

1. What are the advantages and disadvantages of Waterloo adopting a cascaded model for course evaluation?
2. How well do the sample questions align with the instrument design principles outlined in this report?
3. What are the advantages and disadvantages of access to course evaluation information as presented in this report?
4. What other comments do you have about the recommendations and information presented regarding course evaluations at Waterloo?

The survey launched on November 8, 2016. Two emails were sent from the office of the Associate Vice-President (Academic) to introduce the survey and encourage responses (November 8, 2016 and December 9, 2016). In addition, the survey was highlighted in the university's Daily Bulletin (see November 25, 2016) and by the Registrar's Office (December 9, 2016). All communications to the campus community included a hot link to the survey that was posted on the Associate Vice-President (Academic)'s website (see: <https://uwaterloo.ca/associate-vice-president-academic/course-evaluation-project>). All survey responses were collected anonymously.

The survey was available on-line for campus stakeholder response from November 8, 2016 to January 20, 2017. More than 90 individual responses to the survey have been received to date, as well as written submissions from several academic units and campus organizations. These responses have been organized for analysis in an Excel spreadsheet managed by Quality Assurance staff in the office of the Associate Vice-President (Academic).

General Impressions:

Overall, the comments and suggestions are supportive of the recommendations presented in the Draft Report. However, positions vary widely and some appear fixed regarding specific issues. We can state that, in general, students want as much information as possible about the learning experience and teaching effectiveness. We note that specific groups, such as FAUW, seek strict controls on student course perception data use and access.

The majority of critical comments concerned the issues of bias (e.g., gender, race, etc.) in the context of teaching evaluation; the capacity of students to assess teaching quality; the proposed question set (i.e. number and types of questions); and access to student course perception data, specifically the written comments, by students and department chairs/directors. Comments were made about the validity of the concept of teaching evaluation and the utility of an orientation/training toolkit.

Areas of commonality/consensus included:

- The cascaded model (tri-level: core, course and Faculty-level questions)
- Use of the *eEvaluate* course evaluation software and platform
- The merits of a comprehensive system of evaluation of teaching beyond the sole source of student feedback
- The need to test and validate the question set before launch
- Recognition of bias, in its many forms, and implications for teaching evaluation
- The need to build upon historical databases of past course evaluations
- Restrictions on access to SCP data

Areas of difference of opinion/divergence of perspectives included:

- The proposed question set – number and types of questions
- Whether the complex issue of bias could be addressed effectively through instrument design and user training
- Whether an orientation/training toolkit would be an effective way to deal with bias
- Whether students should evaluate teaching effectiveness
- Whether instructor names should be accessible in evaluation databases
- Whether students and/or academic department chairs/directors should be able to access students' written comments

Summary of Organization/Group/Departmental Submissions:

Please see Table 1.

Table 1: Summary of Group/Departmental Submissions

Organization/ Group/Dept.	Comments
English	<p>Concerns about the phrasing of draft questions</p> <p>Comments about what constitutes “reasonable amount of time” re: assignment return</p> <p>Concerns about the concept of “clear communicator”</p> <p>Bias: need to map out questions and assess re: bias; ensure that toolkit designed with bias as key issue; how might bias be addressed by chairs?</p> <p>Data management: are we taking sufficient steps to ensure privacy?</p>
FAUW	<p>Cascaded model: the value of campus-wide core questions is questionable, given Faculty cultures</p> <p>Sample questions: need to clarify use and purpose of evaluations before finalizing questions</p> <p>Position: valid to have student perceptions; not for course design or quality of teaching</p> <p>Access to information: agrees that evaluation comments for instructor alone; Faculties should decide whether to make numeric scores more widely available</p> <p>Additional comments: bias remains a significant concern; rejects position that potential for bias can be managed</p> <p>Recommendations: clarify that this is about student experiences; should not be used to evaluate teaching for merit or T+P; support consistent use of any new model</p>
Feds	<p>Overall, Feds is supportive of draft report (November 7, 2016); while areas of concern, happy with proposed processes and strategies</p> <p>Bias issue: acknowledges potential; notes student evaluations part of overall assessment process; students’ assessments are an integral and necessary aspect of course evaluation</p> <p>Cascaded model supported</p> <p>Numeric data: recommends campus community should have access to these data</p> <p>Mid-Term evaluations: Feds policy calls for both formative and summative course evaluations</p> <p>TAs: encourages greater attention to role of TAs, important role played; should be properly evaluated</p>

<p>Feke et al.</p>	<p>Agreed with much in report – e.g., cascaded model Issue: systemic biases (explicit and implicit) – grave concerns; concerned that no concrete solutions provided in report, so broader conversation is needed Opinion that student training program would not properly address potential for bias Student course evaluation information should not be used in merit, T+P; a new, more equitable method is needed (e.g., peer teaching evaluations)</p>
<p>GSA</p>	<p>In agreement with CEPT report (November 7, 2016) Acknowledges commitment and effort of project team, “extraordinary effort” to reach consensus Cascaded model: could provide meaningful information re: cross-campus; must watch for biases and students’ reliability in responses Sample questions: notes that province’s outcomes based funding model will likely use course evaluation data Course design: noted that students not in position to comment knowledgeably about course design; rather, should be interpreted as expression of students’ perceptions of course Course delivery: some elements are universal across campus – e.g., timeliness, clarity of communication, etc. – while others could be context-specific Learning experience: open-ended questions (comments) are important, a valuable tool Training: support for mandatory training plus in-class messages/explanations of importance of evaluation Privacy of information: expect that UW privacy policies and report recommendations re: access to data applies to TAs as well Ongoing monitoring and evaluation of instrument will be essential; each stakeholder group must feel respected; academic freedom and integrity must be upheld Belief is that students and their organizations want access to student perceptions of the quality of their course experiences; use to compare with experiences elsewhere. Data should exclude reference to ratings/rankings of instructors Evaluation of courses/teaching quality should be based on multiple evaluation methods</p>

MATH	<p>Support for use of evaluations to provide meaningful feedback</p> <p>Cascaded model generally supported</p> <p>Choice of questions is a key issue. Should have 4-6 core questions maximum. MATH wants role in choice of core questions; these questions should be applicable across disciplines</p> <p>Strong desire to maintain historical trend data – any new instrument would need questions that retain, or relate clearly to, existing ones</p> <p>Data management/access: more clarity required re. internal vs. external use of data; numeric should widely accessible, while comments for instructor’s use</p> <p>Student evaluations: the instrument should be part of overall teaching evaluation process</p>
PSYCH	<p>Extraneous, “biasing” factors make student questionnaires invalid for summative evaluation</p> <p>Summative use of student evaluations harms student learning and instructors’ integrity and academic freedom</p> <p>Proposed remedies for bias will not be effective</p> <p>Student evaluations could be useful for formative feedback</p> <p>Experiences on other campuses may not be relevant at Waterloo; need to be careful about “best practices”</p> <p>Alternatives to student questionnaires can generate less bias and do more to promote effective instruction</p> <p>Questionnaire design should be informed by on-campus expert advice</p>
SWEC	<p>Focus should be on student perceptions of course and their learning</p> <p>Student feedback data should not be published</p> <p>Should investigate whether discrimination apparent in past course evaluation results</p> <p>Future instruments should be evaluated regularly (i.e., annually) to support refinement of questions</p> <p>Training to minimize opportunities for bias should (a) be used if proven to be effective and (b) designed by experts</p> <p>Mechanisms should be in place to mitigate impact of sexist, racist, other inappropriate comments</p> <p>There is a need to (a) examine methods that could be used to assess teaching effectiveness of instructors and student learning and (b) review weighting/importance of student evaluations for merit and T+P</p>

Appendix 3 - Dimensions of effective teaching and sample questions

Course Design Dimension	Course Delivery Dimension	Learning Experience Dimension
<ul style="list-style-type: none"> • I knew what I was expected to learn in this course • The graded work assessed what I was expected to learn • The course activities prepared me for the graded work • The coursework demands were...(Likert scale answer choices will reflect workload intensity – for example, very light to very heavy) 	<ul style="list-style-type: none"> • The instructor returned graded work in a reasonable amount of time • The instructor was a clear communicator • The instructor created a supportive environment that helped me learn • The instructor stimulated my interest in this course 	<ul style="list-style-type: none"> • The most important thing I learned in this course was* • Overall, I learned a great deal from this instructor • Overall, the quality of my learning experience in this course was excellent • What helped me to learn in this course?*
<ul style="list-style-type: none"> • What changes, if any, would I suggest for this course?* 		

*Denotes an open-ended question.

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