

University of Waterloo
SENATE
Notice of Meeting

Date: Monday 19 October 2020
Time: 3:30 p.m.
Place: Microsoft Teams Videoconference

	OPEN SESSION	Action
3:30	<p><u>Consent Agenda</u></p> <p>Motion: To approve or receive for information by consent items 1-4 below.</p> <ol style="list-style-type: none"> Minutes of the 21 September 2020 Meeting Reports from Committees and Councils <ol style="list-style-type: none"> Graduate & Research Council Undergraduate Council Report of the President <ol style="list-style-type: none"> Recognition and Commendation Tenure and Promotion Reports from the Faculties 	<p>Decision</p> <p>Information Decision/Information</p> <p>Information Information</p> <p>Information</p>
3:35	<p><u>Regular Agenda</u></p> <ol style="list-style-type: none"> Business Arising from the Minutes 	
3:40	<ol style="list-style-type: none"> Research Presentation – Heather George, PhD Candidate, History 	Information
3:50	<ol style="list-style-type: none"> Reports from Committees and Councils <ol style="list-style-type: none"> Graduate & Research Council Undergraduate Council 	Decision Decision
4:00		
4:10	<ol style="list-style-type: none"> Report of the President <ol style="list-style-type: none"> Update 	Information
4:25	<ol style="list-style-type: none"> Student Mental Health [John Hirdes] Climate Action Plan [Mat Thijssen] 	Information Information
4:40	<ol style="list-style-type: none"> Q&A Period with the President 	Information
4:50	<ol style="list-style-type: none"> Report of the Vice-President, Academic & Provost <ol style="list-style-type: none"> Degrees, Diplomas, and Certificates* [list of graduands to be available for review online prior to the Senate meeting] 	Decision
4:55	<ol style="list-style-type: none"> Report of the Vice-President, Research and International 	Information
5:00	<ol style="list-style-type: none"> Other Business 	
	CONFIDENTIAL SESSION	
5:05	<ol style="list-style-type: none"> Minutes of the 21 September 2020 Meeting 	Decision
5:10	<ol style="list-style-type: none"> Business Arising from the Minutes 	

	CONFIDENTIAL SESSION	Action
5:15	15. Report of the President	Information
5:20	16. Other Business	

9 October 2020
KJJ/ees

Karen Jack
University Secretary
Secretary to Senate

University of Waterloo
SENATE
Minutes of the 21 September 2020 Meeting

Present: Sheila Ager, Jean Andrey, Mike Ashmore, Sandra Banks, Michael Beauchemin, Kankar Bhattacharya, David Billedeau, Anne Bordeleau, Dan Brown, Carmen Bruni, Kofi Campbell, Jeff Casello, Robyn Clarke, David Clausi, Joan Coutu, Neil Craik, Eric Croiset, Peter Deadman, Charmaine Dean, David DeVidi, Fraser Easton, Aiman Fatima, Paul Fieguth, Wendy Fletcher, George Freeman, Martha George, Mark Giesbrecht, Robert Gorbet, Kelly Grindrod, Feridun Hamdullahpur (chair), David Ha, John Haddock, Dennis Huber, Natalie Hutchings, Karen Jack (secretary), Martin Karsten, Achim Kempf, Sabrina Khandakar, Jennifer Kieffer, Veronica Kitchen, Christiane Lemieux, Robert Lemieux, Lili Liu, Kesen Ma, Ellen MacEachen, Blake Madill, Peter Meehan, Samantha Meyer, Ian Milligan, Zoran Miskovic, Barb Moffatt, Graham Murphy, Beth Namachchivaya, Cathy Newell Kelly, Daniel O'Connor, Troy Osborne, David Perrin, William Power, Neil Randall, Sam Rubin, James Rush, Max Salman, Emma Schuster, Marcus Shantz, Joanne Shoveller, Abbie Simpson, Siva Sivoththaman, Richard Staines, Bruno Tremblay, Sharon Tucker, Twesh Upadhyaya, Cristina Vanin, Johanna Wandel, Paul Ward, Mary Wells, Stanley Woo, Nancy Worth, Clarence Woudsma, En-Hui Yang, Samer Zu'Mot

Guests: Jean Becker, Bruce Campbell, Aldo Caputo, Yufei Du, Donna Ellis, Barbara Forrest, Anne Galang, Sanjeev Gill, Candace Harrington, Narveen Jandu, Diane Johnston, Ross Johnston, Andrea Kelman, Nick Manning, Norah McRae, Christine McWebb, Bessma Momani, Everett Patterson, Alice Raynard, Chris Read, Daniela Sesar-Hencic, Sheri Sutherland, Allan Starr, Emily Schroeder, Kerry Stryker, Mat Thijssen, Sean Thomas, Rebecca Wickens, Chris Wilson-Smith, Kate Windsor

Absent: Dominic Barton*, Lisa Bauer-Leahy, Cindy Forbes*, Julia Goyal*, Teferi Mergo, Richard Myers, Erin O'Connell*

*regrets

OPEN SESSION

The chair welcomed members to the first meeting of the academic term and in particular welcomed new senators David Billedeau (president, GSA), Dan Brown (president, FAUW), Mark Giesbrecht (new as dean, mathematics), Peter Meehan (president, St. Jerome's University), and Mary Wells (dean, engineering).

Consent Agenda

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

O'Connor and Freeman.

1. MINUTES OF THE 15 JUNE 2020 MEETING

Senate approved the minutes of the meeting.

2. REPORTS FROM COMMITTEES AND COUNCILS

Undergraduate Council. Senate received the report for information.

3. REPORT OF THE PRESIDENT

Recognition and Commendation. Senate received the report for information.

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

New Convocation Hood: Master of Pharmacy (MPharm). Senate approved the convocation hood for the new Master of Pharmacy degree.

Call for Nominations for University Professor. Senate received the report for information.

University Research Chair. Senate received the report for information.

5. REPORTS FROM THE FACULTIES

Senate received the reports for information.

6. REPORT FROM THE COU ACADEMIC COLLEAGUE

Senate received the report for information.

7. COMMITTEE APPOINTMENTS

Senate approved the following appointments:

Executive Committee: David Billedeau as graduate student representative, replacing Naima Samuel, term ending 30 April 2021.

Graduate & Research Council: Jerika Sanderson as graduate student representative from the Faculty of Arts, term ending 30 April 2022; Sophia Sanniti as graduate student representative from the Faculty of Environment, term ending 30 April 2022.

Senate Representative on the Board of Governors: Sam Rubin as undergraduate student senator representative, term ending 30 April 2022.

Amit and Meena Chakma Awards for Exceptional Teaching by a Student Committee: Han Liu as graduate student representative, term ending 30 April 2021; Becky Anderson as graduate student representative, term ending 31 August 2020.

Distinguished Teacher Awards Committee: Joseph Varga as graduate student representative, term ending 31 August 2021.

In response to a question, Giesbrecht spoke to mathematics' necessity to make some expedient hires in light of enrollment increases. Members understood that the provost and deans will discuss this further.

The question was called, and the motion carried unanimously.

Regular Agenda

8. BUSINESS ARISING FROM THE MINUTES

There was no business arising.

9. REPORTS FROM COMMITTEES AND COUNCILS

Undergraduate Council

Senate heard a motion to approve the creation of a diploma in English for multilingual speakers and inactivation of the existing certificate in English for multilingual speakers, effective 1 September 2021.

DeVidi and Fletcher.

In response to a question, DeVidi advised that program inactivations are decided on a case by case basis and are prompted typically by declining enrollments and the need to direct resources to other areas of study.

The question was called and the motion carried unanimously.

10. REPORT OF THE PRESIDENT

In a wide-ranging presentation, the president spoke to: new senior administrators and members of the community; expressions of condolence on the passing of Dr. Tom Brzustowski and Dr. Ralph Haas; estimates of fall admissions and enrollments; new faculty and staff hires; messaging received from Katherine DeLand of the World Health Organization regarding COVID-19; the campus check-in system; the student presence on campus; the pending COVID-19 Assessment and Testing Centre; activities and planning for international students attending campus; strategic plan implementation; the lifelong learning “WatSPEED” initiative; the president’s antiracism task force; work being done to hold better equity and diversity data at Waterloo; federal and provincial government relations activities.

The president offered special thanks to individuals in the Registrar’s Office, the Graduate Studies and Postdoctoral Affairs Office, and the Faculties for efforts undertaken to ensure high quality student admissions and strong enrollments in the fall term. He advised that an official announcement regarding the Winter term will be made this week. In response to questions: it was confirmed that at the outset, the University’s COVID-19 testing centre will only be available to faculty, staff and students of the University, but consideration will be given to expand that service to family members if the numbers permit it; that conversations are occurring with respect to potential return of part of the budget holdbacks; that the business model for WatSPEED is under development; observations about conversations with COU and the province regarding intellectual property; advice about pending communications to encourage the community to follow rules about face masks and social distancing; ways the satellite campuses may be supported with respect to COVID-19 testing.

11. Q&A PERIOD WITH THE PRESIDENT

Questions were addressed during the Report of the President.

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

Faculty Name Change. Rush invited Dean Liu to speak to the proposal to change the name of the Faculty of Applied Health Sciences to the Faculty of Health. Senate heard a motion to recommend to the Board of Governors the following name change: “Faculty of Applied Health Sciences” to “Faculty of Health” effective 1 January 2021.

Liu and Freeman.

Liu provided an overview of the rationale for the proposed name change and spoke to consultations the Faculty undertook. In response to questions: expressions of concern about and acknowledgement that few students attended the open house meant to solicit their feedback; discussions held with the directors of the schools of pharmacy and optometry; recruitment challenges with the current use of “applied” in the Faculty’s name; ways the Faculty’s departments are included in the proposed name; expressions of concern that some individuals may not feel represented by the new name; the minimal costs associated with the proposed change; expressions of support for the proposal; a request that the minutes reflect that the undergraduate caucus will abstain from the vote; confirmation that degree names and designations will not change; a commitment by Liu to work with students with regard to their concerns.

The question was called and the motion carried with one vote against and 13 abstentions.

13. REPORT OF THE VICE-PRESIDENT, UNIVERSITY RESEARCH

Senate received the report for information and heard from Dean about the status of the opening of research labs on campus. Dean undertook to take offline a discussion with a graduate student about a specific research space.

14. OTHER BUSINESS

There was no other business.

Senate convened in confidential session.

23 September 2020

Karen Jack
University Secretary

CONFIDENTIAL SESSION

The confidential minutes have been removed.

University of Waterloo
SENATE GRADUATE & RESEARCH COUNCIL
Report to Senate
19 October 2020

Senate Graduate & Research Council met on 14 September 2020 and agreed to forward the following items to Senate for information as part of the consent agenda.

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

FOR INFORMATION

CURRICULAR SUBMISSIONS

On behalf of Senate, council approved new courses, course revisions, and minor program revisions for the Faculty of Arts (Classical Studies, Psychology, English, Economics).

ACADEMIC PROGRAM REVIEW REPORTS

On behalf of Senate, council approved:

- Two-Year Progress Report – Pharmacy (MSc, PhD), as presented at Attachment #1.
- Final Assessment Report – Chemical Engineering (MEng, MAsC, PhD), as presented at Attachment #2.
- Final Assessment Report – Psychology (BA, BSc, MA, MAsC, PhD, Minor), as presented at Attachment #3.
- Final Assessment Report – Theological Studies (MTS), as presented at Attachment #4.

UNIVERSITY RESEARCH ETHICS

On behalf of Senate, council approved the following:

- Clinical Research Ethics Committee – member renewal (2), new member (1), and a role change (1).
- Human Research Ethics Committee – member renewal (1), new member (6), and a role change (1).

GRADUATE AWARDS

On behalf of Senate, council approved the Mathematics International Master's Award of Excellence (operating), Mark Zanna Graduate Scholarship in Psychology (endowment), Pella Awards (trust), School of Accounting and Finance Doctoral Award (trust), Iranian Student Memorial Engineering Graduate Scholarship (endowment), University Professor Garry L Rempel Memorial Graduate Scholarship (endowment), and J. Frank Brookfield Memorial Graduate Scholarship (endowment).

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

Charmaine Dean
Vice President, Research & International



Two-Year Progress Report

Pharmacy (MSc, PhD)

March 2020

Background

The self-study document for the cyclical review of the graduate programs (MSc, PhD) in the School of Pharmacy (SOP) was submitted in June of 2016. The external review and site visit took place on November 7-8, 2016. This response will specifically address the recommendations from the external reviewers, which were detailed in the Final Assessment Report.

Progress on Implementation Plan

The following section briefly describes the status of each recommendation. The updated Implementation Plan based on the status of the recommendations and our progress thus far is presented in Table 1.

Recommendations

1. We recommend the School to be pro-active and reach out to the Faculty of Science to identify Canadian Foundation for Innovation (CFI) opportunities and secure funding allocations.

Status: *in progress*

Details: The SOP was successful in receiving a CFI allocation that allows us to submit a CFI application for the Fall 2016 competition. This CFI application was not successful. In September 2017, our newest faculty member brought a CFI to the University of Waterloo and has used it for development of a dedicated computing infrastructure for big data analytics in health outcomes. We will continue to examine this as a viable funding mechanism.

2. We recommend use of a shuttle system or allocation of transportation funds to individual graduate students to facilitate transport of supplies and movement of students between the main campus and the School

Status: *completed*

Details: The SOP has an arrangement with a local taxi company to transport graduate students to the main campus for academic purposes at no charge to the students. In addition, all UW students have access to Grand River Transit (this service is included in the graduate student fees for full-time students, allowing them access to the transit system at no additional

cost), which operates multiple bus routes that stop at both the Pharmacy building and main campus, providing excellent transportation options to graduate students. In 2019, a new light rail transit system began operation within the Region of Waterloo, with stops right outside the Pharmacy building and on the main campus; this provides even more transportation options for students.

3. We recommend that the University and School of Pharmacy think about a sustainable budget plan that can guarantee the stipend for at least 4 years (during the funding cohort) for PhD students and 2 years for MSc students in both streams should the research funding of the supervisor face trouble in renewal.

Status: *completed*

Details: Per their letter of offer, all students are guaranteed full funding for the duration of their studies (2 years – MSc; 4 years – PhD). In the event that the supervisor faces financial difficulties, the School must supplement. The School has implemented a process for approving bridging funding for these situations.

The new MPHARM is a revenue-generating endeavour through tuition. No stipend is offered to the students thus no guaranteed stipend is needed.

4. We recommend that the School reaches out to the Graduate Office of the Faculty of Science to explore alternative funding strategies and models for Graduate student support.

Status: *completed*

Details: The Faculty of Science offered [Graduate Student Incentives](#) for incoming domestic PhD students in Fall of 2018 and the SOP benefitted from this with its largest intake of students to date (n=10). Further, we continue to be engaged with the Faculty of Science to explore additional opportunities as they arise.

5. Development of a recruitment strategy for attracting excellent, prospective graduate students is strongly recommended.

Status: *in progress*

Details: Our [website](#) is one of the first places a prospective student is likely to go. In Fall 2017, we redesigned the website to ensure that all resources were visible, such as the student handbook which is now complete.

The Faculty of Science is also active in this area with a Grad Open House event being delivered in both 2017 and 2018; both of which Pharmacy faculty attended and presented. Our faculty have also had recruitment booths at field-specific national and international conferences and

we are actively discussing options for portable recruitment brochures (e.g., a postcard) for faculty to take to conferences.

We have recruited five students to our graduate program from the PharmD program. We plan to continue actively recruiting these students through in-class presentations and independent-study elective courses.

In addition, the School has added three new research intensive faculty in the past couple of years and these faculty will attract new graduate students. As a result of new hires in data-driven fields, the needs of faculty have changed significantly in the past 5 years. In response, the School built the Health Services & Applied Research Lab housed in the Pharmacy building. This space features a secure entrance, graduate student offices, patient counselling and examination rooms, a meeting room, and a controlled-entry computer lab with dedicated workstations. The addition of this lab will help our faculty to attract and provide a specialized training space for new graduate students.

6. The School should focus on developing (or offering on a more regular basis) additional graduate courses especially in the clinical and pharmacy practice areas.

Status: in progress

Details: Since the time of the review, the School of Pharmacy (SOP) has developed a proposal for a Master of Pharmacy in Advanced Pharmacy Practice (MPHARM). The program is an advanced professional graduate-level program that will train advanced pharmacist practitioners for careers in clinical practice, education and clinical research. The program includes required and elective courses, a clinical practicum and completion of a non-thesis research project. Full-time students will be expected to complete the requirements in six semesters. The program will predominantly be delivered in-person with an emphasis on problem-based learning as the pedagogical model in the required courses. The clinical practicum will take place in a variety of health care settings including both institutional and primary care sites and will not use the co-op model. The students will pay higher fees consistent with those charged for other professional pharmacy programs in Canada.

The program proposal was developed throughout 2017 with internal and external stakeholder input and approved at School of Pharmacy Council on May 24, 2018. Ministry approval was given in summer of 2019 and the first cohort will begin in Fall 2020.

The required courses in this program include:

PHARM 651: Advanced Principles of Medication Management 1 – Students will learn advanced principles of drug action, pharmacodynamics, pharmacogenomics,

pharmacokinetics and pharmacotherapeutics and will apply these principles to identifying and resolving drug-related problems in a variety of therapeutic areas. A problem-based learning approach will be used to maximize student learning.

PHARM 652: Advanced Principles of Medication Management 2 – This course further expands the skills and knowledge developed by students in Advanced Principles of Medication Management 1.

PHARM 653: Methods in Clinical and Applied Research - This course will provide an overview of common research methods used to address questions in clinical and translational research. Research ethics and responsible conduct of research will be addressed. The course will also cover basic concepts in successful grant writing.

PHARM 654: Critical Appraisal and Evidence-based Practice – Using a journal club format, students will identify and analyze papers from the primary literature. Skills related to critical appraisal and evidence-based practice will be developed. Students will also have the opportunity to develop communication skills related to presenting scientific literature.

PHARM 655: Physical Assessment and Clinical Laboratory Testing – Fundamental skills of physical assessment and the basic understanding and interpretation of diagnostic testing, imaging and clinical laboratory tests relevant to monitoring the effects and adverse events associated with the use of medications will be covered (lecture and laboratory).

Biostatistics Requirement – Students must complete an approved course in biostatistics or quantitative data analysis offered in the SOP or other departments at the University of Waterloo.

In addition to the courses that will make-up the MPHARM program, additional courses are being developed for the MSc and PhD programs. **PHARM618: Pharmacoeconomics** has been developed and delivered as a Special Topics course as it makes its way through the approval process within the University. Further, there have been ongoing face-to-face discussions between our pharmacoepidemiology, health services research and outcomes and pharmacoeconomics SOP faculty and colleagues in Statistics & Actuarial Science and School of Public Health & Health Systems to plan for further opportunities for cross-listing courses in shared areas of interest. Cross-listing has been successful for PHARM614-STATS814: Systematic Review and Meta-Analysis and we will use this as a benchmark.

Further, in September 2017, the School hired another faculty member in the area of health outcomes such that clinical pharmacy, pharmacoepidemiology and social and administrative science faculty now represent close to 50% of the SOP full-time research faculty. With the implementation of the MPHARM, our collaborations with other University Departments and our now full complement of research faculty, course offerings will increase in quantity and consistency.

7. The self-study asked for advice around building industrial partnerships and incorporating experiential learning into the graduate program. Reviewers recommended “... a duration of 4-6 months for this program towards the end of PhD studies upon completion of experimental phase of the PhD thesis and before the thesis defence when all program requirements are completed.”

Status: in progress

Experiential education in graduate studies is within the new University Strategic Plan 2020-2025 as well as in the School of Pharmacy Strategic Plan 2020-2025. While this is something the SOP is interested in implementing, we are awaiting a University or Faculty level framework to work within. Neither the University nor the Faculty currently have such a framework however the SOP will be supportive of such an initiative.

Explain any circumstances that have altered the original implementation plan

The original implementation plan has been used by the School as a guidance document in the past 2 years. The major item identified by the site visit team, which was the lack of clinically-oriented courses, is addressed with the development of the MPHARM program and therefore the availability of five additional clinically-oriented courses that are available to all graduate students (MPHARM, MSc, PhD) in the School. Lesser items have also been reviewed and acted upon as presented in this report. There have been no extenuating circumstances hindering our ability to follow through on the implementation plan.

Address any significant developments or initiatives that have arisen since the program review process, or that were not contemplated during the review

The SOP is in the process of developing and implementing an extensive Programmatic Assessment Plan. The Assessment Plan is a working document to drive a quality assurance process in all areas of the School (PharmD, MSc, MPHARM and PhD programs, staff and faculty development, student services) and is required by the PharmD accreditation body, the [Canadian Council for the Accreditation of Pharmacy Programs \(CCAPP\)](#). The graduate programs will have a functioning plan and the SOP will begin implementing this plan in 2020.

The planning and building of the Health Services & Applied Research Lab was a new initiative since the review. This lab addresses some of the needs of our faculty and graduate students who are engaged in clinical, quantitative health services or data-intensive research and provides a physical space for cross-faculty collaboration and graduate training.

Table 1. Updated Implementation Plan

	Recommendations	Proposed Actions	Responsibility for Leading and Resourcing (if applicable) the Actions	Timeline for addressing Recommendations
1.	We recommend the School to be pro-active and reach out to the Faculty of Science to identify CFI opportunities and secure funding allocations.	Engage with Associate Dean, Research to identify CFI opportunities and SOP faculty to identify need	Associate Director, Graduate Studies and Research Research Fellow	Ongoing. The Research Fellow (Edginton) is active in the Faculty of Science Research Fellows group where this is regularly discussed.
5.	Development of a recruitment strategy for attracting excellent, prospective graduate students is strongly recommended.	Work with Faculty of Science on Faculty-wide recruiting strategies Develop in house recruiting materials	Associate Director, Research and Graduate Studies	Ongoing
6.	The School should focus on developing (or offering on a more regular basis) additional graduate courses especially in the clinical and pharmacy practice areas.	Secure approval for MPharm and enroll students	Associate Director, Research and Graduate Studies Hallman Director, School of Pharmacy	MPharm postcard created in Nov 2019 Formal approval given in summer of 2019 2019-2020: Course development Fall 2020: First offering of courses Ongoing

Date of next program review: _____

2023-2024

Date

Signatures of Approval:



David Edwards, Hallman Director
cn=David Edwards, Hallman Director, o,
ou=School of Pharmacy,
email=david.edwards@uwaterloo.ca, c=CA
2020.05.11 12:22:39 -04'00'

May 11, 2020

Chair/Director

Date

AFIW Administrative Dean/Head (For AFIW programs only)

Date

Robert P.
Lemieux



Digitally signed by Robert P.
Lemieux
Date: 2020.05.14 14:09:06 -04'00'

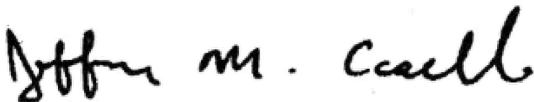
Faculty Dean

Date

Note: AFIW programs fall under the Faculty of ARTS; however, the Dean does not have fiscal control nor authority over staffing and administration of the program.

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

Date



May 27, 2019

Associate Vice-President, Graduate Studies and Postdoctoral Affairs
(For graduate and augmented programs)

Date

Checklist for SUC/SGRC Reviewer Feedback

Quality Assurance Office

Two-Year Progress Report: Pharmacy

Name of Reviewer: Ana Ferrer

Date: 3/18/2020

Does the Two-Year Progress Report:

- | | | |
|--|--|------------------------------------|
| 1. Clearly describe progress achieved on the various action items in the implementation plan? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. Explain convincingly any circumstances that would have altered the original implementation plan? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. For items that are behind schedule, propose an amended implementation schedule that is reasonable and credible? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Address significant developments or initiatives that have arisen since the program review process, or that were not contemplated by the program review process? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |

General Comments

The report has adequately responded to the items raised by reviewers



Final Assessment Report

Chemical Engineering (MEng, MAsC, PhD)

December 2019

Executive Summary

External reviewers found that the Chemical Engineering programs (MEng, MAsC, PhD) delivered by the Department of Chemical Engineering were in good standing. Quoting from the reviewers' report:

"Overall, the graduate programs in the Department of Chemical Engineering are strong. They have excellent faculty that have a broad range of expertise and research across the discipline; several of their faculty are exceptionally productive in terms of students, publications and patents. They have high quality administrative staff who have a strong service orientation to the students in the program. They are fortunate to have excellent physical space and facilities in the new building along with excellent technical support staff for their research and education."

A total of 10 recommendations were provided which focused on curriculum and program delivery, student recruitment, and research funding. In response, a plan was created outlining specific actions proposed to address each recommendation, as well as a timeline for implementation. The next cyclical review for this program is scheduled for 2024-2025.

Student Complement over the past three years

	MEng	MAsC	PhD
2015-2016	72 (42 new)	66 (25 new)	89 (25 new)
2014-2015	66 (32 new)	66 (25 new)	90 (15 new)
2013-2014	72 (39 new)	68 (29 new)	95 (17 new)

Background

In accordance with the University's Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response of the Chemical Engineering programs (MEng, MAsC, PhD) delivered by the Department of Chemical Engineering. A self-study (Volume I, II, III) was submitted to the Associate Vice-President, Graduate Studies and Postdoctoral Affairs on March 31, 2017. Volume I presented the program descriptions and learning outcomes, and an analytical assessment of these three programs, including the standard data package prepared by Institutional Analysis & Planning (IAP). The CV

for each faculty member associated with the delivery of the programs was included in Volume II of the self-study.

From Volume III, arm's-length external reviewers were selected. Dr. D. Grant Allen, Professor and Chair of Chemical Engineering and Applied Chemistry, University of Toronto, and Dr. Peter Englezos, Professor and Department Head of Chemical and Biological Engineering, University of British Columbia, were chosen by the Associate Vice-President, Graduate Studies and Postdoctoral Affairs. An internal reviewer from the University of Waterloo, Dr. Daniel O'Connor, Department of Sociology and Legal Studies, was also selected.

Reviewers appraised the self-study documentation and conducted a site visit to the University on April 24-25, 2017. The visit included interviews with the Vice-President, Academic & Provost; Associate Vice-President, Graduate Studies and Postdoctoral Affairs; Acting Dean of Engineering; Faculty of Engineering Associate Dean of Graduate Studies; Chair of the Department of Chemical Engineering; Associate Chair, Graduate Studies of Department of Chemical Engineering; faculty members, staff and current graduate students. The reviewers also had an opportunity to meet with the liaison librarian and tour the facilities.

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

Program Characteristics

MEng in Chemical Engineering: The Master of Engineering program advances students' knowledge through graduate-level courses and exposure to recent developments in their fields of interest. The primary objective is to enhance the academic and professional qualifications of students. This objective is achieved through course work and attendance at research seminars delivered by invited speakers.

MASc in Chemical Engineering: The Master of Applied Science program trains students to carry out original research and to enhance their academic and professional qualifications through graduate-level courses and research at a challenging and advanced level. Through a combination of course work and a Master's thesis, the program provides students with the background for careers in industry and government, primarily in the area of research and development and/or entry into a PhD program. Students graduating with a MASc degree from Chemical Engineering's thesis program will have a strong background in their field of specialization and related areas.

PhD in Chemical Engineering: The PhD program trains students to conduct independent original research and provides them with strong theoretical and fundamental backgrounds in their fields of interest. This will prepare them for University teaching and research careers and/or careers in industry or government, primarily in high-level research and development positions.

It is also expected that research carried out by PhD students during the course of their programs will make significant contributions to the Chemical Engineering discipline through, for example, publications in high-impact journals. These objectives are achieved through a combination of formal course work, a comprehensive examination to be completed by the end of the student's fourth term in the program, and a research program leading to a dissertation. PhD candidates conduct research under the supervision of faculty. The program of research and the resulting dissertation must demonstrate a critical awareness and understanding of the literature in the research field, exhibit a capability of defining original and useful research problems, and a capability of independent thought in solving a research problem.

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

Strengths

- **Facilities:** Engineering 6, home to the Department of Chemical Engineering, features 49 state-of-the art research labs for graduate students and faculty, bright appointed offices, comfortable student and faculty lounges, and spacious classrooms with modern technology. This new space provides an excellent home base for graduate students; its sense of place boosts the profile and credibility of work and, relatedly, the sense of pride felt by the students who study Chemical Engineering.
- **Faculty:** The Department of Chemical Engineering has developed a strong and multi-talented faculty with a wide range of research interests, experience and strengths, which facilitates interesting and useful research. As a whole, the faculty have well-respected education and experience, which attracts high caliber students, and the ability to encourage and guide students through effective classroom lessons and hands-on laboratory research.

Challenges

- **Perception:** The Department is challenged by the perception of the quality of graduate studies, compared to its excellence in undergraduate programs. The Department has been working to enhance graduate studies through strengthened recruitment efforts, additional in-house promotional activities and increased efforts to secure funding for high-profile research projects. These efforts will be maintained while additional ways to enhance the graduate program will be considered.

Weaknesses

- **Research Funding:** The capacity to conduct innovative research is dependent upon the Department's ability to secure research funding. While most faculty have made consistent efforts to attain research funding over the years, only a few pursued the large research grants that would benefit the Department as a whole. Canada Research Chairs have taken a leadership role in identifying and pursuing research funding for large-scale projects that

will improve the Department's ability to enhance the quality of the program, provide better resources and attract higher-caliber students.

Summary of key findings from the external reviewers

Overall, the reviewers found that the graduate programs in the Department of Chemical Engineering are strong for many reasons: excellent faculty who are productive in terms of students, publications and patents; high quality administrative staff who have a strong service orientation to students in the programs; and excellent physical space and facilities. The Department has an impressive focus on safety, a key element of a graduate program in the discipline.

Program response to external reviewers' recommendations

Recommendations

1. The Department should engage in a process that looks at its stated learning outcomes for their graduate programs, maps them to specific aspects (e.g. theses, courses) of each of the programs as well as methods of assessment (e.g. grades, term reports, committee meetings, qualifiers/defences, seminars, etc). This can then provide a framework for examining the various elements of their programs including core course requirements, theses, etc.

Response

The Graduate Review Committee (GRC) reviews high level learning outcomes for Chemical Engineering's graduate programs and some courses within them. The Department will continue to use high level learning outcomes to guide curriculum changes, and will start providing more details at the course level. Beginning with the MEng program, CHE will implement a detailed learning outcome process, as is used in the undergraduate CHE program. Once learning outcomes have been identified for MEng courses, the Department will move on to the MASc and PhD courses.

Actions

- Continue to refine existing high-level outcomes and create new ones, as appropriate, when courses are reviewed and updated, and when justifying the creation of a new course.

Status

The Graduate Review Committee (GRC) continuously reviews high level learning outcomes as part of a framework for program review.

As a direct result of this review, the graduate curriculum was significantly enhanced in the Fall 2019 term. Changes include the addition of formalized training in engineering practice,

research ethics and methods as well as some changes to course requirements to focus on foundational chemical engineering concepts and give students more options.

The Department is working on learning outcomes for an “MEng with a purpose” program, which will leverage departmental strengths to provide advanced training relevant to the chemical engineering industry. As part of this program development, the Department is investigating learning outcomes at the course level and attempting to establish “universal” course outlines to ensure consistency in course delivery.

2. The Department should undertake a review of their course requirements, including their core courses and the held with courses. We suggest that could be done with the elements identified in Recommendation 1 in mind. We also suggest the Department consider a course in Thermodynamics, perhaps connected to the area of energy systems, a subject that would cover a core area and also likely be very attractive to many students given the significant research going on in energy conversion and storage. In addition a course on Research Methods may be considered.

Response

Between June 2017 and May 2018, the Department undertook extensive consultation to review course requirements and the core course model. This exercise culminated in actions, several of which have already begun, that address many of the points recommended by the reviewers.

Actions

- Create CHE 600 – Engineering and Research Methods, Ethics, Practice, and Law. This course will be mandatory for all graduate students (PhD, MASc and MEng).
- Replace the core course list with two prescribed courses foundational to chemical engineering: CHE 601 Theory and Application of Transport Phenomena and CHE 602 Chemical Reactor Analysis.
- Revise degree requirements for PhD, MASc and MEng programs.
- Offer a course in Thermodynamics. The exact timing of the first offering depends on resource availability, but the Department is aiming to deliver the course in 2019.
- Continuously investigate program improvement, particularly in light of the major changes described above.
- Align the program improvement process with the learning outcomes assessments described in Recommendation 1.

Status

All action items, except for the delivery of a Thermodynamics course, are complete. The courses CHE 600 Engineering and Research Methods, CHE 601 Theory and Application of

Transport Phenomena, and CHE 602 Chemical Reactor Analysis will be delivered for the first time during the 2019/2020 academic year.

Starting in 2019, the GRC composition was amended to include a graduate student who represents the Chemical Engineering Graduate Student Association (CEGSA). Each month, the GRC meets to look for ways to improve the graduate programs. They review, discuss and make decisions on various aspects, which are then presented and discussed at monthly Departmental meetings before being taken to a vote. In addition, the Department hosts an annual Departmental retreat to discuss more strategic aspects of the programs.

3. The Department continue to hire excellent faculty consistent with our understanding that there are five open positions. Particular attention should be made to reach out to women faculty to be more in line with the President's initiatives and the fraction of women students in the graduate program.

Response

The Department is committed to continue increasing the number of female faculty members. Some progress has been made: over the past five years, the proportion of female faculty members has more than doubled to 13.3%. It was less than 6%.

Actions

- Continue following current faculty hiring practices, including the on-going effort to hire more qualified women to join the department.

Status

The Department continues its mandate to hire the best person for the job and has been very successful in attracting highly qualified female faculty members. In just the past year, they hired three tenure-track female faculty members. Over the past two years they also hired two female lecturers who are anticipated to become continuing lecturers. Over the past seven years, the Department hired more female faculty members (six, including the two lecturers) than male ones (four).

4. The Department should revise the table listing each faculty member's fields (Table 3) to include more than one field allocated per faculty to more accurately reflect the breadth and depth of expertise. In addition to revamping this, the Department might consider ways to articulate their particular areas of application strengths to prospective students.

Response

The Chemical Engineering website includes a section on research areas that lists the department's high-level research areas and the faculty members who work within them: <https://uwaterloo.ca/chemical-engineering/research/research-areas>. This page lists faculty

members in multiple areas, as per their research focus, and demonstrates the breadth and depth of faculty expertise. Indeed, more can be done to promote the department and articulate its strengths to prospective students.

This recommendation touches on the broader and already recognized need for enhanced promotion of the Department, including its graduate studies and research. The department is in the process of obtaining resources to better promote all aspects of its graduate programs.

Actions

- Hire personnel or redefine the roles of current team members to perform communication and marketing duties, including
- promoting research and graduate studies;
- enhancing the Department's website, including the research and graduate studies information;
- articulating each faculty member's expertise;
- helping faculty members without a personal research website to create one, and;
- helping to keep all faculty members' research websites current.

Status

The Department has changed the job description of a qualified administrative staff member to include promotion of the Department, including its strengths and faculty member's breadth and depth of experience. This person will also help organize outreach activities for prospective graduate students. This change in job duties will take place in the Winter 2020 term.

5. The Department consider if there might be opportunities to build on their excellent reputation of co-op at the undergraduate level and see how it might be used to define a unique strength in any one or more of their three graduate degree programs.

Response

Although this may appear to be a good opportunity, the Chemical Engineering Department is cautious of embarking on a graduate-level co-op program because it may reduce the number of opportunities available to senior undergraduate Chemical Engineering students, for whom co-op is a mandatory requirement for graduation.

While economic cycles influence the number and quality of co-op jobs available for all students, variability in the oil and gas sector further affects the opportunities available for chemical engineering students. In times when budgets are low and co-op jobs are scarce, employers may prefer to hire the more educated and experienced graduate students for their work terms, leaving qualified undergraduate students without the work term employment

they need to graduate.

Ideally, there would be enough jobs for both undergraduate and graduate students to secure suitable co-op employment; however, experience with the cyclic nature of the job market has shown that there are times when few co-op opportunities are available. Opportunities for undergraduate students must be protected.

Actions

- Remain open to the possibility of expanding co-op into one or more graduate programs, if it can be done without adversely affecting senior undergraduate students' co-op positions.

Status

The Department has made no effort to initiate a graduate co-op program.

Graduate co-op is not a priority now and, given the Department's efforts to address challenges associated with undergraduate co-op employment and its Graduate Review Committee's focus on enhancing the graduate program through MEng specializations and new mandatory courses, insufficient time is available to investigate the possibility of a graduate co-op program.

6. In order to enhance the pool of qualified PhD students and reduce time to completion, the Department consider new methods to determine which qualified students in an MASc would be able transfer to a PhD. There is some concern that the current method is too rigid and that this may be preventing suitable MASc students from transferring to the PhD. This could be done in conjunction with Recommendation 1, articulating the learning outcomes for the PhD.

Response

Good progress has already been made in this regard, especially since the Faculty of Engineering became more open to allowing departments to admit students directly to PhD. A number of CHE MASc students have transferred to the PhD program over the past couple of years. The recent review and clarification of all CHE degree course requirements should reduce the complexity associated with switching degrees mid-stream, making it easier for more students to transfer.

Actions

- Continue facilitating the transfer of MASc students to the PhD program. Facilitate and promote direct admit to PhD.
- Devise clear rules to increase the likelihood that the Department direct-admit only those students with the grades, aptitude and motivation to succeed in the PhD program.

Status

The Department has clear rules regarding pathways from MEng to MASc, as well as from MEng to PhD. Every year, students follow the University's process for changing programs to transfer from MEng to research programs. This is working very well.

7. The Department explore ways to further maximize their leverage of industrial funding to bring in more funding from other sources (e.g. government). They seem to have an impressive level of industry funding in that it is about the same as their Tri-Council funding, which suggests possible untapped opportunities for further matching/leverage.

Response

All faculty members are aware of the matching fund mechanism. In some cases, it has been impossible for faculty members to leverage industrial funding due to the ineligibility of their partner company (e.g. foreign company with little activity in Canada or Ontario) or because some companies explicitly refuse involvement with Tri-Council funding due to concerns about IP handling and/or disclosure.

Actions

- Establish a Research Committee to investigate how to better capitalize on available opportunities.

Status

Now that the NSERC Alliance program has been established, a working group will investigate the extent of untapped opportunities to leverage industrial funding.

If the results of this investigation suggest that untapped opportunities for additional funding exist, then a research committee will be dedicated to this task. If the results determine that we have exhausted the opportunities for additional funding, then we will not strike a research committee to leverage industrial funding.

8. The Department should develop a space policy that provides flexibility to allow the space allotted to faculty to grow and shrink as their research activity levels shift throughout their careers. Related to this, the Department should continue to look to provide common lab space designed to enhance equipment and technical support sharing.

Response

Improving and expanding the common centralized research facility is of high priority to the Department.

Actions

- Establish an Analytical Lab Committee to oversee and establish rules and fees for the operation of the centralized facilities.
- Hire a second analytical technician to handle the increased workload associated with expanded centralized facilities.
- Continue refining rules regarding space allocation.

Status

The Department has established rules and implemented a process to commission/decommission research space. Now, budget restrictions have forced the Department to postpone hiring a second analytical technician.

Factors out of the Department's control that affect its hiring budget, including student enrolment, Waterloo Budget Model influences and provincial political decisions, prevent the Department from providing a meaningful timeline for the hiring of a second analytical technician. Meanwhile, the Department will continue to move forward with its efforts to maximize the centralized research space within its current budget.

9. The Department develop incentives for faculty to lead large scale research initiatives, including allocation of CRC chairs, research administration support, etc. This might also be connected to Recommendation 7 to explore increased leverage of industry funds. We note that linking this to CRC chairs is already underway.

Response

Resources to support applications to major grants are already in place at the Faculty of Engineering level.

Actions

- Heighten the expectation for CRC Chairs to lead major grant applications. This is now one of the renewal criteria for CRC Chairs.
- Organize a retreat to address research within the Department.

Status

The Department has a new CRC Tier 1 Chair as of May 1, 2019. Therefore, there are currently two CRC Tier 1 chairs and one CRC Tier 2 Chair.

All CRC Chairs have signed a form regarding their renewal, which includes, among other things, the commitment to lead major collaborative research grants. Discussion regarding strategic research directions began in December 2018 with a dedicated retreat. An immediate consequence of this planning was the selection of our most recent hire, who was favored for her data analytics and deep learning experience over the traditional process system engineering expertise of other candidates.

10. The Department could explore ways to have PhD students interact with other faculty beyond the comprehensive exam and defense. This can provide students and faculty with a broader range of perspectives on their research and also foster collaboration. Examples include having supervisory committee meetings to track progress and provide advice on research and courses, seminars to other students and faculty, etc.

Response

The Department is attempting to increase student/faculty interactions. Discussions are underway with the Chemical Engineering Graduate Student Associate (CEGSA) to identify new opportunities. CEGSA has shown interest in coordinating a bi-annual research symposium, where students can *voluntarily* present their research to their peers and faculty members. Another option is to add a research talk as a milestone for the PhD program. Currently, the research talk is a milestone for MASc students only. From a more social perspective, the Department holds weekly coffee hours so students and faculty members can meet in the Faculty lounge for casual discussion. We will continue to look for other opportunities to increase interaction between faculty and PhD students.

Actions

- Investigate, via the Graduate Review Committee (GRC), the benefits and drawbacks, if any, of formalizing increased interaction between PhD students and other faculty members, through a PhD milestone research talk, for example. Discuss this topic during a departmental meeting in the 2019-2020 academic year, to solicit ideas for increased/improved interactions.

Status

Coffee hours are ongoing and have been reasonably successful in promoting student/faculty interactions. The students, through CEGSA, expressed a desire for stronger, academic related interactions with faculty and a willingness to coordinate such efforts, but have made little progress to that end. Enquiries will be made at upcoming Departmental meetings whether a graduate research colloquium would be of interest, especially if held as mini-symposia on targeted research areas to intensify the benefits.

11. The Department should explore ways to encourage faculty to share some of their best practices in areas related to the graduate program (e.g. student recruitment, mentoring students, etc.). Examples include social gatherings, regular retreats and items that may arise from Recommendations 9 and 10.

Actions

- Organize a Best Practices Committee (independent of the GRC) dedicated to collecting and reporting best practices in research and graduate student recruitment and supervision. This might include a monthly dispatch with links to relevant articles (e.g. highlights from Tomorrow's Professor newsletter), or an overview of the latest collaboration trends (e.g. use tools to chat rather than email).
- Arrange an opportunity to discuss best practices and how to promote them among faculty members. Getting students involved in this improvement process is also considered crucial, so the Chemical Engineering Graduate Student Association (CEGSA) will be represented on the committee.

Status

The issue of graduate student experience was discussed at length at the April 2019 graduate affairs retreat and opportunities for improvement, including graduate supervision, were collected from the group. A summary of the discussion will be converted into a set of suggestions and actionable ideas, then provided to all faculty members.

At the same time, the University has released an updated guide on Graduate Supervision, containing a set of specific expectations for both parties in the student/supervision relationship. Finally, in collaboration with the CEGSA, consultations are underway to solicit ideas for improved interactions as alluded to in item 10.

Implementation Plan

	Recommendations	Proposed Actions	Responsibility for Leading and Resourcing (if applicable) the Actions	Timeline for addressing Recommendations
1.	Consider learning outcomes	<ul style="list-style-type: none"> Continue to refine existing high-level outcomes and create new ones, as appropriate, when courses are reviewed and updated, and when to justify the creation of a new course. 	Graduate Review Committee	Continuous process, already in place.
2.	Review course requirements, including core courses and held with courses	<ul style="list-style-type: none"> Create CHE 600 – Engineering and Research Methods, Ethics, Practice, and Law. This course will be mandatory for all graduate students (PhD, MASc and MEng). Replace core course list with two prescribed courses foundational to chemical engineering: CHE 601 Theory and Application of Transport Phenomena and CHE 602 Chemical Reactor Analysis. Revise degree requirements for PhD, MASc and MEng programs. Offer a course in Thermodynamics. The exact timing of the first offering depends on resource availability, but aiming to deliver the course in 2019. Continuously investigate program improvement, particularly in light of the major changes described above. Align the program improvement process with the learning outcomes assessments described in Recommendation 1. 	Graduate Review Committee Graduate Review Committee Graduate Review Committee Graduate Review Committee Graduate Review Committee	Complete – to be offered during 2019/20. Complete – to be offered during 2019/20. Complete. Delayed pending resource availability. Re-evaluate when resources become available. Continuous process, already in place. Continuous process, already in place.
3.	Hire excellent faculty, with effort to attract women	<ul style="list-style-type: none"> Continue following current faculty hiring practices, including the on-going effort to hire more qualified women to join the department. 	Department Advisory Committee on Appointment (DACA) and faculty members in general.	Continuous process, already in place.

4.	Clearly indicate faculty expertise	<ul style="list-style-type: none"> Hire personnel or redefine the roles of current team members to perform communication and marketing duties, including focusing on the promotion of research and graduate studies. This will include enhancing the presentation of each faculty member's expertise; helping those faculty members without a personal research website to create one and helping keep all research web sites current. 	Chair and CHE Communications Specialist	In progress. Job description of current staff member has been revised. Transition expected in Winter 2020 term.
5.	Consider grad-level co-op	<ul style="list-style-type: none"> Remain open to the possibility of expanding co-op into one or more graduate programs, if it can be done without adversely affecting senior undergraduate students' co-op positions. 	Graduate Review Committee and Undergraduate Review Committee	Reevaluate during 2019-20 academic year.
6.	Facilitate direct admit to PhD	<ul style="list-style-type: none"> Continue facilitating the transfer of MASc students to the PhD program. Facilitate and promote direct admit to PhD. Devise clear rules to increase the likelihood that the Department direct-admit only those students with the grades, aptitude and motivation to succeed in the PhD program. 	Graduate Review Committee Graduate Review Committee	On-going, already in progress. On-going, already in progress.
7.	Maximize research funding	<ul style="list-style-type: none"> Establish a Research Committee to investigate how to better capitalize on available opportunities. 	Chair	In progress – pending working group in 2020 to investigate the extent of untapped opportunities.
8.	Accommodate changing research space and laboratory requirements	<ul style="list-style-type: none"> Establish an Analytical Lab Committee to oversee and establish rules and fees for the operation of the centralized facilities. Hire a second analytical technician to handle the increased workload associated with expanded centralized facilities. Continue refining rules regarding space allocation. 	Chair Chair and Analytical Lab Committee Space Committee	Complete On hold due to budget restriction. On-going, already in progress

9.	Encourage large-scale research	<ul style="list-style-type: none"> • Heighten the expectation for CRC Chairs to lead major grant applications. This is now one of the renewal criteria for CRC Chairs. • Organize a retreat to address research within the Department. 	<p>Chair</p> <p>Research Committee</p>	<p>Complete – through CRC renewal criteria</p> <p>Complete December 2018, discussions on-going.</p>
10.	Support PhD students	<ul style="list-style-type: none"> • Investigate, via the Graduate Review Committee (GRC), the benefits and drawbacks of formalizing increased interaction between PhD students and other faculty members, through a PhD milestone research talk, for example. • Continue the weekly coffee hours for staff and faculty members to meet for casual discussion. 	<p>Graduate Review Committee</p> <p>Chair and Associate Chairs</p>	<p>On-going</p> <p>On-going</p>
11.	Share best practices	<ul style="list-style-type: none"> • Organize a Best Practices Committee (independent of the GRC) dedicated to collecting and reporting best practices in research and graduate student recruitment and supervision. This might include a newsletter with links to relevant articles (e.g. Highlights from Tomorrow's Professor), or an overview of the latest collaboration tools (e.g. to use tools to chat rather than email). • Arrange an opportunity to discuss best practices and how to promote them among faculty members. 	<p>Chair</p> <p>Best Practices Committee</p>	<p>In progress – graduate student experience was discussed at April 2019 Graduate Affairs retreat. To be converted into suggestions and actionable items and provided to all faculty members.</p> <p>Consultations underway with CEGSA to solicit feedback for improved interactions.</p>

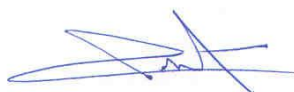
The Department Chair/Director, in consultation with the Dean of the Faculty shall be responsible for monitoring the Implementation Plan.

2024-2025

Date of next program review

Date

Signatures of Approval



May 19, 2020

Chair/Director

Date

AFIW Administrative Dean/Head (*For AFIW programs only*)

Date



May 20, 2020

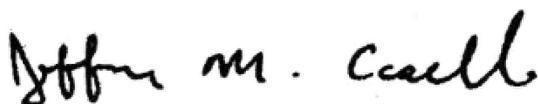
Faculty Dean

Date

Note: AFIW programs fall under the Faculty of ARTS; however, the Dean does not have fiscal control nor authority over staffing and administration of the program.

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

Date



December 10, 2018

Associate Vice-President, Graduate Studies and Postdoctoral Affairs
(For graduate and augmented programs)

Date

Checklist for SUC/SGRC Reviewer Feedback

Quality Assurance Office

Final Assessment Report: Chemical Engineering (MAsc, MEng, PhD)

Name of Reviewer: Naima Samuel

Date: 3/9/2020

Does the Final Assessment Report:

1. Include a credible implementation plan that not only addresses the substantive issues identified from the program review process, but also clearly identifies:
 - The actions that will follow from specific recommendations? ☒ **Yes** ☐ **No**
 - Those who will be responsible for acting on those recommendations? ☒ **Yes** ☐ **No**
 - Those who will be responsible for providing resources? ☒ **Yes** ☐ **No**
 - Priorities for implementation and realistic timelines for initiating and monitoring actions? ☒ **Yes** ☐ **No**
2. Provide rationales for any recommendations that have not been pursued? ☒ **Yes** ☐ **No**

General Comments

The department's efforts towards reviewing program requirements and outcomes, and hiring are clearly articulated. Further efforts are needed in the area of adding a co-op for graduate students, and exploring ways to increase interaction among PhD students and faculty beyond the comprehensive exam and defense.

Checklist for SUC/SGRC Reviewer Feedback

Quality Assurance Office

Final Assessment Report: Chemical Engineering (MAsc, MEng, PhD)

Name of Reviewer: Simron Singh

Date: 2/21/2020

Does the Final Assessment Report:

1. Include a credible implementation plan that not only addresses the substantive issues identified from the program review process, but also clearly identifies:
 - The actions that will follow from specific recommendations? ☒ **Yes** ☐ **No**
 - Those who will be responsible for acting on those recommendations? ☒ **Yes** ☐ **No**
 - Those who will be responsible for providing resources? ☒ **Yes** ☐ **No**
 - Priorities for implementation and realistic timelines for initiating and monitoring actions? ☒ **Yes** ☐ **No**
2. Provide rationales for any recommendations that have not been pursued? ☒ **Yes** ☐ **No**

General Comments

I appreciate that the department has made efforts to offer their responses to our comments. Some issues remain a moving target, and clearly systemic. If Naima is satisfied with responses to her queries, I am comfortable approving this for SGRC.



Final Assessment Report

Psychology (BA, BSc, MA, MASc, PhD, Minor)

December 2019

Executive Summary

External reviewers found that the Psychology programs (BA, BSc, MA, MASc, PhD, Minor) delivered by the Department of Psychology were in good standing.

*"..the undergraduate and graduate Psychology programs are in good standing.
The programs provide students with excellent academic experiences that are well
supported by outstanding faculty and staff."*

A total of seven recommendations were provided by the reviewers, touching on improving communication and professional skills outcomes in the undergraduate program and providing increased support and opportunities for teaching and placement opportunities in the graduate program. In response, the program created a plan outlining the specific actions proposed to address each recommendation as well as a timeline for implementation. The next cyclical review for this program is scheduled for 2024-25.

Student Complement (All Years)*

	Undergraduate Students						MA	MASc	PhD
	BA General	BA Honours	BA Honours Co-op	BSc Honours	BSc Honours Co-op	Minor			
Fall 2019	84	334	179	67	47	260	28	12	92
Fall 2018	99	327	168	59	37	260	25	7	82
Fall 2017	115	346	153	64	27	279	27	9	77

*Active Students Extract pulled from Quest December 12, 2019

Background

In accordance with the University of Waterloo's Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response of the Psychology programs (BA, BSc, MA, MASc, PhD, Minor). A self-study (Volume I, II, III) was submitted to the Associate Vice-President, Academic and Associate Vice-President, Graduate Studies and Postdoctoral Affairs on September 19, 2017. The self-study (Volume I) presented the program descriptions and learning outcomes and an analytical assessment of the programs, including the data collected from a student survey, along with the standard data package prepared by the Office of Institutional Analysis & Planning (IAP). The CVs for each faculty

December 2019

member with a key role in the delivery of the program(s) were included in Volume II of the self-study.

From Volume III, two arm's-length external reviewers were selected by the Associate Vice-President, Academic and Associate Vice-President, Graduate Studies and Postdoctoral Affairs: Dr. Patrick Bennett, Professor of Psychology, Neuroscience and Behaviour, McMaster University, and Dr. Beverly Fehr, Professor of Psychology, University of Winnipeg.

Reviewers appraised the self-study documentation and conducted a site visit to the University on March 26-27, 2018. An internal reviewer from the University of Waterloo, Dr. Gordon Stubley, Professor of Mechanical and Mechatronics Engineering and Associate Dean, Teaching in the Faculty of Engineering, was selected to accompany the external reviewers. The visit included interviews with the Vice-President, Academic & Provost; Associate Vice-President, Academic and Associate Vice-President, Graduate Studies and Postdoctoral Affairs; Dean of Arts; Arts Associate Dean of Undergraduate Studies; Chair of the Department of Psychology; faculty members and staff. The review team had the opportunity to meet with groups of current undergraduate and graduate students, visit the facilities associated with the programs, and meet with representatives from the Library and Co-operative Education.

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

Program characteristics

3-year General BA in Psychology: provides majors with a foundational understanding of core concepts, theoretical perspectives, and methodologies that psychologists use to understand mind and behaviour. In this program, students take a selection of discipline core courses, courses covering basic research methods and basic data analysis, and can select diverse upper-year electives to explore content domains of psychology in greater depth. Students may choose to restrict their electives to concentrate on courses within a particular content domain or they may opt to continue to explore the variety of content domains within the field.

4-year General BA in Psychology: provides greater exposure to the knowledge base of the discipline compared to the 3-year General program. In the 4-Year General program, students complete all six discipline core courses to ensure that they have a comprehensive understanding of psychology's various content domains and can recognize the shared and distinct theoretical perspectives and methodologies associated with these core areas. In this program, students also complete a larger set of advanced content courses and a capstone course that explores practical applications of psychological theory and research.

Honours BA in Psychology: has the same requirements as the 4-year general degree, but provides additional opportunities that are not available to 4-year general majors. Specifically, Honours BA majors have the option to complete a Research Intensive Specialization involving an additional

four courses that provide advanced training in research methods and design, information literacy, and quantitative analysis. Honours BA majors also have the option to enroll in co-operative education to gain work experience while pursuing their undergraduate studies and to explore the connections between psychology and diverse sectors of employment. For a capstone course, students enrolled in the Research Intensive Specialization enroll in an Honours seminar whereas other Honours students enroll in a fourth-year course that explores practical applications of psychology.

Honours BSc in Psychology: is similar to the Honours BA with the Research Intensive Specialization. However, the Honours BSc requires students to complete additional courses in mathematics and other science disciplines (e.g., biology, chemistry). This background in natural sciences can enrich students' understanding of the biological bases of cognition and behaviour and reinforce their appreciation of the value of studying the mind from a scientific perspective. This program is best suited to students with interests in neuroscience or cognition, or to students who anticipate postgraduate training in medicine. The Honours BSc in Psychology is offered as either a regular or a co-operative system of study.

Psychology Minor: provides a general overview of Psychology including a subset of the discipline core courses, some advanced content courses, and several electives within Psychology. However, unlike the General plans, basic methods and data analysis courses are not required.

MA Program: Depending on the area, completing the MA typically requires one or two years of full-time study. In most cases, the requirements for the MA are met by completing four one-term (0.5 credit) courses accepted for graduate credit by the Department, including at least one core statistics course, as well as the Master's Thesis, which must be passed by one to three readers in addition to the student's supervisor. Alternatively, a student may petition the Associate Chair, Graduate Studies, for permission to enter a Master's Research Paper option. This option requires the completion of eight one-term (0.5 unit) courses accepted for graduate credit by the Department, including at least one core statistics course, and the Master's Research Paper, which must be passed by two readers. The difference in number of required courses between these two streams reflects the greater research demands of the Master's Thesis compared to the Master's Research Paper.

There are differences in the role of the MA program that partly reflect important distinctions in how scholarship funding works in SSHRC-funded areas versus NSERC-funded areas. Unlike the MASc program, the MA program serves as the entry point to the PhD program. Students applying to work in the Clinical and Social Areas are first admitted to the MA and then ordinarily transfer into the PhD program once they have fulfilled the requirements for the MA. Students applying to the Cognitive Neuroscience or Industrial/Organizational Areas can be admitted either to the MA program or directly to the PhD program. Students in the Cognitive and Developmental Areas are admitted directly into the PhD program, but may obtain an MA along the way, when they have completed the requirements for it.

MASc in Developmental and Communication Science: is a one-year program offering advanced applied training with a specialization in social and/or cognitive development relevant to communicative development. It provides students with in-depth opportunities to observe communicative interactions between children in naturalistic settings and to develop skills related to the empirical measurement of communication such as transcription, coding strategies, and statistical analysis. The program includes both a Research Lab Internship and a Community Location Practicum, all within one year. The program's aims are (1) to augment a student's preparation for admission into postgraduate programs and/or (2) to increase employment opportunities in related professional fields.

MASc Program in Applied Psychology: is a two-year program designed to prepare students for careers in various capacities related to human resource management, including organizational consulting, organizational and policy research, training, and design of systems for personnel selection, job classification, and performance evaluation. It also prepares students for advanced studies in Industrial/Organizational Psychology at the doctoral level.

The program includes an Internship or Field Placement, usually completed by working full-time for four continuous months. Internship placements have occurred with major private corporations, crown corporations, consulting firms, and government agencies.

PhD Program: As outlined above, students who wish to complete the requirements for the PhD in the Cognitive and Developmental Areas are admitted directly to the PhD program, whereas students with the goal of completing the PhD in the Clinical or Social Areas are admitted first to the MA program and then transfer to the PhD. Students in the Cognitive Neuroscience and Industrial/Organization Areas may be admitted directly to the PhD program, but also can be admitted to the PhD upon first completing a Master's degree. Students typically complete their PhD degree in 4 to 5 years following their initial admission to the graduate program.

Completion of the PhD degree in Psychology requires the following:

- 1) A minimum of two courses in statistics or quantitative methods and four breadth courses (from outside the area of specialization)
- 2) A series of required core courses in the student's field
(<https://uwaterloo.ca/psychology/current-graduate-students/degree-requirements>)
- 3) Successful defense of a dissertation describing original research carried out under the supervision of a faculty member having Approved Doctoral Dissertation Supervisor (ADDS) status.

In addition, students in Clinical Psychology must also complete a four-month fieldwork summer placement in a local clinical setting and a one-year internship at an approved clinical setting in North America.

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

Strengths

- Faculty members are world-class researchers and superb teachers
- Graduate program is vibrant and Psychology graduate students are successful both in the program and upon graduation
- Undergraduate program is extremely well subscribed and well-reviewed both by outsiders and by the students themselves.
- Exceptional staff who are both very knowledgeable and very devoted, and who go out of their way to help students and faculty alike in many ways.

Challenges – Undergraduate Program

- A key challenge for the undergraduate programs is the expansion of availability of Co-op to a much larger pool of students. Formerly the class size for Co-op was capped and enrolment was limited to students whose Psychology averages exceeded 78%. As of Fall 2016, any Honours Psychology major can enroll in Co-op. This means that any Honours Arts student who has a minimum Psychology average of 70%, and any Honours BSc student who has a minimum Psychology average of 75%, is automatically accepted into Psychology Co-op. These enrolment averages are considerably lower than the standard for admission to Co-op. It remains to be seen whether students with lower averages will struggle more with the challenges of Co-op, which may increase attrition from the program. Also, with more students competing for Co-op positions, we might observe a lower rate of employment for Co-op students, possibly coupled with less relevant employment options.
- A second challenge for the undergraduate program is the Arts First initiative being rolled out in the Faculty of Arts. All first-year students in Arts are required to take two small (25-student) seminar courses, one aimed at communication, one aimed at analysis. The goals are laudable—to provide students with seminar experiences, to emphasize and develop writing and presentation skills as well as critical analysis skills, and to permit students to be part of a couple of small-course cadres, connecting them to each other. The challenge, is finding instructors for these courses, which draws instructors away from other courses. If Psychology faculty are required to teach these new courses there will be implications for the other courses offered in the program. Coupled with the need for more Spring courses to accommodate the additional Co-op students expected, these joint pressures will strain Psychology's already stretched instructor resources, particularly given the Faculty of Arts simultaneously requiring that departments reduce the number of sessional instructors being employed.

Challenges – Graduate Program

- The University makes one of its highest aspirations “international recognition”, yet in Arts, departments are simultaneously being discouraged from admitting international students, who do not receive government funding. It is hoped that this situation will be resolved in the near future so that the Department can admit some of the excellent international students who currently apply to our program and cannot be admitted.
- At present, the university guarantees \$15,000 for a maximum of two years to domestic students admitted to a Master’s program, and \$22,600 for a maximum of four years to students admitted to a PhD program. It is peculiar to offer a considerably lower value in the early years, given the goal of attracting top applicants. This has been especially hard on the MASc programs. As a consequence of this low funding, for example, the formerly very successful Industrial/Organizational MASc program, where students always obtain very good jobs in the business/consulting sector, has difficulty attracting students. For at least five years, the Department has been hearing that a plan has been presented to the Provost for a 5-year, \$25,000 package, which would significantly improve our attractiveness. Our chief competitors have longer periods of guaranteed support (e.g., 6 years at York, 5+ years at Toronto and Western), recognizing the need for 5 years of funding to allow students to build up sufficient CVs to be competitive for postdocs and other positions. The fervent hope is that the new funding package will finally be approved and put into place, and that attention will be given to both Master’s and PhD funding.

Weaknesses

- The program wishes that the budgetary support for the Department was greater, but recognizes the constraints on the Faculty of Arts. Enhanced budget would enrich instructional innovation at both the undergraduate and graduate levels (e.g., in allowing more laboratories associated with courses and in providing more tutorials by graduate students; in permitting more graduate students to have at least one experience as sole instructor). The program is certainly grateful that faculty positions have not thus far been lost to budget cutting.
- The primary weakness financially is the graduate funding packages, both the too-small Master’s package (\$15,000 annual), and the too-short PhD package (4 years only).

Summary of key findings from the external reviewers

“..the undergraduate and graduate Psychology programs are in good standing. The programs provide students with excellent academic experiences that are well supported by outstanding faculty and staff.”

“The overall picture is one of high calibre students being attracted to the Psychology program at the University of Waterloo and exceling while they are in it. Following graduation, these students are extremely successful in finding employment.”

Program response to external reviewers’ recommendations

Recommendations

1. Increase the emphasis on the development of communication and professional skills in the undergraduate program.

Response

To enhance Psychology majors' training in communication skills, the program will integrate a writing lab component into the second-year research methods course (PSYCH 291). This writing lab will focus on the process of communicating psychological research in academic reports as well as popular media. The writing lab will include activities and assignments that reinforce and extend written and oral communication skills that are introduced in the first-year intensive communication courses (ARTS 130, ARTS 140, SCCOM 100) that launched in Fall 2018. The plan is for activities to include scaffolded research proposal assignments, peer review, and workshops on topics such as APA style. PSYCH 291 is an ideal context in which to deliver this writing-intensive lab because it is required for all majors, who normally take it during their first term following admission to the major. Learning how to communicate research designs and findings effectively is integral to research methods training so overall the writing lab will be a good fit with the timing and content of PSYCH 291.

All psychology instructors will be informed about the foundation of communication and analytic skills that students are expected to develop in the new first-year communication-intensive courses. Instructors of second- and third-year courses will be encouraged to consider incorporating activities and assignments that progressively build on this foundation of skills, and will be provided whatever resources possible to support such additions to their courses.

Psychology instructors who teach sections of ARTS 130 and 140 will be encouraged to discuss their experiences with colleagues to provide insights into the skills that students gain in these courses and to share ideas about implementing innovative instructional techniques to further develop and assess these skills. The ARTS 130/140 instructors have already begun to meet as a group to share insights and teaching resources with one another as they plan their outlines for these courses. Faculty are open to working together to strengthen the quality of undergraduate curriculum in terms of skill development. The program intends to encourage this collaboration and to promote the involvement of more faculty members in these discussions.

- 1a. *Consider how to better address UDLE 6 (Autonomy & Professional Capacity) for students who are not in the Co-op program.*

Response

The curriculum mapping process and student consultation sessions identified gaps in coverage of autonomy and professional capacity for regular-stream students (i.e., students not enrolled in co-op). The program is taking a number of steps to address these gaps.

In May 2018, Psychology began to revamp the Applied Apprenticeship courses (PSYCH 465 and 467). These courses provide experiential learning opportunities in professional settings for students who are not enrolled in the co-op program. PSYCH 465 is intended for all psychology students; PSYCH 467 is available to students enrolled in the Human Resources Management (HRM) Minor. These experiential learning courses involve: (1) completing 60 hours of volunteer internship work for a community partner, and (2) participating in a seminar where students (a) discuss their internship experiences with each other and with a faculty instructor, (b) set professional development goals, and (c) review relevant resources and literature. In the past few years, the program had not been able to offer PSYCH 465 and 467 because there were insufficient resources to invest in the recruitment of potential community partners. This year, however, the Faculty of Arts secured a grant to hire a staff member to co-ordinate this recruitment process, to process student applications, and to conduct interviews to match students with partners. This has made it feasible for the courses to be re-introduced and to expand the enrollment to more students. Re-launching these courses will allow regular-stream students both to explore how their psychology training prepares them for careers and to make contributions to the community. These students will also have opportunities to practice and get feedback on their interview skills. The associated seminar challenges students to reflect on their work experiences, to identify and articulate career-relevant skills, and to draw connections between their internship experiences and their academic studies. The program is very excited to be offering these courses again and anticipate that they will go a long way toward addressing the gaps in coverage of autonomy and professional capacity within our curriculum. Importantly, students who are not enrolled in co-op will be given priority for enrollment in PSYCH 465/467.

Psychology instructors will be encouraged to incorporate into their courses more information about real-world applications of psychology as well as to build in assignments that cultivate professional skill development and autonomy. Some instructors already have course components that are highly relevant to professional development, but they may not explicitly articulate how the course material serves this learning objective. Making this more explicit should help students to better recognize how their coursework contributes to their career aspirations and other practical goals. To facilitate this, instructors will be provided with the American Psychological Association's recommendations for undergraduate learning outcomes and encourage them to describe in their course outlines how they deliver and assess these learning outcomes. In cases where learning outcomes related to autonomy and professional capacity are not currently present in a course, the plan is to ask instructors to consider adding course components that address these outcomes (to the extent that these are relevant and harmonizes with the instructor's other course objectives). For example, this

might include listing recommended readings or links to resources that provide students with information about practical applications of the course material or relevant career pathways. Or an instructor might include a guest lecture by a professional from a non-academic field who discusses how the concepts and skills that students are learning about in the course have practical applications within their profession.

Finally, the Department is launching a voluntary peer mentorship program for Psychology students in Winter 2019. In this program, third- and fourth-year Psychology majors volunteer to provide mentorship to a group of approximately 3 to 4 new majors who volunteer to receive mentorship. Peer mentors provide advice to incoming majors about setting goals, making connections with faculty and other psychology students, and balancing their studies with other activities. The experience of enabling the autonomy of less experienced students will contribute to the mentors' own professional development by promoting an ethic of responsibility and providing practice in communicating their experience and knowledge to peers. The mentors receive free training through the Student Success Office to provide them with relevant skills to take on this role. It is anticipated that the peer mentorship program will not only provide an opportunity for students to practice and develop skills related to autonomy and professional capacity but will also help to enrich the sense of community among our majors.

2. *Teach R and programming (e.g., Python) in the graduate program and offer a greater variety of statistics courses on a regular basis.*

Response

The Department is working toward all of their graduate statistics courses being taught using R over the next few years. In Fall 2018, a new graduate course was offered on multi-level modelling which was taught exclusively using R. To ensure that students were up to speed, an R workshop was offered in the weeks preceding the course. Based on student feedback from the Fall 2018 course, the program will be developing an in-house workshop for R. This is anticipated to be complete by August 2020.

There is also a plan to introduce Bayesian analyses and other more contemporary statistical methods into current graduate course curriculum. In addition, on the programming front, there is discussion of offering a graduate course on Python and PsychoPy (developing experimental paradigms, statistical analyses, Data Visualization).

Also, there are several departments in Arts, led by Economics, collaborating on a Diploma in Computational Social Sciences. This will be geared toward providing graduate students with training in handling "big data" – including training in using Python. This still needs to be reviewed/approved by Economics but, if successfully initiated, will be useful for graduate

students in Psychology in that those choosing to pursue this diploma will receive additional training in skills relevant to industry.

3. *Provide graduate students with more teaching opportunities. The implementation of the new university-wide writing requirement will require a re-structuring of the undergraduate Psychology program. It appears that the faculty resources that will need to be channeled into the writing program will free up courses that could well be taught by graduate students.*

Response

The program certainly agrees with this goal and has devoted considerable discussion to the issue over the past couple of years. Psychology indicates that one problem is that support for sessional instructors has been decreasing, being one of the very few avenues left for tightening already very tight budgets at the level of the Faculty of Arts. At the same time, given the growth of Lecturer positions in universities, more of their graduate students will be pursuing these positions – positions that require demonstrable teaching experience. Students will need to be provided opportunities for that experience.

The new Arts First initiative resulted in a few courses becoming available each year for graduate students to teach when faculty members who normally teach those courses are instead teaching in the Arts First program. Beginning in 2018-2019, graduate students have been offered teaching opportunities to replace faculty who are covering ARTS 130/140. The number of available courses will become clearer over the next couple of years as Arts First rolls out. It is also believed, however, that this alone will not generate enough opportunities to meet the demand.

One route presently being discussed by Psychology is to have two graduate students co-teach a course, obviously doubling the teaching opportunities. Another route would capitalize on skills developed by undergraduates in their Arts First courses by increasing writing in subsequent years (see the response to Recommendation 1). For example, in a course such as PSYCH 291 Research Methods, graduate instructors could run a parallel “tutorial” section where they work on developing undergraduate student skills in writing up research.

The Department is currently working to develop a teaching practicum course supervised by faculty (as service), with aims to have this course complete by Winter 2020.

4. *Provide graduate students with more opportunities for placements in industry and other non-academic organizations.*

Response

At the time of the site visit, three of the five non-clinical research areas had applied practicum/internship opportunities for graduate students. The Developmental and

Industrial/Organizational areas have had these applied opportunities for students for quite a number of years. Specifically, students in the Developmental Area have the option to complete a community-based practicum at a variety of locations (e.g., Early Childhood Education Centre (ECEC) at University of Waterloo, McLennan Speech and Language Services), and students in the Industrial/Organizational Area have the opportunity to gain applied experience through internships at a variety of locations (e.g., Bell Canada, The Mutual Group). More recently, the Cognitive Area has also developed a practicum where students gain research experience at non-academic organizations. There are three students who have completed these practica in the Cognitive area. One student completed a practicum at BEWorks, a behavioural economics inspired consultancy in Toronto. A second student completed a practicum at the Centre for Extended Learning at the University of Waterloo. Finally, a third student did a practicum at a local private school where she designed lesson plans and strategies to improve student engagement.

As of Fall 2019, practicum courses have been developed for Social, Developmental and Industrial/Organizational areas, with plans to create practicum courses for Cognitive Neuroscience by Fall 2020.

With respect to professional development (outside experiential learning), Psychology is working on putting together a professional development course for all graduate students which would involve discussing issues such as interviewing, applying for funding, job searches, etc. In addition, individual research areas are now annually bringing in speakers who have Psychology graduate degrees and who work in non-academic settings to talk about their experiences (e.g., how to apply their PhD to industry). Moreover, Psychology graduate students are informed about Centre for Career Action workshops, which are geared toward various professional development activities.

5. *Improve communication between the Dean of Arts' office and the Psychology Department. We also encourage Psychology faculty members to play a greater role in university governance.*

Response

It was already noted in the submitted factual corrections to the External Reviewers' Report that both the Dean and the Department believe that this recommendation reflects something of a misunderstanding. The Dean and the Chair (and indeed individual faculty members in Psychology) see communication (in both directions) as actually very good between the Department and the Faculty.

In sum, the Department sees no issue in Psychology's service to the university community, either in the Faculty or in the wider university.

6. *Streamline and harmonize graduate admissions such that all entering students are either accepted into the Master's program to be followed by Ph.D. studies or accept all students directly into the Ph.D. program. This would eliminate inequities in student funding.*

Response

In the past, areas differed in whether they offered direct entry into the Ph.D. program. This unintentionally created inequities in funding over the course of students' graduate training programs. In order to address these inequities, as of 2019 we are initially accepting graduate students into the Master's program and then moving them on to the PhD (except for terminal MASc students). Funding provided by the University is equitable for all students (\$15,000 for two years at the MA level, and \$25,000 for 4 years at the PhD level, with some additional funding provided for students holding Tri-Council scholarships). The program will move away from direct entry PhD in all areas to maximize funding flexibility for students and to maintain equity across areas. We feel this decision is absolutely necessary to remain competitive with our peer institutions across North America who routinely guarantee 5 years of funding to direct entry Ph.D. students (vs. UW where only 4 years of funding are guaranteed). In a research intensive program like ours, 4 years of funding simply does not provide Ph.D. students the time they need to be competitive for top tier academic positions. The removal of a direct entry Ph.D. stream did not negatively impact our application numbers or recruitment rates in 2019, although we will continue to track these numbers over time.

Faculty members do sometimes "top up" students to be competitive with offers from other institutions, with the goal of attracting top students. This is especially common at the MA level because of the lower amount provided at that level by the University. However, given inherent inequities across funding sources (e.g., Vanier vs CGS vs PGS Tri-Council awards) and the possibility of individual faculty top-ups, it is impossible to completely eliminate differences in funding across students. The program will continue to encourage faculty members to provide this additional funding via grants.

7. *Provide adequate and consistent support for international students applying to the graduate program.*

Response

There was a misunderstanding here, indeed reflected throughout the review document. Attracting international **undergraduate** students is a priority for Arts (and indeed university-wide) because their significantly higher tuition makes an important contribution to the budget of the unit. However, the opposite is true of international **graduate** students; they are a significant cost to the unit. Contrary to what is said in the review document, the former Dean (Peers) expressed his desire to see more international graduate students, given the rich experiences that they bring to the programs and the world-class visibility they provide, but the budget simply cannot accommodate very many of them at this time. There exists

significant regret about this, recognizing the many virtues of a more diverse graduate student complement, but unless or until budgetary changes make this more feasible, this situation is unlikely to change. In a memo to faculty in December 2019, the Associate Dean Graduate Studies (Linda Warley) explained that given the Faculty's current budget situation and in light of the provincial government's refusal to consider international graduate students as grant eligible, the Faculty would continue to place strict limitations on the number of international graduate students they could support each year. Over the past three years, Psychology was able to admit one faculty-funded international Ph.D. student in 2017, none in 2018, and one in 2019. We hope to be permitted by the Faculty to admit one funded international Ph.D. student again in 2020. Of course, individual supervisors are permitted to fully fund international graduate students from grants. The cost of this is simply too great for the vast majority of faculty given the need to provide funding for 5 years (average duration of Ph.D. in Psychology) and the fact that this level of support requires a large proportion of the typical annual funding amount provided to Psychology faculty in their tri-council grants. It is particularly difficult for SSHRC-funded faculty to guarantee support for international graduate students, given that the duration of SSHRC awards is highly variable (2-5 years). The Department will continue to work with the Dean and Associate Dean, Graduate Studies to identify possible sources of support for international graduate students, with understanding of the current financial situation at UW.

In 2016-17, the Department had actually resorted to explicitly saying on our website that international students should not apply—because it was felt that it was unreasonable for them to have to pay the application fee if there was no chance of them being accepted. This led to quite a few responses internationally saying such things as “I thought Waterloo was a world-class university.” The message has now been removed and instead, with considerable reluctance, the Department discourages individual international applicants when they contact Psychology. This is certainly regrettable given that Psychology admits a large number of domestic students, contributing substantially to the University's effort to reach its domestic targets, yet cannot admit any international students despite other units on campus having a large proportion of their graduate programs made up of international students.

Implementation Plan

	Recommendations	Proposed Actions	Responsibility for Leading and Resourcing (if applicable) the Actions	Timeline for addressing Recommendations
1.	Increase the emphasis on the development of communication and professional skills in the undergraduate program.	<ul style="list-style-type: none"> Integrate a writing lab component into PSYCH 291 (Introduction to Research Methods; required of all Psych majors). Activities and assignments will reinforce and extend written and oral communication skills covered in the first-year intensive communication courses (ARTS 130, ARTS 140, SCCOM 100). Sample activities include scaffolded research proposal assignments, peer review, and workshops on topics such as APA style. Invite current and past ARTS 130/140 instructors in Psychology to explain and give examples of the foundational communication and analytic skills students are exposed to in first-year communication-intensive courses to all Department instructors Encourage instructors of second- and third-year courses to incorporate activities and assignments that progressively build on these foundation of skills Provide resources to upper year instructors to support such course additions 	<ul style="list-style-type: none"> Chair Associate Chair, Undergraduate Affairs Psych 291 Instructors 	Fall 2019 & Winter 2020 - Planning Fall 2020 - Pilot
1a.	<i>Consider how to better address UDLE 6 (Autonomy & Professional Capacity) for students who are not in the Co-op program.</i>	<ul style="list-style-type: none"> Revamp the Applied Apprenticeship courses (PSYCH 465 and 467) to provide experiential learning opportunities in professional settings for students who are not enrolled in the co-op program 	<ul style="list-style-type: none"> Chair Associate Chair, Undergraduate Affairs HRM Director Program Manager 	September 2018 -Worked with EDGE to revamp Psych 465 and 467 – and offered these courses in Winter 2019

	<ul style="list-style-type: none"> • Develop Applied Directed Studies (Psych 480) that are reflective learning on volunteer experiences. • Encourage all Psychology instructors to incorporate into their courses more information about real-world applications of psychology as well as to build in assignments that cultivate professional skill development and autonomy (to the extent that these are relevant and harmonizes with the instructor's other course objectives). • Launch a voluntary peer mentorship program for Psychology students. In this program, third- and fourth-year Psychology majors will volunteer to provide mentorship to a group of approximately 3 to 4 new majors who volunteer to receive mentorship. The goal is to support autonomy and professional capacity in both the mentee and the mentor. 		<p>September 2019</p> <p>-Edge no longer have the resources to assist us.</p> <p>Fall 2019 & Winter 2020 – Planning Applied Directed Studies</p> <p>Fall 2020 – Pilot Applied Directed Studies</p> <p>Winter 2018</p> <p>-Created a Peer Mentorship Program</p>
2.	<p><i>Teach R and programming (e.g., Python) in the graduate program and offer a greater variety of statistics courses on a regular basis.</i></p>	<ul style="list-style-type: none"> • Associate Chair, Graduate Studies • Graduate Advisory Committee 	<p>Fall 2018 - a new graduate course was offered on multi-level modelling which was taught exclusively using R.</p> <p>August 2020 – New R in-house workshop</p>

		<p>paradigms, statistical analyses, Data Visualization)</p> <ul style="list-style-type: none"> • Collaborate on Faculty-wide initiative (led by Economics) to develop a Diploma in Computational Social Sciences which it is believed will be relevant and beneficial to many of our graduate students, particularly those wishing to receive additional training in skills relevant to industry 		
3.	<p><i>Provide graduate students with more teaching opportunities. The implementation of the new university-wide writing requirement will require a re-structuring of the undergraduate Psychology program. It appears that the faculty resources that will need to be channeled into the writing program will free up courses that could well be taught by graduate students.</i></p>	<ul style="list-style-type: none"> • Identify teaching opportunities for graduate students (e.g., co-teaching assignments), working within the constraints of the Faculty and Department budget • Develop teaching practicum course supervised by faculty (as Service) • Provide faculty supervision for graduate student instructors (e.g., syllabus review, in-class teaching observations) to support growth and development and to provide written evaluations for teaching dossier • Consider having graduate students teaching the writing components of expanded undergraduate courses (e.g., Psych 291 as detailed in item 1 above) 	<ul style="list-style-type: none"> • Associate Chair, Undergrad • Associate Chair, Grad • Chair 	<p>Ongoing</p> <p>Beginning in 2018-2019 Graduate students have been offered teaching opportunities to replace faculty who are covering ARTS 130/140;</p> <p>Winter 2020 – work on designing teaching practicum course</p>
4.	<p><i>Provide graduate students with more opportunities for placements in industry and other non-academic organizations.</i></p>	<ul style="list-style-type: none"> • Develop applied graduate practicum/internship opportunities in all Areas • Develop a professional development course within our Area brown bag seminars for all graduate students covering topics such as interviewing, applying for funding, job searches, etc. 	<ul style="list-style-type: none"> • Area Heads, • Associate Chair, Grad • Chair 	<p>Fall 2019 and ongoing</p> <p>Fall 2019 - Practicum courses were developed in Social, Developmental, and</p>

		<ul style="list-style-type: none"> • Invite at least one brownbag speaker a year (in each Area) who has a Ph.D. in Psychology and currently works in a non-academic setting to talk about their experiences • Continue to inform Psychology graduate students about Centre for Career Action professional development workshops 		Industrial/Organizational areas. Fall 2020 – practicum courses will be developed for CNS (then all 6 areas will have applied practicums).
5.	<p><i>Improve communication between the Dean of Arts' office and the Psychology Department. We also encourage Psychology faculty members to play a greater role in university governance.</i></p>	<ul style="list-style-type: none"> • Please refer to submitted factual corrections stating that both Dean Peers and the Department believe that this recommendation reflects a misunderstanding. The Dean and the Chair (and indeed individual faculty members in Psychology) viewed communication between the Faculty and the Department at the time of the review as very good. This level of communication is expected to continue with the new Dean (Sheila Ager) and the new Chair (Heather Henderson). • Please refer to submitted factual correction from Dean Peers in which he noted that in meeting with the reviewers he mentioned that faculty members in Psychology might be (or have been) under-represented in administrative posts outside the Department (with full recognition that most Psychology faculty members have very active, Tri-Council funded research programs, that require high levels of graduate and undergraduate supervision). 	<ul style="list-style-type: none"> • Dean • Chair • Area Heads 	Ongoing

		<ul style="list-style-type: none"> Regardless, our Department faculty and staff members are routinely invited, and usually agree to serve, in a variety of contexts across campus. For example, Daniela O'Neill (Assistant Vice-President, Graduate Studies and Postdoctoral Affairs), Colin MacLeod (Acting Associate Dean, Research)., Britt Anderson (Arts Faculty Council, former Chair), Ramona Bobocel (member, HREC), Dillon Browne, Paul Wehr (FAUW), Mike Dixon (FTPC, Arts), Dan Smilek (FTPC, Engineering), Colin MacLeod (RTPC, St. Jerome's), Heather Henderson (Arts Representative on University Strategic Planning Committee, Learning Environment), Ori Friedman (faculty representative, Search Committee for Dean of Arts), Janice da Silva (staff representative, Search Committee for Dean of Arts). Move away from direct entry Ph.D. in all Areas to maximize funding flexibility for students and to maintain equity across areas Continue to encourage faculty members to "top up" students (i.e., provide additional funding via grants) to be competitive with offers from other institutions Given inherent inequities across funding sources (e.g., Vanier vs CGS vs PGS Tri-Council awards) and the possibility of individual faculty top-ups, it is impossible to completely eliminate differences in funding across students. 	<ul style="list-style-type: none"> Associate Chair, Grad Chair Area Heads 	Ongoing
6.	<p><i>Streamline and harmonize graduate admissions such that all entering students are either accepted into the Master's program to be followed by Ph.D. studies or accept all students directly into the Ph.D. program. This would eliminate inequities in student funding.</i></p>			

7.	<i>Provide adequate and consistent support for international students applying to the graduate program.</i>	<ul style="list-style-type: none"> • Noted misunderstanding throughout review document. Attracting international undergraduate students is a priority for Arts (and indeed university-wide), but the opposite is true of international graduate students. International graduate student support was the point raised by our Department members. • Work with the Dean and Associate Dean, Graduate Studies to identify possible sources of support for international graduate students, with understanding of current financial situation at UW. It is almost impossible for our faculty members to fully support international graduate students, given that the expense to their grants to cover tuition differential and other costs is simply too great. 	<ul style="list-style-type: none"> • Dean • Associate Dean, Grad • Associate Chair, Grad • Chair 	Ongoing
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The Department Chair/Director, in consultation with the Dean of the Faculty shall be responsible for the Implementation Plan.

Date of next program review

2024-25

Date

Signatures of Approval



August 10, 2020

Chair/Director

Date

AFIW Administrative Dean/Head (*For AFIW programs only*)

Date

Sheila Ager

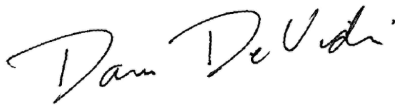
Digitally signed by Sheila Ager
Date: 2020.08.11 16:18:29
-04'00'

August 11, 2020

Faculty Dean

Date

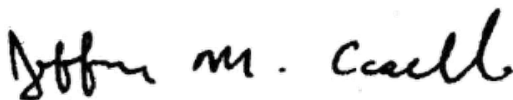
Note: AFIW programs fall under the Faculty of ARTS; however, the Dean does not have fiscal control nor authority over staffing and administration of the program.



January 2, 2020

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

Date



December 16, 2019

Associate Vice-President, Graduate Studies and Postdoctoral Affairs
(For graduate and augmented programs)

Date

Checklist for SUC/SGRC Reviewer Feedback Quality Assurance Office

Final Assessment Report: Psychology

Name of Reviewer: Jack Rehder

Date: 8/6/2020

Does the Final Assessment Report:

1. Include a credible implementation plan that not only addresses the substantive issues identified from the program review process, but also clearly identifies:
 - The actions that will follow from specific recommendations? ☒ **Yes** ☐ **No**
 - Those who will be responsible for acting on those recommendations? ☒ **Yes** ☐ **No**
 - Those who will be responsible for providing resources? ☒ **Yes** ☐ **No**
 - Priorities for implementation and realistic timelines for initiating and monitoring actions? ☒ **Yes** ☐ **No**
2. Provide rationales for any recommendations that have not been pursued? ☒ **Yes** ☐ **No**

General Comments

My one question – about the impact of the discontinuation of the direct-entry PhD program – has been addressed in this revised version.

Checklist for SUC/SGRC Reviewer Feedback

Quality Assurance Office

Final Assessment Report: Psychology (BA, BSc, MA, MAsC, PhD, Minor)

Name of Reviewer: Richard Staines

Date: 7/28/2020

Does the Final Assessment Report:

1. Include a credible implementation plan that not only addresses the substantive issues identified from the program review process, but also clearly identifies:
 - The actions that will follow from specific recommendations? ☒ **Yes** ☐ **No**
 - Those who will be responsible for acting on those recommendations? ☒ **Yes** ☐ **No**
 - Those who will be responsible for providing resources? ☒ **Yes** ☐ **No**
 - Priorities for implementation and realistic timelines for initiating and monitoring actions? ☒ **Yes** ☐ **No**
2. Provide rationales for any recommendations that have not been pursued? ☒ **Yes** ☐ **No**

General Comments

I am quite happy with the responses of the program to all of the recommendations outlined in the report. I have no questions to add to the document as the plans to address each one were outlined quite clearly including appropriate timelines if not already initiated. In addition, the explanation regarding the funding for doctoral programs and the direct-entry option is good. I recommend acceptance of the report. Please let me know if you need anything else.



FACULTY OF ARTS
519-888-4567, ext. 38246
dean@watarts.uwaterloo.ca | uwaterloo.ca/arts

26 January 2020

Professor David DeVidi
Associate VP Academic
University of Waterloo

Dear Dave,

I am providing a brief decanal response to the Final Assessment Report for the Master of Theological Studies. Since this is an AFIW-based program, it does not fall within my immediate purview as UW Dean of Arts, but given that I am supposed to sign off on the FAR, I wanted to comment on one or two things.

I believe the enrolment looks healthy, and the program is clearly viable. I did want to query a couple of items brought up on page 4 of the report: students with three-year degrees, even if they are "well-prepared", cannot enter the MTS, even though they can enter similar programs at other institutions; and (if I am reading it right) introductory-level biblical language courses cannot count towards the program's total course count. I wonder if both these constraints are mandated by the MTS program itself? If so, it seems that they could be changed.

I also wanted to point out that I agree with the program's decision (page 7) *not* to increase the number of core requirements. Increasing core requirements and reducing flexibility is the opposite of the strategy I am currently recommending to our graduate programs, so I'm pleased to see that MTS is not inclined to make this change. I am also in agreement with the program's response to the reviewers' recommendations around limiting service-load to student recruitment (page 9); this recommendation is at odds with the normal expectations of faculty service.

Sincerely,

A handwritten signature in black ink, appearing to read "Sheila Ager".

Sheila Ager
Dean, Faculty of Arts

Cc: Jeremy Bergen, Director, MTS
Marcus Shantz, President, Conrad Grebel University College



Final Assessment Report

Theological Studies (MTS)

August 2020

Executive Summary

External reviewers found that the Master of Theological Studies program (MTS) delivered by Conrad Grebel (CG) University College was in good standing.

“We find the program in overall good standing. Students are closely supervised and mentored throughout the program to ensure that the desired learning outcomes are met. The MTS clearly provides a valuable education for the students in the program through a great deal of flexibility and accommodation to each student’s needs.”

A total of 12 recommendations were provided by the reviewers. In response, the program created a plan outlining the specific actions proposed to address each recommendation as well as a timeline for implementation. The next cyclical review for this program is scheduled for 2025-2026.

Student Complement over the past three years

	MTS
2017-2018	43 (17 new)
2016-2017	35 (14 new)
2015-2016	35 (14 new)

Background

In accordance with the University of Waterloo’s Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response of the Master of Theological Studies program (MTS). A self-study (Volume I, II, III) was submitted to the Associate Vice-President, Graduate Studies and Postdoctoral Affairs on September 18, 2018. The self-study (Volume I) presented the program descriptions and learning outcomes, an analytical assessment of the programs, including the data collected from a student survey, along with the standard data package prepared by the Office of Institutional Analysis & Planning (IAP). The CVs for each faculty member with a key role in the delivery of the program(s) were included in Volume II of the self-study.

From Volume III, two arm's-length external reviewers were selected by the Associate Vice-President, Graduate Studies and Postdoctoral Affairs: Dr. Richard Ascough, Professor of Religion, Queen's University, and Dr. Jo-Ann Brant, Professor of Bible, Religion and Philosophy, Goshen College.

Reviewers appraised the self-study documentation and conducted a site visit to the University on April 15-16, 2019. An internal reviewer from the University of Waterloo, Dr. Kankar Bhattacharya, Professor of Electrical and Computer Engineering, was selected to accompany the external reviewers. The visit included interviews with the Vice-President, Academic & Provost; Associate Vice-President, Graduate Studies and Postdoctoral Affairs; President of Conrad Grebel; Dean of Conrad Grebel; Faculty of Arts Associate Dean of Graduate Studies; Director, Theological Studies, as well as with faculty members, staff and current graduate students. The Review Team also had an opportunity to tour the facilities and meet with representatives from the Library.

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

Program characteristics

The mission of the Master of Theological Studies (MTS) is to educate, equip, and form students through biblical, theological, historical, and pastoral study of Christianity in an Anabaptist-Mennonite and ecumenical context, for service to church and society. Students may study full-time or part-time. There are three options, or streams, with the degree: thesis, coursework, and applied studies.

Thesis: The thesis option is the most focused of the options and is often taken by students preparing for advanced graduate studies in Theology, Biblical studies, or History of Christianity, or by those who already have a strong undergraduate background in theological studies. It involves coursework and research and culminates in a thesis.

Coursework: The coursework option provides students with a broad understanding of theological disciplines. It consists of coursework and a final research paper. It is the most flexible option and is often the best option for students entering from another discipline or for those completing the program for personal enrichment. Students may begin in this option and decide to move to one of the other two options after they have completed several courses.

Applied Studies: The applied studies option integrates academic study and practical internships. It is for students involved in or preparing for the practice of ministry. "Ministry" is broadly understood to include pastoral roles in congregations, chaplaincy in hospitals, prisons, or elder care facilities, or social service work in varied settings. This option involves coursework, internships, and a capstone integrative project.

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

Strengths

- High quality faculty members as evidenced by active research programs and strong teaching evaluations.
- Full-tuition award for Canadian citizens and permanent residents who study full-time.
- Students bring diverse experiences to the program in terms of religious backgrounds, fields of previous academic study, areas of interest, age and life-stage, and educational goals.
- The several institutional affiliations developed by the MTS program grants students flexibility in tailoring their own course of study, pursuing particular interests, and accommodating other commitments like work and family.
- The strong full-time student body has led to a strong sense of cohort in recent years. Students get to know each other well and have good conversations outside of class.
- Positive and engaged faculty participation in informal settings, such as eating lunch in the dining room with students. There are good relationships between faculty members and students.
- Graduates are working successfully in the church, both in Mennonite congregations and those of other Christian traditions.
- The MTS program has a good word-of-mouth reputation. Often students are applying to the program because they heard about it from someone who had a good experience.

Challenges

- The program is highly dependent on its conjoint affiliation with the University of Waterloo, and thus on both University and Government of Ontario policies about grants to graduate programs.
- Recruiting students is an ongoing concern and priority.
- Increasing the ethnic/racial diversity of the student body is challenging—it is unclear which strategies will advance this objective.
- The program relies on the full-time tuition award to a great extent to recruit students.
- The perception of theology on campus creates a (perceived) constant need to validate the program.
- Changing employment landscape, especially in church settings.
- A perception that fewer Mennonite students are enrolling in the program. What does the Mennonite identity of a program mean if there are few Mennonites in the program?
- Increased marketing and program offerings from competitors, e.g. online programs, and potential market saturation.

Weaknesses

- Because students can take courses at other institutions, some may not be on campus very often. It is possible for students to be in the program and not interact with other students very much.
- Students have a lot of flexibility in how they put their program together, but this may mean that they are not be well-prepared for some professional positions they do get.
- Students with a three-year degree in theological studies cannot be admitted directly into the program, whereas they can do at most of our competitors, including institutions affiliated with public Ontario Universities. Such students are often well-prepared for the MTS, but at best can be offered admission to the Qualifying program.
- While the program provides a well-rounded education in theological studies, it may not do all of the disciplines justice. For example, students are able to avoid practical courses completely and/or avoid Biblical Studies courses other than the two core courses.
- Sabbatical cycles impact course offerings and sequencing. For example, TS 600 is designed to prepare students for the program (i.e., basic research methods), but it may be offered in the second semester if instructor is on sabbatical in Fall. Course offerings are further limited because most TS faculty members teach in the program on a part-time basis.
- There are limited opportunities for cross-cultural engagement within the program.
- The program does not offer biblical language courses. Introductory level courses do not currently count towards total course requirements. It can be difficult to find suitable courses that are proximate and/or affordable.

Summary of key findings from the external reviewers

“We find the program in overall good standing. Students are closely supervised and mentored throughout the program to ensure that the desired learning outcomes are met. The MTS clearly provides a valuable education for the students in the program through a great deal of flexibility and accommodation to each student’s needs.” “The five full-time faculty teaching in the program are fully qualified and publish well received work in their respective sub-fields.”

Program Response to External Reviewers’ Recommendations

1. CG provides clearer communication to students about the nature and need for reading courses (that is, they are rare and only when necessary to address a lacuna in a student’s program).

Response

MTS agreed and completed this recommendation. A message was sent to all students in June 2019 informing them of changes to the procedures for reading courses along the lines suggested above. The TS Handbook was also updated to reflect the changes.

2. CG continues on trajectory toward limiting courses taken at other institutions.

Response

MTS is unclear about whether the reviewers' concern is financial or curricular. As the reviewers note, some of the financial concerns have been addressed by excluding courses taken at other institutions from the full-time tuition scholarship. From a curricular perspective, there are good reasons for students to take courses elsewhere (e.g., counselling courses from Martin Luther University College). There is a tension between this recommendation and comments throughout encouraging a greater variety of course offerings.

While the program does forego some tuition when students take a course elsewhere, this can be less expensive than hiring additional adjunct instructors.

MTS will act on this recommendation through the following strategies. The program will ensure that students understand that taking courses at other institutions is not a "right", but rather a possibility for which clear pedagogical rationale must be given. Students will need explicit approval of their advisor and the TS Director. Convenience should not be the primary rationale for taking such courses and permission will not normally be given if a similar course exists at Grebel. Proactively, the program will identify and promote very specific courses at other institutions that are consistent with our learning objectives and address clear lacunae in our offerings (such as courses in counselling at Martin Luther University College, online language courses at McMaster Divinity College, and courses in Christian Formation at Anabaptist Mennonite Biblical Seminary.)

The program does not believe that it should be a goal to have a measurable decline in the number of courses students take elsewhere.

3. CG continues developing the 2-1 relationship with Anabaptist Mennonite Biblical Seminary (AMBS) so that students in the ministerial track complete a Masters of Divinity (MDiv) degree. It could be worthwhile establishing a 2-1 relationship with other local seminaries.

Response

There is agreement that this is something that should be pursued, and the program will continue to promote the AMBS MDiv program as a good option for its graduates. Responsibility for promotion and communication rests primarily with the Coordinator of Applied Studies, the faculty member who serves as advisor to all students in the Applied Option. The program believes graduates should be informed and supported should they be interested in this option, but we do not believe the program should be held accountable for whether or not a percentage of students, let alone all students, in the Applied option pursue

a particular degree after their MTS. On one level, such a message would undercut the program; the program does not want to communicate to potential students that they need three years of study, but the program only provides them two. This is not an MDiv program but rather than portray this as a weakness, the program believes it is a strength and an opportunity. Students study in a university environment and also gain practical skills which surveys indicate are good preparation for professional work. The reality is that many graduates are not interested in a three-year degree which may be one reason why they enrolled in this program in the first place. Some may come to recognize a need for further studies, either further professional studies (such as M.Div.) or further research-based study (Ph.D). But the program also believes that the MTS stands on its own as a valuable degree.

However, in terms of exploring new connections, programs that are assessed by Ontario Universities' Quality Assurance process will not be able to accept transfer credits for courses for which a degree has been awarded. However, this may be possible for institutions accredited by the Association of Theological Schools. MTS will explore the possibility of an arrangement with Canadian Mennonite University in Winnipeg that offers numerous "streaming" courses, as well as other programs in Ontario.

4. CG strengthens the coordination with faculty and courses in CG's other programs as well as the Religious Studies Graduate Program.

Response

There are possibilities for MTS to increase its coordination with Music and with Peace and Conflict Studies (PACS). Katherine Steiner, a recently hired faculty member in Music and Director of the Church Music and Worship program, has already participated in an MTS administrative group discussion about potential points of intersection. The program is currently exploring what a joint MTS and MPACS course would entail with the PACS department. There are possibilities for curricular and extra-curricular collaboration between these programs regarding Indigenous-Settler relations.

The UW Religious Studies graduate program is doctoral-level only and for that reason their courses may not be suitable for some of our students. However, in its focus on religious diversity in Canada, there are points at which greater connection and coordination may be possible. The primarily sociological approach to religion may be a welcome complement to MTS's primarily textual approach. One MTS student has taken a graduate RS course for MTS credit and so the precedent for this has been established.

There is potential for collaboration with the UW Department of Classical Studies around the teaching of New Testament Greek. The Directors of MTS and St. Jerome's University's Master of Catholic Thought (MCT) meet regularly in order to discuss their programs and ways of collaborating. The program also sees potential for a closer relationship with the Toronto

School of Theology especially regarding students from one institution taking courses at the other.

5. CG becomes more prescriptive and strategic about elective offerings and increase the core requirements.

Response

This refers to both what courses are offered, and how students are advised. The program agrees that they should be strategic about what courses are offered, and with what frequency, and has already been moving in this direction. All required courses (core and required applied courses) are offered every year. As noted in the self-study, the following courses were identified as highly recommended for students in Applied Studies:

- Pastoral Care
- Worship Ritual and Ministry
- Preaching
- Christian Ethics

Since 2015-16, these courses have been offered every two years and the program has concrete plans to continue doing so (including plans to request that the faculty position in Practical Theology become a tenure-track position).

The program consistently offers at least two Bible electives and two theology electives each year. Other courses which are in the rotation, and which are planned to be offered every two or three years include:

- Teaching the Bible (offered Winter 2018, Winter 2020)
- Personal Spirituality (offered Fall 2018, Fall 2020)
- Indigenous Theologies and Methodologies (offered Spring 2018, Spring 2020)

MTS will continue to be intentional about how these courses are scheduled and be more prescriptive in terms of advising.

The reviewers have not specified *how* the core requirements should be increased, nor whether the increase should apply to all options or just to one option such as Applied. Without further information, the program is unsure about how to proceed with this particular recommendation. If core requirements were to be increased in the Applied option, the program feels that the Pastoral Care course would be a candidate. However, if this meant offering the course every year, that would reduce the number of other electives that could be made available. There would also be concern that mandating more courses may have the effect of deterring some students from the Applied option who, perhaps for reasons of schedule or interest, may not want to take an increased number of required courses.

The program compiled a list of requirements for other MTS programs in Canada and the U.S. and noted that while a few have as many requirements than this program, most have fewer requirements than the Applied option (for which 8 of 16 courses are requirements). In her covering letter to the Associate Vice-President of GSPA, the Dean of Arts wrote: "Increasing core requirements and reducing flexibility is the opposite of the strategy I am currently recommending to our graduate programs, so I'm pleased to see that MTS is not inclined to make this change."

At this point, the program is not inclined to make changes to the course requirements. The strategy is to provide appropriate course options and be proactive in the advising process.

6. CG develops the curriculum map as a tool, particularly for adjuncts, and incorporate the learning outcomes that should be met in electives. Course syllabi could be linked to the map so that potential overlap and lacunae among courses become more visible.

Response

In the self-study, Appendix 4 was a map linking the Graduate Degree Level Expectations with the MTS Learning Objectives, and Appendix 5 was a map linking the MTS Learning Objectives with the requirements for each of the three program options, as well as the strongly recommended courses in Applied, and elective courses considered collectives. The program interprets the recommendation to be the extension of those existing maps to more courses. The program agrees that more could be done to orient adjuncts to our learning expectations, though this is a large administrative task. Regular and adjunct faculty will also be expected to make the connections to learning objectives clearer in their own syllabi. The TS-AG will then compile the results and note any gaps.

7. CG institutes systematic preparatory work for students without a related degree to be undertaken in the summer prior to entry in the program and substitution for the Old Testament and New Testament courses be allowed when incoming students demonstrate competency.

Response

The MTS program is not planning to offer any formal systematic preparatory work in the summer for students entering the program. The MTS does not require that students have previous degrees in theology or religious studies. The four core courses (in all options) plus TS 677 (for Applied option) are designed to provide the foundations necessary for the degree. Practically speaking, there are not the faculty resources to support additional summer instruction. Requiring formal summer study for some students would mean they would need to be admitted for the Spring term, a change in the basic design of the program that the program does not believe is warranted.

Several years ago, the program developed a reading list that is sent to incoming students over the summer. This list is especially for those who have not studied theology or biblical studies in formal academic settings. This list will be reviewed and enhanced.

MTS indicates that it would be helpful to know more about what kind of preparatory work is most needed or if there are some students who should not have been admitted in the first place. In the survey of current students included in the self-study, only one of 13 indicated that their previous studies did not adequately prepare them for the program. Core courses associated with the program have been designed in such a way to introduce students to graduate studies as well as to the practices of research and writing, the critical study of the Bible and theology and history, and to other specific content. Even though students are recommended to take core courses as early as possible, for reasons of student schedule or term of admission, sometimes the sequencing is off.

The program has a procedure in place for granting advanced standing for any of the four core courses. Advanced standing means being exempt from one or more core courses, though not reducing the total number of courses required in the program. The program will review these procedures, and consider the possibility of a competency exam. MTS will also revisit the question of whether the onus is on the student to initiate the process (as it is currently) or whether advisors should be proactive in suggesting that students consider this opportunity.

8. CG institutes policies or procedures around the hiring of sessional and adjunct faculty that is driven by the curriculum rather than by individuals.

Response

[Note on terminology: MTS has regular faculty members (typically full-time and often though not always tenure-track) and adjunct faculty members who are hired for one course at a time. They do not use the language of sessional faculty.]

Currently, the hiring of adjunct faculty members is driven by the curricular needs of the program. Program needs are determined first (often with the assistance of student surveys), and then appropriate teaching resources sought. One of the ongoing challenges is that course planning happens over a year in advance and the needs and interests of particular cohorts can be quite different from year to year. Thus, MTS recognizes that course offerings do not always meet the needs and interests of students in a given term.

In consultation with the Dean and other program units at Grebel, the program will develop written procedures for the hiring and re-hiring of adjunct course instructors.

9. CG lays out clearer expectations for the community service load for full-time faculty members and that it be both strategic and limited to helping with student recruitment.

Response

The program appreciates the recognition that running a program such as this requires a significant commitment on the part of all faculty and staff involved. It is also noted that while speaking in church constituencies is service work that all TS faculty members do, it is only one aspect. Within the TS program, faculty members are also involved in shared governance, leading extra-curricular workshops, participating in admissions interviews, and administrative work over and above what might be directly compensated through course releases. In addition, as is noted, there are service expectations in relation to Conrad Grebel as a whole, as well as to other units within the University. Faculty are also involved in service to the guild through editorial boards, professional associations, and peer-review requests. Since MTS students come from a wide range of Christian traditions, it is not clear to the program as to how they would implement service expectations that were *limited* to MTS student recruitment. Direct recruitment, through visits to other post-secondary schools and one-on-one conversations with potential applicants, is already assigned administratively. If this were the lens through which MTS understood all of their speaking and teaching activities in churches, this may actually increase rather than decrease service expectations.

Regular faculty members at Conrad Grebel are accountable to the Dean for their research, teaching and service. Overall service expectations of faculty members are thus the responsibility of the Dean to whom we defer for a response to the recommendation.

The program will request of the Dean that the position of Director of Theological Studies be compensated annually with two course releases (as is common for the Chairs of departments) rather than the current one course release. The Director of TS is responsible for the MTS program, as well as oversight of the Toronto Mennonite Theological Centre and the Anabaptist Learning Workshop.

10. CG becomes more intentional about hiring sessional lecturers that will diversify the teaching component in the program.

Response

MTS plans to be more intentional about hiring sessional lecturers. In the last two academic years, three of ten adjunct-taught courses were led by instructors who are not white. The program plans to continue to engage those particular instructors if they are available (one has since been hired into a tenure-track position elsewhere) and to actively identify and approach other candidates to teach in the program.

11. CG students with U of W degrees serve as guides and mentors to those unfamiliar with the campus. We strongly encourage that a way of facilitating MTS students' identification with the U of W graduate program and students be found.

Response

MTS views this as a good idea. The program can collaborate with MPACS to advance this recommendation, and engage in conversation with current students who are UW grads in order to get a better sense of how this might be implemented.

The program wants to be modest in expectations of how much students will identify with the University of Waterloo as a whole and ensure that such efforts do not diminish connections to the graduate community at Conrad Grebel. There is a strong identification with Conrad Grebel and its community, which is seen as a strength of the program. Such identification mitigates against the isolation, which is a danger for many in graduate programs.

12. CG develops an instrument that allows measurement of development of such things as professional identity and intercultural competence.

Response

Existing instruments will be explored to consider how they might be integrated into the program. Given that students in the Applied Studies option typically take TS 677 Church and Ministry in their first term and TS 783 Integration Seminar in the last or second to last term, these courses may provide opportunities for measuring one kind of professional identity. There may be other ways that such instruments could be integrated in the required courses for all students or as an option for those who are interested. Adding a milestone requirement may be way to ensure that students engage with such instruments.

Implementation Plan

	Recommendations	Proposed Actions	Responsibility for Leading and Resourcing (if applicable) the Actions	Timeline for addressing Recommendations
1.	Conrad Grebel (CG) provides clearer communication to students about the nature and need for reading courses (that is, they are rare and only when necessary to address a lacuna in a student's program).	Program guidelines have been updated and communicated to students	TS Director	Completed
2.	CG continues on trajectory toward limiting courses taken at other institutions.	It is unclear whether the concern is financial or programmatic. The program will continue to monitor. There are programmatic reasons for students to take courses elsewhere and this possibility was built into the structure of the program.	TS Director	Ongoing
3.	CG continues developing the 2-1 relationship with AMBS so that students in the ministerial track complete an MDiv. It could be worthwhile establishing a 2-1 relationship with other local seminaries.	The program will continue to promote the AMBS MDiv option with graduates; and will explore a similar arrangement with a Canadian institution.	TS Director	Ongoing; one additional seminary relationship clarified by Spring 2021
4.	CG strengthens the coordination with faculty and courses in CG's other programs as well as the Religious Studies graduate program.	The program will make connections with RS graduate programs (though differences in level [doctoral] as well as focus will limit these opportunities), as well as Music, Peace and Conflict Studies, Catholic Thought, and Classical Studies.	TS Director	Ongoing
5.	CG becomes more prescriptive and strategic about elective offerings and increase the core requirements.	There is lack of clarity about which core requirements should be increased. The program has already identified four	TS Director	Completed; ongoing

		highly recommended courses for Applied Option and committed to offering them every two years.		
6.	CG develops the curriculum map as a tool, particularly for adjuncts, and incorporate the learning outcomes that should be met in electives. Course syllabi could be linked to the map so that potential overlap and lacunae among courses become more visible.	All regular and adjunct faculty will be reminded of program learning objectives and expected to incorporate them into their syllabi.	TS Director	Spring 2020
7.	CG institutes systematic preparatory work for students without a related degree to be undertaken in the summer prior to entry in the program and substitution for the Old Testament and New Testament courses be allowed when incoming students demonstrate competency.	The program does not propose remedial workshops for incoming students. The program will review how research, writing, and other skills are covered in our core courses, as well as review and enhance the “summer reading” list. Substitution (advanced standing) for core courses, including Old Testament and New Testament, is already allowed. The existing procedures for this will also be reviewed.	TS Director	Spring 2020
8.	CG institutes policies or procedures around the hiring of sessional and adjunct faculty that is driven by the curriculum rather than by individuals.	A procedures document will be developed together with other academic units at Grebel.	TS Director, and Dean of Conrad Grebel	Spring 2021
9.	CG lays out clearer expectations for the community service load for full-time faculty members and that it be both strategic and limited to helping with student recruitment.	Faculty members are accountable to the Dean, not the program director, for service expectations. A two-course release for program director will be requested.	TS Director, and Dean of Conrad Grebel	Ongoing; request for course release will be made in Spring 2019

10.	CG becomes more intentional about hiring sessional lecturers that will diversify the teaching component in the program.	The program will be more intentional about this.	TS Director	Ongoing
11.	CG students with U of W degrees serve as guides and mentors to those unfamiliar with the campus. We strongly encourage that a way of facilitating MTS students' identification with the U of W graduate program and students be found.	UW grads currently enrolled in the program will be consulted about how best to do this.	TS Director	Winter 2020
12.	CG develops an instrument that allows measurement of development of such things as professional identity and intercultural competence.	The program will examine existing instruments and how these might be incorporated in required courses and/or as options for those interested.	TS Director	Spring 2021

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



Date of next program review

2025-2026

Date

Signatures of Approval

Chair/Director

Jan 20, 2020

Date

AFIW Administrative Dean/Head (For AFIW programs only)

January 20, 2020

Date

Faculty Dean

Please see separate
decanal response

Jan 26 / 20

Date

Note: AFIW programs fall under the Faculty of ARTS; however, the Dean does not have fiscal control nor authority over staffing and administration of the program.

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

Date

December 18, 2019

Associate Vice-President, Graduate Studies and Postdoctoral Affairs
(For graduate and augmented programs)

Date

Checklist for SUC/SGRC Reviewer Feedback

Quality Assurance Office

Final Assessment Report: Theological Studies (MTS) December 2019

Name of Reviewer: Adam Kolkiewicz

Date: 8/21/2020

Does the Final Assessment Report:

1. Include a credible implementation plan that not only addresses the substantive issues identified from the program review process, but also clearly identifies:
 - The actions that will follow from specific recommendations? ☒ **Yes** ☐ **No**
 - Those who will be responsible for acting on those recommendations? ☒ **Yes** ☐ **No**
 - Those who will be responsible for providing resources? ☒ **Yes** ☐ **No**
 - Priorities for implementation and realistic timelines for initiating and monitoring actions? ☒ **Yes** ☐ **No**
2. Provide rationales for any recommendations that have not been pursued? ☒ **Yes** ☐ **No**

General Comments

My comments and suggested revisions have been addressed to my satisfaction, and overall the proposed implementation plan is credible and meets the required criteria.

Checklist for SUC/SGRC Reviewer Feedback

Quality Assurance Office

Final Assessment Report: Theological Studies (MTS)

Name of Reviewer: Bernard Duncker

Date: 8/26/2020

Does the Final Assessment Report:

1. Include a credible implementation plan that not only addresses the substantive issues identified from the program review process, but also clearly identifies:
 - The actions that will follow from specific recommendations? ☒ **Yes** ☐ **No**
 - Those who will be responsible for acting on those recommendations? ☒ **Yes** ☐ **No**
 - Those who will be responsible for providing resources? ☒ **Yes** ☐ **No**
 - Priorities for implementation and realistic timelines for initiating and monitoring actions? ☒ **Yes** ☐ **No**
2. Provide rationales for any recommendations that have not been pursued? ☒ **Yes** ☐ **No**

General Comments

I'm fully satisfied with the responses provided by those administering the Theological Studies Program to both the external reviewers and me.

University of Waterloo
SENATE UNDERGRADUATE COUNCIL
Report to Senate
19 October 2020

Senate Undergraduate Council met on 15 September 2020 and agreed to forward the following items to Senate. Council recommends that these items be included for information or approval, as noted, in the consent agenda.

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

FOR DECISION

REGULATION CHANGES

Faculty of Arts

AFM - Removing Work Term Reflections from Co-op Requirements

1. Motion: That Senate approve the following changes to the regulations re: accounting and financial management (“AFM”) co-op work term reflections, effective 1 September 2021.

Background and Rationale:

Proposed Change: To remove work term reflections from AFM co-op requirements.

Rationale: Since work term report/reflection requirements are being incorporated into WatPD courses, The School of Accounting and Finance is removing work term reflections from the BAFM program’s co-op requirements. This aligns with the similar changes to work term report requirements already approved for the Bachelor of Arts Co-op requirements.

New calendar text: Bolding = new text being added; Strikeout = text being removed

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Arts Degree Requirements

Bachelor of Accounting and Financial Management

Co-op Regulations and Requirements

General Regulations

1. Successful completion of four work terms is required.
2. Students who have attempted to secure employment for all four available work terms, but are successful in doing so for only three work terms, may be considered for a co-op degree, provided they have received credit for all three of their work terms ~~and three corresponding work term reflections~~, and they have successfully completed all academic graduation requirements. This decision is at the discretion of the School of Accounting and Finance, Co-operative Education and Career Action (CECA), and the Faculty of Arts Examinations and Standings (E&S) Committee.
3. Students are required to follow only prescribed study/work-term sequencing options through to graduation. Students may not end their sequence with a work term.
4. Students who meet all the academic graduation requirements for this plan, but who do not meet the minimum requirements for a co-op degree may, in exceptional circumstances and at the discretion of the School of Accounting and Finance and the Faculty of Arts Examinations and Standings (E&S) Committee, be awarded a Regular Honours Accounting and Financial Management degree.

Professional Development (PD) Courses

Students must complete four Professional Development (PD) courses. PD 1 must be completed in the term prior to the first work term and PD 12 must be completed during the first work term. A third PD course must be completed during the second work term and a fourth PD course must be completed in the third work term.

~~Work Term Reflections~~

~~Students must complete three work term reflection assignments by specific due dates after the second, third, and fourth work terms. A satisfactory grade for each assignment is required.~~

...

Faculty of Arts

Fine Arts – Honours Arts Co-op Sequence Change

2. Motion: That Senate approve the following change to the co-op sequence for Fine Arts students in Honours Arts Co-op, effective 1 September 2021.

Background and Rationale:

Proposed Change: To revise the co-op sequence for Fine Arts students in Honours Arts Co-op to match the ARBUS sequence.

Rationale: The Department of Fine Arts is requesting a change from the Honours Arts Co-Op sequence currently being followed to the previous sequence (the old ARBUS Sequence). Although having as many departments as possible follow one sequence is the ideal, Fine Arts students will face several challenges with the proposal as it stands.

- a). Pedagogical Impact: In our 4th year curriculum we look for our students to develop a clear and coherent undergraduate thesis project which they begin developing each Fall term (4A), and work toward finalizing in Winter term (4B). The culmination of this year-long research project is the Undergraduate Thesis Exhibition which happens in March each year. Having a possible co-op break in one term (Fall 4A) or the other (Winter 4B) will have a significant negative impact on our students' ability to achieve this important and unique outcome. Breaking the flow between two semesters Fall to Winter will mean complete breakdown in our fourth-year pedagogy and might have a significant negative impact on our program goals and student achievement.
- b). Experiential Learning Impact: The development of the 4th year Thesis Exhibition is partly an exercise in professional development (experiential learning opportunity) as the students organize their entire exhibition, fundraise for it, create their own catalogue, do social media promotion, create posters, organize catering, hire other students from our department to help out during the opening, reach out to civic and other organizations, and work closely with the Director of the University of Waterloo Art Gallery on installation of the exhibition. All these elements of organizing the exhibition are experiential learning opportunities that are embedded into the fourth-year experience and are also key to giving our students an opportunity to learn how an art exhibition is organized, installed and promoted. The work on the exhibition begins in the Fall each year and continues into the Winter. Having students on co-op in one of the terms will create obstacles to organization and running of the exhibition.
- c). Community Impact: Thesis exhibition is one of the most important milestones in students' career at Waterloo and is also the yearly highlight of our Fine Arts Community, and a key event in our Department's community life. Our students' work is chosen for important prizes (Region of Waterloo) as we have long-standing relationships with the Region and other civic and community organizations to award those prizes. Family and friends of our students, as well as, our entire department and most of our

students attend the event (we have had anywhere between 300 and 500 attendees at the opening including regional council members, mayor, donors, academic staff, even the president of the university).

As a result of the impacts highlighted above Fine Arts would like to revise their co-op sequence to keep the students in fourth year in our department in Fall-Winter term.

New calendar text: Bolding = new text being added; Strikeout = text being removed

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Calendar Page: <http://ugradcalendar.uwaterloo.ca/page/ARTS-BA-Co-op-Requirements>

Study/Work Sequence Information Chart

Plan	F	W	S	F	W	S	F	W	S	F	W	S	F	W
Arts and Business	1A	1B	off	2A	W T	2B	W T	3A	W T	3B	W T	W T	4A	4B
Honours Arts co-op plans (excluding majors in English majors , Fine Arts)	1A	1B	off	2A	2B	W T	3A	W T	3B	W T	4A	W T	W T	4B
Honours Arts co-op plans, majors in English, majors , Fine Arts	1A	1B	off	2A	W T	2B	W T	3A	W T	3B	W T	W T	4A	4B

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Faculty of Arts Communication Requirement

- Motion: That Senate approve the following changes to undergraduate communication requirements in the Faculty of Arts, effective 1 September 2021.

Background and Rationale:

Proposed Change:

- To remove ARTS 102 and ARTS 103 as recovery courses for ARTS 130 and 140 respectively. The courses are also being inactivated and there is no plan to teach them again.
- Moving forward, students who fail ARTS 130 and/or ARTS 140 will be allowed to repeat the failed course once.

Rationale:

Students who fail ARTS 130 or 140 are currently required to take ARTS 102 or 103 respectively as recovery courses. This has posed numerous challenges in practice:

- The turnaround is far too quick and unmanageable - being able to identify all students who have failed at the end of Fall term and switching their enrolment for Winter term into a recovery course.
- Class attendance is a problem, resulting in additional issues for instructors and the likelihood that almost half of the students in 102 won't pass.

- Since there are numerous sections of ARTS 130 and 140 that can fit into student schedules, but only one of 102 and 103, this makes it challenging, if not impossible, to make the recovery course times/days work with the schedules of all students who need them. The numerous section times of ARTS 130 and 140 will make it much easier for students to fit the repeated course into their timetables.

In the case of Arts First, students who struggle with ARTS 130 and 140 the first time may have a higher chance of success when repeating a course with which they have some familiarity, instead of taking an entirely different course. Students who fail the second attempt at either ARTS 130 or 140 will be able to petition for a third attempt.

New calendar text: Bolding = new text being added; Strikeout = text being removed

Calendar Page: <http://ugradcalendar.uwaterloo.ca/page/ARTS-Undergraduate-Communication-Requirement>

Undergraduate Communication Requirement

Communication skills are essential to academic, professional, and personal success. The Arts First program fosters the development of foundational competencies in inquiry, communication, and analysis in students' first year to support their success.

All Arts students must fulfil the Undergraduate Communication Requirement; normally by successfully completing ARTS 130 and ARTS 140 (see Notes 1 and 2).

Notes

- ~~1. In the event a student fails ARTS 130, they must successfully complete ARTS 102. In the event a student fails ARTS 140, they must successfully complete ARTS 103.~~ **In the event of a second failed attempt at ARTS 130 or ARTS 140, students may submit a petition to the Arts Examinations and Standings committee requesting permission for a third attempt.**
2. Students enrolled in Accounting and Financial Management (AFM) and Computer and Financial Management (CFM) satisfy the Undergraduate Communication Requirement within their degree requirements.
3. The completion of a communication requirement while enrolled in another University of Waterloo faculty shall satisfy this requirement.
4. Students transferring to Arts at the University of Waterloo from other universities may request an exemption from one or both of ARTS 130 and ARTS 140 with proof of the appropriate equivalent.
5. Students are expected to complete ARTS 130 or ARTS 140 by the end of their 2A term. It is expected that one course be taken in fall term and the other in winter term. Both courses cannot be taken in the same term. Failure to complete these courses by the end of 3A term will result in a hold placed on the student's account, preventing self-enrolment in courses for the following term.
- ~~6. ARTS 102, ARTS 103, ARTS 130 and ARTS 140 do not fulfil any of the Bachelor of Arts Breadth Requirements.~~
7. Students enrolled in a Faculty of Arts plan prior to the September 2018 Calendar should consult the English Language Proficiency Requirement as outlined in the Calendar of their plan year.

Calendar Page: <http://ugradcalendar.uwaterloo.ca/page/ARTS-BA-Breadth-Requirements>

Bachelor of Arts Breadth Requirements

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Notes

1. The Arts Undergraduate Communication Requirement courses (~~ARTS 102~~, ~~ARTS 103~~, ARTS 130, and ARTS 140) do not fulfil any of the breadth requirements.
2. No more than one academic course unit (two courses) in the same discipline may count towards the Social Sciences requirement.
3. Cross-listed courses may be designated to fulfil any **one** requirement. For example, a student registered in PACS 203/HIST 232 may receive credit for **either** the Transdisciplinary Studies requirement or the Humanities requirement, but not for both.
4. Language courses accepted as transfer credits (e.g., LANG) may be counted towards the Languages and Cultures requirement.
5. Because Professional Development (PD) and Work-Term Report (WKRPT) courses are not regular academic courses, they do not fulfil any of the breadth requirements.
6. For students enrolled in an Arts degree program prior to September 2008, refer to the Group A and B requirements. Those students who wish instead to adhere to the new Breadth Requirements (effective September 2008) may do so by petition to the Examinations and Standings Committee

Faculty of Arts

Restrictions on Multiple Plan Combinations

4. Motion: That Senate approve the following changes to the Faculty of Arts' regulations re: multiple plan combinations, effective 1 September 2021.

Background and Rationale:

Proposed Change: Add plans to the list of restricted combinations as indicated.

Rationale: To update the list of mutually exclusive plans and restrictions on multiple plan combinations, based on recent plan additions and changes. Several changes simply reflect that plans have been inactivated with the use of a *, but as active plans they were previously part of the mutually exclusive list.

New calendar text: Bolding = new text being added; Strikeout = text being removed

Calendar Page: <https://ugradcalendar.uwaterloo.ca/page/ARTS-Restrictions-on-Multiple-Plan-Combinations>

Restrictions on Multiple-Plan Combinations

- No student may enrol in or graduate from:
 - two majors from the same group in the following list:
 - Department of Classical Studies: Classical Studies, Classics
 - Department of Economics: Economics, Mathematical Economics
 - Department of English Language and Literature: Literature; Literature and Rhetoric; Rhetoric, Media, and Professional Communication
 - two intensive specializations offered by the same major
 - multiple “topic” specializations offered by the same major in the following departments:
 - Economics (maximum of one topic specialization)
 - History (maximum of one topic specialization)
 - Political Science (maximum of one topic specialization)
 - a minor in the same subject field as their major
 - **a diploma in the same subject field as their major**

- a minor and a diploma in the same subject field
- a certificate and a diploma in the same language
- more than one language certificate or diploma in the same language
- When pursuing a Bachelor of Arts, students may combine two Honours major plans only (i.e., not an Honours major plan with a General major plan).

Sample Invalid Multiple-Plan Combinations

The Faculty of Arts will amend the list of invalid plan combinations when new academic programs or plans (including minors/diplomas/certificates/specializations) are created. Students should confirm any plan combination with their academic advisor.

* Indicates an inactivated plan

Table of invalid multiple plan combinations

Plan/Program	Cannot be Combined with
Applied Mathematics - Economics Specialization	Economics plans
Arts and Business	Accounting and Financial Management, Bachelor of; or Honours Arts Co-op; or French Teaching Specialization (French majors); or Global Business and Digital Arts, Bachelor of; or Management Studies Minor; or Mathematical Economics; or Sociology/Legal Studies - Criminology Specialization*
Accounting and Financial Management, Bachelor of	Arts and Business, or Management Studies Minor or Diploma* , or Any stand-alone major
Arts, Bachelor of (Honours major)	Arts, Bachelor of (General major)
Biotechnology/Economics	Economics plans
Church Music and Worship Minor or Diploma	Music majors
Classical Studies Minor	Classics major, or Greek minor* , or Latin minor*
Classics major	Classical Studies Minor
Communication Arts and Design Practice majors	Digital Arts Communication minor Speech Communication* plans Communication Studies plans Theatre and Performance plans
Communication Studies plans	Communication Arts and Design Practice majors Speech Communication* plans
Crime and Deviance Specialization (Sociology majors)*	Legal Studies Minor
Creative Writing Diploma *	English majors
Cultural Diversity Specialization (Social Development Studies majors)	Diversity and Equity Specialization (Social Development Studies majors)
Digital Arts Communication Minor	Digital Arts Communication Specialization (Arts and Business)*, or Digital Media Studies Specialization (English

	majors), or Global Business and Digital Arts, Bachelor of Communications Arts and Design Practice majors
Digital Arts Communication Specialization (Arts and Business)*	Digital Arts Communication Minor
Digital Media Studies Specialization (English majors)	Digital Arts Communication Minor
Diversity and Equity Specialization (Social Development Studies majors)	Cultural Diversity Specialization* (Social Development Studies majors)
Economics Minor	Applied Mathematics - Economics Specialization, or Biotechnology/Economics, or Mathematical Economics
Economics plans	Applied Mathematics - Economics Specialization, or Biotechnology/Economics, or Mathematical Economics, or Environmental Economics Minor*, or Economic Theory Minor
Economic Theory Minor	Economics plans, or Applied Mathematics - Economics Specialization, or Biotechnology/Economics, or Mathematical Economics
English majors	Technical Writing Minor
English majors	Creative Writing Diploma
Environmental Economics Minor*	Economics plans
French Teaching Specialization (French majors)	Arts and Business, or Any other stand-alone major
Global Business and Digital Arts, Bachelor of	Arts and Business, or Digital Arts Communication Minor, or Management Students Minor or Diploma* , or Any stand-alone major
Greek Minor*	Classical Studies Minor
Human Resources Management (HRM) Minor or Diploma	Students who have completed a Diploma in HRM or the course requirements for the Certified Human Resources Professional (CHRP) designation, or who have graduated from a college or university HR or business program
International Relations Specialization (History majors)	International Relations Specialization (Political Science majors)
International Relations Specialization (Political Science majors)	International Relations Specialization (History majors)
International Trade Minor	International Trade Specialization (Arts and Business)*
International Trade Specialization (Arts and Business)*	International Trade Minor
Latin Minor*	Classical Studies Minor
Legal Studies Minor	Crime and Deviance Specialization (Sociology majors)*, or Sociology/Legal Studies - Criminology Specialization*
Liberal Studies	Any other stand-alone major
Management Studies Minor	Any university business program, major, or sub-plans, including: •Arts and Business

	<ul style="list-style-type: none"> •Accounting and Financial Management, Bachelor of •Business Administration and Mathematics Double Degree •Environment and Business •Global Business and Digital Arts, Bachelor of •Mathematics/Business Administration •Recreation and Sport Business •Science and Business (any specialization)
Mathematical Economics	Arts and Business, or Any other stand-alone major, or Economics Minor, or Economic Theory Minor
Music majors	Church Music and Worship Minor or Diploma
Music in Global Context Specialization (Music majors)	Music and Peace Specialization (Music majors)
Music and Peace Specialization (Music majors)	Music in Global Context Specialization (Music majors)
Public Policy and Administration Minor	Public Policy Specialization (Economics majors)
Public Policy Specialization (Economics majors)	Public Policy and Administration Minor
Sociology/Legal Studies - Criminology Specialization*	Arts and Business, or Any other stand-alone major, or Legal Studies Minor
Spanish plans	Spanish/English Translation Minor*
Spanish/English Translation Minor*	Spanish plans
Speech Communication* plans	Communication Arts and Design Practice majors Communication Studies plans
Theatre and Performance plans	Communication Arts and Design Practice majors

Faculty of Science

Grades and Academic Standings – Academic Standings

5. Motion: That Senate approve the following change to the Faculty of Science's regulations re: academic standings, effective 1 September 2021.

Background and Rationale:

Background and Rationale: Not all the standings used within the Faculty of Science were represented on the Academics Standings page, therefore the following standings are added to the page to make it inclusive: Must change Academic plan change (FLP), Decision Deferred (DEF), and Decision not Applicable (NAPP). In addition, the use of term promotion by Doctor of Optometry program is added to represent its practice.

New calendar text: Bolding = new text being added; Strikeout = text being removed

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Academic Standings

With the exception of the Doctor of Optometry and Doctor of Pharmacy programs, which follows a term promotion system, the Faculty of Science operates under a unit-weight system in which student progress is measured by units successfully completed rather than by years. See Determination of Level and Term of Study in this Calendar for details.

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Standings Requiring a Required Change in Major Standing

Unsatisfactory - Eligible for Honours Science ~~Non-Major-Only~~

Students whose overall, major, or special major average does not qualify for Conditional standing, will be moved into the Honours Science program. In a future term, depending on cumulative overall, major, or special major average, students may be eligible to resume their original honours plan. Readmission to a co-operative program is not guaranteed and depends on availability of space and academic averages. Students with averages below the requirements for Honours Science, could receive an Unsatisfactory - Eligible for General Science Only academic standing.

Unsatisfactory - Eligible for General Science Only

When students in an honours plan do not qualify for Conditional standing or movement into the Honours Science program, they may be moved to the General Science program, depending on their averages. Students are deemed to be successful in their subsequent term if both the cumulative science and overall averages are at least 55%. In a future term, depending on cumulative science and overall averages, students may be eligible to resume their original honours plan or can continue in General Science. Readmission to a co-operative program normally does not occur.

Must Change Academic Plan

Students must change their academic plan if they exceed a plan-specific failure limit or have average(s) below plan requirements. In instances where the failure limit is exceeded, the plan will be changed to one outside the department/discipline. Instances where average(s) are below the conditional threshold for plan minimums will trigger a change from the student's plan to another plan within the same department/discipline.

Other standings

Decision Deferred

A standing decision will be deferred when there is insufficient information for a decision to be made. A decision deferral will occur in instances where the student has:

- two or more incomplete (INC) grades
- an IP, MM and/or UR grade
- insufficient numeric grades in their first term
- insufficient courses completed in their first conditional readmission term

Revised INC, IP, MM and/or UR grades may lead to an updated academic standing and average calculation.

Decision Not Applicable

A standing decision will not be made in certain circumstances, e.g., a term with a petition decision, when there are no numeric grades (WDs, CR/NCRs), or when there is no program benchmark to compare progress such as post-degree studies.

FOR INFORMATION

ACADEMIC PROGRAM REVIEWS

Final Assessment Report – History. Following discussion, Council approved the final assessment report on behalf of Senate. See Attachment #1.

Final Assessment Report – Studies in Islam. Following discussion, Council approved the final assessment report on behalf of Senate. See Attachment #2.

Final Assessment Report – Science and Business. Following discussion, Council approved the final assessment report on behalf of Senate. See Attachment #3.

Two-Year Report – Fine Arts. Following discussion, Council approved the two-year report on behalf of Senate. See Attachment #4.

MINOR PLAN & CURRICULAR MODIFICATIONS

Council approved the following on behalf of Senate:

- minor plan changes for the faculties of arts (classical studies, communication arts, peace and conflict studies, English language and literature, Germanic and Slavic studies, gender and social justice, applied language studies, Chinese language, Spanish and Latin American studies, Human sciences, Italian studies); and science (honours earth sciences, geology, hydrogeology and geophysics specializations and honours environmental science, geoscience specialization; honours environmental science, water science specialization; BSc honours psychology plans).
- new courses for the faculty of arts (classical studies, communication arts, English language & literature, fine arts, Germanic and Slavic studies, history, political science, religious studies, sociology and legal studies, Spanish and Latin American studies, Italian studies, indigenous entrepreneurship).
- course changes for the faculties of arts (music, peace and conflict studies, classical studies, communication arts, English language and literature, fine arts, Germanic and Slavic studies, history, philosophy, political science, social development studies, religious studies, sociology and legal studies, Spanish and Latin American studies, Italian studies, Italian); and science (earth and environmental sciences, physics & astronomy).
- course inactivations for the faculties of arts (dean of arts, communication arts, fine arts, Germanic and Slavic studies, philosophy, political science, religious studies, sociology and legal studies, Spanish and Latin American studies, Italian studies, Italian); and science (dean of science)

/rmw

David DeVidi
Associate Vice-President, Academic



Final Assessment Report

History (BA, Minor)

January 2020

Executive Summary

External reviewers found that the Bachelor of Arts in History and Minor in History delivered by the Department of History were in good standing.

"We believe all undergraduate programs are in good standing. The Department of History includes engaged and productive historians who deliver courses that are consistently ranked, by students, of high quality"

A total of five recommendations were provided by the reviewers, touching on curricular and governance improvements, and increased support for the program. In response, the program created a plan outlining the specific actions proposed to address each recommendation as well as a timeline for implementation. The next cyclical review for this program is scheduled for 2024-2025.

Total Enrolment in all Undergraduate Year Levels

	General	Honours	Co-op	Minor
Fall 2019	9	54	35	33
Fall 2018	13	48	34	33
Fall 2017	12	53	19	36

*based on Active Students Extract pulled from Quest January 14, 2020

Background

In accordance with the University of Waterloo's Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response of the Department of History. A self-study (Volume I, II, III) was submitted to the Associate Vice-President, Academic on September 28, 2018. The self-study (Volume I) presented the program descriptions and learning outcomes, an analytical assessment of the programs, including the data collected from a student survey, along with the standard data package prepared by the Office of Institutional Analysis & Planning (IAP). The CVs for each faculty member with a key role in the delivery of the program(s) were included in Volume II of the self-study.



From Volume III, two arm's-length external reviewers were selected by the Associate Vice-President, Academic: Dr. David Wright, Professor of History & Classical Studies, McGill University, and Dr. Dominique Marshall, Professor of History, Carleton University.

Reviewers appraised the self-study documentation and conducted a site visit to the University on December 6-7, 2018. An internal reviewer from the University of Waterloo, Dr. Bill Anderson, Professor of Chemical Engineering, was selected to accompany the external reviewers. The visit included interviews with the Associate Vice-President, Academic; Dean of the Faculty of Arts; Arts Associate Dean of Undergraduate Studies; Chair of the Department of History; faculty members; staff and current students. The review team also had an opportunity to meet with representatives from the Library and Co-operative Education.

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

Program Characteristics

The Department of History offers the following degree options (majors/minors).

- The [Three-Year General History](#) program balances a wealth of flexibility in course selection with attentiveness to methodology, temporal range and disciplinary depth. On average, since 2010, 12.5% of the Department's students annually have graduated with the Three-Year General degree. It requires a minimum major average of 65% and at least 12 history courses.
- The [Four-Year General History](#) program is similar to the Honours degrees, meaning that the graduating students more closely attain proficiency in their learning outcomes. Those in the Four-Year General plan have consistently accounted for about 25% of the Department's graduates annually. The program requires a minimum major average of 65% and at least 16 history courses.
- The [Honours History](#) program offers students flexibility in their studies, and the scope to define their fourth year experience in ways most meaningful to them. Students graduate with detailed and complex knowledge bases, proficient research, communication and diversity skills, and the ability to apply their knowledge and skills autonomously as emerging professionals in a variety of workplace or graduate degree settings. It requires a minimum major average of 70% and at least 16 history courses. There was a high of 85 graduates in the History majors in 2010 (32 General, 8 Honours Co-op, 45 Honours) to a low of 34 in 2016 (9 General, 5 Honours Co-op, 20 Honours).
- The [History Minor](#) is a flexible plan of 8 courses accessible to any student at the University of Waterloo. The minimum Minor average is 65%, requiring 8 history courses, two above HIST 250. There were between 27-47 students registered in the minor from 2010-2016.



The Department also offers [four specializations](#):

- **Applied History:** Practical, real-world uses for the past in society and the marketplace.
- **Global Interactions:** Exploring human interactions on a global scale.
- **International Relations:** A joint program with Political Science.
- **Revolution, War, and Upheaval:** Examining the impact of conflict on the course of history.

Summary of Strengths, Challenges and Weaknesses based on Self-Study

Strengths

- Strong retention factor, with an overall retention of 85.5%. When students enrol in History, they are strongly inclined to remain in the discipline.
- Strong representation of graduates on Dean's Honours List
- Co-operative education as a differentiating factor of the program
- Teaching evaluations exceed faculty average on all counts
- From the perspective of the learners, numerous strengths include: becoming disciplinary experts, as Honours graduates, mastering the concepts, methods, theories and skills of the discipline of History; classroom experience; great professors (both sessional and regular); access to co-op; level of support; sense of belonging; ability to complete program successfully

Challenges

- Sharp decline in History majors in period of self-study; attracting majors
- Sharp decline in History course enrolments in period of self-study; attracting students of history
- Co-ordination with AFIW (especially with regard to 1xx and 4xx course scheduling)
- How to recast the reality of being a Department teaching increasingly to non-majors (or "service teaching") into a positive
- Anxiety about impact of activity based budgeting at departmental level
- Better integration of undergraduate students into Department events (e.g., Speaker Series)
- Communicating the value of a History and Arts education within and beyond the academy and addressing student-expressed concerns about the place of History/Arts in a STEM dominated institution
- Possibility of developing a suite of online courses appealing to general public and cross-faculty interest, such as sport, film, and the internet
- Heavy departmental administrative weight (Chair, two Associate Chairs, and in 2019 Directorship of the Tri-University graduate program). Four administrative roles is a significant ratio in a Department of this size and also impacts teaching / course offerings.



- Shift to a new emphasis upon Spring teaching by regular faculty. Impacts Fall/Winter course offerings and TA allocations.
- Lacking community space for faculty

Weaknesses

- Smallest faculty complement in History in U15 – makes diversity of offerings difficult and impact of service roles difficult to bear
- The inclusion of all historians in our “Department” description at UW and AFIW suggests our FTE complement is far larger than it is
- Ability to perform departmental, faculty, and university service is affected by small complement – this will become particularly critical with upcoming and eligible retirements (a potential total of four)
- From a student perspective weaknesses are: lack of attention to career development at department level; lack of diversity in course offerings (e.g., beyond Europe and North America); sense of self and value of discipline in STEM-dominated UW

Summary of Key Findings from the External Reviewers

“We believe all undergraduate programs are in good standing. The Department of History includes engaged and productive historians who deliver courses that are consistently ranked, by students, of high quality”; “Although the program is currently in good standing, it should be monitored closely in the coming years to ensure that the students are receiving a quality undergraduate experience in History. We believe, however, that the leadership of the department is well placed to initiate reforms in an open-minded and collaborative fashion”.

Program Response to External Reviewer Recommendations

1. **Undergraduate Programs:** The History programs are currently in good standing, and we received excellent, and largely positive, feedback on the students’ experience from the Co-Op office. However, questions arise as to the long-term viability of the stand-alone Honours History BA at the University of Waterloo. Course offerings are limited in breadth, class sizes are small, and potential honours History students have too many other options in Southwestern Ontario. It is hard to imagine that one new tenure-stream hire will be able to fill the looming gap in providing courses on ‘the rest of the world’ or reverse the long-term trends in program students. Indeed, one wonders whether the next seven years (to the next review) should be one of carefully managed contraction, seeing more energy devoted to the Co-Op Honours (which cannot be pursued elsewhere in Southwestern Ontario), the continuation of the rest of the History programs (joint Honours with another subject; minor in History, four year BA, three year BA) as well as the administrative merger with another unit, of which Classics would be the obvious (but not only) option.



Program Response

History intends, as the reviewers recommend, to continue to monitor the “stand-alone” Honours BA over the next seven years. The program is encouraged by increasing enrollments, as discussed below, and will maintain their commitment to strong participation in Arts recruiting and outreach, curricular programming and flexible degree paths that fulfill the needs of today’s Arts learners and graduates, supporting students’ awareness of and ability to articulate the value of their degree, and to the academic rigour expected in the program that continues to attract strong students to UW History. Specifically, the reviewers recommend:

“seeing more energy devoted to the Co-Op Honours (which cannot be pursued elsewhere in Southwestern Ontario), the continuation of the rest of the History programs (joint Honours with another subject; minor in History, four year BA, three year BA) ...”

The recommendation concerning Co-op is discussed below. It is difficult to over-state the value History has always seen in systematically reviewing the health of their program streams and they agree with the reviewers that they should continue to do so. The health of the regular Honours BA stream in particular (a plan that is standardized with the joint Honours, four year BA, and four year Honours Co-op BA the reviewers recommend History maintain) is a primary focus. The program has and will continue address the reviewers’ three specific concerns around breadth, class size, and the fact that there are “many other options in Southwestern Ontario” by continuing to hire diversely and engaging in course development to offer greater breadth, expanding class sizes through offerings attractive to non-majors, and differentiating their program as a whole, largely in its association with UW Co-op.

History agreed with the recommendation to “rally-around” the Co-op program and are happy that the reviewers have flagged this differentiating factor. Indeed, the Co-op program in History differentiates the program from others in Ontario, and most of Canada. The Department is committed to its continuing success, especially as they realized a 27% increase in enrollment with the full launch of Co-op in Fall 2017, and have since realized another increase of 22%. The reviewers were aware of these increases, however they were not formally presented with this data as the self-study only covered the years 2010/11 to 2016/17 (pre-dating this recent increase). There may well be other explanations for the increase; however, the enrollment increases are predominantly within the Co-op stream. Nevertheless, the emphasis on “decline” in the reviewers’ report should be balanced against this recent evidence of increasing enrollment. History is a mid-sized program in the Faculty of Arts, with with 88 HIST majors in Fall 2018.



Still, as the reviewers' note, and as the self-study captures, History's numbers have declined sharply since the last cyclical review, which is a key context to all departmental planning. Regardless, History is encouraged by the enrollment increases, and will strive to continue them with a goal in the 200s, in line with disciplinary partners in Political Science and English).

History has already made great strides in the direction of this recommendation to "rally-around the Co-op," shifting its teaching loads, especially tenure-line, around and making required field courses at the 2xx level available in the Spring term, as well as options at the required 3xx level. While largely intended to meet the needs of Co-op students, the shift to more Spring teaching by regular faculty has also brought the unexpected bonus of very healthy student enrolment from other Arts programs and the other five faculties. History recognizes that students are experiencing the departmental Co-op in History as a way of integrating more fully with the UW "experience" or "brand" which was something students in Honours History and Arts & Business Co-op have long expressed. However, History acknowledges it can do more to support Co-op and the students in it, and they have made a continuing commitment to address this.

History feels that neither the Department nor UW students in History would be well served by a mandatory Co-op. There are many reasons why students choose to opt-out of Co-op; these students still need continued access to their Honours program as a regular course of study. The History Department would also be loath to lose Honours students should they opt out of Co-op. Similarly, other students choose UW History for reasons unrelated to Co-op and the Department has every wish to encourage their enrollment. Finally, mandatory Co-op is not a valuable recruitment tool, based on experience at events such as the Ontario Universities Fair, in any Arts programming beyond Accounting & Finance. Similarly, offering a non-Co-op option to students does not require any departmental additional resources. History is open to, and would welcome, administrative reform. That may take the form of the administrative merger the reviewers discussed with us – namely, "pools" of administrative support staff working for multiple departments in Arts, or the more specific suggestion here of a two-department support unit. History will constructively participate in any faculty-level conversations enabling administrative reform to better support departmental needs for everyone.

2. **Governance:** We recommend a new approach to departmental administration, including: (1) a regular slot blocked out (by registrar's office/registration) for 3 or 4 department meetings per term scheduled well in advance; (2) a small number of department committees to support the Chair, the Associate Chairs and other crucial activities; and (3) the inclusion of AFIW



faculty members in the meetings and in those committees. We have found that including student representatives of all programs, and a representative of sessionals, in the open Departmental meetings and in the relevant Committees (within the limits of what the constitution of the University allows) has benefits for the department as a whole.

Program Response

There are three clear components to this recommendation: a) scheduling; b) departmental committees; and c) AFIW colleagues' participation.

- a) History will work to schedule meetings as recommended; beginning in the W20 semester we will apply a Level 2 constraint to all UW HIST instructors, for example, for Fridays after 2:30 – enabling everyone to attend at this time.
- b) This recommendation has been followed in the past, and will be implemented again. History recently convened an ad-hoc “Governance” or “By-law” Committee in order to codify several sets of administrative relationships within the Department, as well with AFIW. One AFIW colleague is a member of this committee. The committee has since drafted a set of recommendations, pending departmental approval, that defer to UW Policy, and clarify the following issues of governance, and include the creation of the recommended departmental committees: Department membership, Departmental Advisory Committee on Appointments (DACA) composition, Promotion and Tenure practice, appointment of Associate Chairs, the administrative relationship with AFIW colleagues, frequency of department meetings, Approved Doctoral Dissertation Supervisor (ADDS) status, workload expectations, Standing Sub-Committees (Executive, UG, Grad, Communications & Speakers' Series), and, amendments to the by-laws.
- c) AFIW members have always been and are always invited to Department meetings on main campus and are included in regular lines of communication. The intent of this recommendation has been the practice in History for decades. History has benefitted from the involvement of our AFIW colleagues in department meetings, in decision-making with Graduate admissions, etc., On a similar note, Professor Jane Nicholas, a colleague at St. Jerome's, has agreed to serve, on behalf of UW History, as the next Director of the Tri-University Graduate Program, which is a demanding, three-year-long administrative position. Enabling this appointment required close cooperation between the Chairs and the upper administration of the Faculty of Arts and St. Jerome's University, and speaks to the collegial relationship with the AFIW.

Department meetings include both undergraduate and graduate student representation. Typically the current chair of the History Society represents undergraduate students; a member of the Tri-University Society represents graduate students. We are open to having a sessional representative in attendance, and can



raise the issue with them, while remaining aware that attendance at meetings is unremunerated.

3. **Course Offerings:** The Department is clearly making an effort to mount courses that are attractive to students both within History, in Arts, and within the university. Some faculty members felt dispirited by the decline of (formerly) popular courses. It is noteworthy that the decline in course enrollments can be seen across the board (as mentioned above). Opinion as to whether things were being exacerbated by disparate factors -- (1) the process of registration and scheduling; (2) imperfect coordination between 'competing' courses in the 'regular' Department and the colleges; (3) the emergence of new interdisciplinary programs more attractive to students -- was open to different perspectives from stakeholders. We have no magic solution, save to reemphasize the need to identify courses that naturally complement the strengths of the university, including: environmental history, transnational/IR history, and the history of science and technology. There might also be an opportunity to think of methods/theory/skills courses that would be collaborative and would signal to students explicitly the existence of a variety of fields within the Department, in the colleges and, maybe, at the University of Waterloo. A more judicious use of interuniversity registrations with Wilfrid Laurier, and a renewed planning in coordination with the AFIW, would also help in this direction, as would hiring proposals drafted in coordination with other strong units in campus.

Program Response

The Department appreciates the hard work and suggestions of the reviewers in this regard; however, after careful discussion of past initiatives in these fields, History is unsure about the wisdom of introducing courses on "environmental history" and the "history of science and technology." The few times that they have offered environmental history (as recently as 2016), the enrollments were in the single digits. Years ago, they offered a course on the history of Engineering that fared even more poorly which was likely attributable to the fact that other faculties offered similar courses, thus limiting their growth potential in these areas. Instead, History will continue the excellent strides they have made in Digital History, which reflects the larger mandate of UW in terms of innovation, and in Public History, which also captures the intent of the Truth and Reconciliation Commission. Anecdotally, History has learned from those who teach classes that reach all faculties in the University, such as Math, Engineering, Science, Applied Health Studies and Environment, that these students are looking for classes that open up new vistas of learning to them, and are accessible to non-Arts students. Hence, History believes the key to their success in attracting non-Arts students is to continue to make them inviting to students outside of Arts, and in other Arts programs; to focus on innovations in their teaching; and to continue to explore options with online teaching, which will open even more doors to other students on campus.



Diversity, breadth, depth, methodological and pedagogical reach is becoming increasingly challenging for History, given its small FTE complement, especially with imminent retirements – at least 4 - in key fields. Without a guarantee of future tenure line or continuing hires, History is unable to expand geographic, thematic, temporal, methodological etc. program components. The reviewers indicated that the “the presence of seven historians at the affiliated ‘colleges’ (AFIW) has cushioned ... faculty complement, and provided an effective teaching cluster (15 + 7) that is, in reality, as large as some competitor universities.” These historians strengthen programming in HIST; the AFIW and UW leadership work to coordinate course offerings to eliminate “competition” for enrollment. However, the numbers of AFIW faculty as noted by the reviewers are misleading: of the FTE complement on main campus, two senior administrators do not teach at all in the program, and another, appointed to the Balsillie, teaches only one course per annum. Typically, there are 12 active FTE instructors, subject to availability as determined by sabbatical, leave, and administrative course release. In addition, the reviewers refer to 7 History FTE at the AFIW. It is correct that there are 7 ‘historians’ at the AFIW, but most are cross-appointed or have teaching responsibilities in non-History departments(e.g., Epp in PACS, Nicholas in SMF, Llewellyn in SDS, Bednarski in MEDVL, and Osborne in the administrative role of Dean at CGC). In the last calendar year, (Fall, Winter, Spring 2018-19), the 7 “historians” at the AFIW noted in the reviewers’ report, taught a total of five courses in the History program. Hence, the AFIW teaching capacity in History does not represent 7 FTE (though all do scholarship in History) and thus the reviewers’ calculation of 15+7 = comparable capacity to other competitors is not accurate.

4. Administrative Support: The system of administrative support is clearly broken. This must be demoralizing for faculty and students alike, and most of all to the administrative staff themselves, who appear to stay no longer than one year or two. It would appear that the Dean (or the new Dean, as we understand the current Dean is not seeking a new term) must seriously consider the reorganization of administrative support. Several universities have moved away from the traditional model of the PG and UG coordinator positions servicing only one department, since they are prone to the very problems that currently plague the Department of History at Waterloo. Pooled administrative resources between cognate departments (for example: English, History, Classics) would provide an administrative centre of 6-8 administrative staff, who could provide coverage during leaves and holidays, specialize in different areas, cross-train, identify best practices, create more opportunities for promotion for staff looking for mobility, have common points of communications with the AFIWs, and (hopefully) enjoy better job satisfaction. Although this type of reform often entails moving the staff members away from the premises of the Department, and a certain amount of retraining, the gains are potentially numerous. It might increase retention of administrative staff, help foster and manage cooperation between units in matter of recruitment and events, and ensure a regular attention to everyday students’ demands. Such a new system of pooled administrative staff is not a panacea, and we are conscious that it needs to respect



the HR grade system specific to Waterloo. However, it is hard to imagine it could be worse than the current situation.

Program Response

History is proud of their staff and the fine work they do to support programs, students, and faculty. At the same time, they would wholeheartedly welcome a renewed system of stable administrative support that fulfills both the needs of the Department and program administratively, and the career goals and work-life balance of the administrative support staff themselves. At present, History must adhere to the Faculty of Arts support staff model as it currently exists given that the matter is beyond immediate departmental control. However, History has informed the Dean of Arts about this recommendation as it is under his purview to make such changes.

5. **Future Hires:** It would appear that aligning with successful programs and units could prove most prudent. One could envisage positions that are both geographically reinforcing of existing strengths in Western (Euro-North American) history while having a research focus (and upper year teaching interest) in the history of science and technology (or interest in Science and Technology Studies). Another possibility might be someone who could bridge the rising interest in Legal Studies with History (in the form of legal history, for example) or even another position in the history of global governance or humanitarianism (synergies with Political Science). A third example might be the emerging (and very popular) area of environmental history, which could (obviously) easily overlap with indigenous history as well. Another avenue would be to engage the AFIW in the reflection by leveraging the existing synergies created around common research endeavours such as those of Professor Lewellyn.

Program Response

The recommendation of the reviewers is well taken and appreciated. History's recent hire in Global History both reinforces its current offerings and opens up a number of other geographic regions, temporal areas, methodological approaches, etc. in exciting ways. Should the opportunity to hire a tenure-line or continuing colleague present itself again, History will take this recommendation seriously. The Department is also open to collaborative efforts with other units. Previous attempts to offer Science & Technology courses (for example, in conjunction with the interdisciplinary Centre for Society Technology and Values) have simply not drawn student interest, and that the programs across-campus, non-major, students are frequently STEM-refugees. History is uncertain about how a hire in Science and Technology would be "reinforcing of existing strengths." The program would like the opportunity to clarify, perhaps in a retreat, the research directions of the Department as a whole before pursuing such a future hire.



Implementation Plan

	Recommendations	Proposed Actions	Responsibility for Leading and Resourcing (if applicable) the Actions	Timeline for addressing Recommendations
1.	Undergraduate Programs	<p>Systematically review regular Honours BA</p> <p>“rally-around” the Co-op program</p>	<p>The Department Chair, and the new departmental undergraduate committee will continue to actively monitor the enrollments, diversity, breadth, and value of the program. Classroom enrollments and declared majors (honours, co-op, and general) and minors are the primary indicator by which we gauge the health of the program and student responsiveness to it.</p> <p>The Department Chair will continue to “rally-around” the co-op, as supported by all faculty and staff members, and will continue to pay due attention to the health of all program aspects. Summer term classes have been scheduled to facilitate the co-op stream.</p> <p>Foresee no need for additional resources beyond existing.</p>	Already implemented and on-going.
2.	Governance	<p>1. History’s practice of scheduling department meetings will embrace the suggestion to involve the scheduling office by applying a Level 2 constraint to all instructors for a 90 minute block – likely Friday after 2:30.</p> <p>2. History has drafted departmental by-laws that create three permanent committees (executive, graduate, and UG),</p>	<p>1. The Chair will continue to schedule meetings three times a semester, now using a Level 2 constraint, and continue to welcome AFIW participation.</p> <p>2. These committees are now in existence (pending departmental approval).</p> <p>Foresee no need for additional resources beyond existing.</p>	1. and 3. Have been in existence for a number of years; 2. applying Level 2 constraint will begin for W20



		and will continue their practice of creating ad-hoc committees. 3. AFIW members are and have always been invited to participate in all departmental meetings and committee work. This practice will continue.		
3.	Course Offerings	The Department will “continue to tailor” courses to “complement the strengths of the University.	The Department will continue its long-standing practice of developing curriculum that complements program strengths at UW. With the exception of the possibility of developing a suite of on-line courses (a new online course on the History of the Internet launched in W20), we foresee no need for additional resources beyond existing.	Ongoing and continuing. The department as a whole is responsible for this, and in regular department meetings, discusses its courses with an eye to complementing UW’s strengths across all six faculties. Doing so is part #1 above.
4.	Administrative Support	The Department is supportive but must adhere to the Faculty of Arts support staff model as it currently exists and the matter is beyond immediate departmental control.	The Chair has communicated this recommendation to the Dean of Arts.	We anticipate leadership for any reform of the staffing model will come from the Office of the Dean.
5.	Future Hires	The recent hire in Global History referenced reinforces History’s current offerings, and opens up a number of other areas in exciting ways. When there is again opportunity to hire a tenure-line colleague, History will take this recommendation seriously.	Departmental Hiring Committee and DACA. Resource needs are those associated with tenure-lines.	To be determined in consultation with the Dean of Arts. No consultation has yet begun.

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



Date of next program review

2024-2025

Date

Signatures of Approval

A handwritten signature in black ink, appearing to be "J. K. S.", written over a horizontal line.

July 23, 2020

Chair/Director

Date

Sheila Ager Digitally signed by Sheila Ager
Date: 2020.08.06 12:46:13
-04'00'

AFIW Administrative Dean/Head (*For AFIW programs only*)

Date

Faculty Dean

Date

Note: AFIW programs fall under the Faculty of ARTS; however, the Dean does not have fiscal control nor authority over staffing and administration of the program.

A handwritten signature in black ink, appearing to be "Dan De Vidi", written over a horizontal line.

July 29, 2019

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

Date

Associate Vice-President, Graduate Studies and Postdoctoral Affairs
(For graduate and augmented programs)

Date

Checklist for SUC/SGRC Reviewer Feedback Quality Assurance Office

Final Assessment Report: History, BA and Minor

Name of Reviewer: Matthew Gerrits

Date: 3/11/2020

Does the Final Assessment Report:

1. Include a credible implementation plan that not only addresses the substantive issues identified from the program review process, but also clearly identifies:
 - The actions that will follow from specific recommendations? ☒ Yes ☐ No
 - Those who will be responsible for acting on those recommendations? ☒ Yes ☐ No
 - Those who will be responsible for providing resources? ☒ Yes ☐ No
 - Priorities for implementation and realistic timelines for initiating and monitoring actions? ☒ Yes ☐ No
2. Provide rationales for any recommendations that have not been pursued? ☒ Yes ☐ No

General Comments

The review response gives good justification for not pursuing a Co-op only direction, but accommodates the recommended focus on co-op from the reviewers. The idea of an administrative merger was agreed to, and as such is dependent on a Faculty decision, which currently is out of scope of the review process. The opportunity for decanal response is an exciting opportunity for the FAR process to advance going forward, and represents a shortcoming in the current format.

Pushback on specific niche topics was empirically defended, providing context to why an apparently large teaching pool was unable to provide as much breadth as reviewers suggested.

Clear actionables have been assigned to specific persons, and I am satisfied with the feasibility of them going forward. Timelines in some cases are undefined, due to aforementioned lack of decanal input into QA responses.

Checklist for SUC/SGRC Reviewer Feedback Quality Assurance Office

Final Assessment Report: History (BA, Minor)

Name of Reviewer: Victoria Chu

Date: 2/28/2020

Does the Final Assessment Report:

1. Include a credible implementation plan that not only addresses the substantive issues identified from the program review process, but also clearly identifies:
 - The actions that will follow from specific recommendations? ☒ Yes ☐ No
 - Those who will be responsible for acting on those recommendations? ☒ Yes ☐ No
 - Those who will be responsible for providing resources? ☒ Yes ☐ No
 - Priorities for implementation and realistic timelines for initiating and monitoring actions? ☒ Yes ☐ No
2. Provide rationales for any recommendations that have not been pursued? ☒ Yes ☐ No

General Comments

The History Department was responsive to the questions asked and provided updates and added clarity. They were also responsive to the recommended editorial changes.



Final Assessment Report

Studies in Islam (Minor, Diploma) and Arabic Language (Certificates, Diploma)

October 2019

Executive Summary

External reviewers found that the Studies in Islam (SI) and Arabic Language programs delivered by Renison University College were in good standing.

"We think that Studies in Islam (SI) is a program in good standing. It has a clear perspective for its administrative home (SI will become part of the unit Culture and Language Studies) and academic development (SI will be renamed Studies in Islamic and Arab Cultures; the minor will also be revised in terms of required courses and elective courses)".

A total of 4 recommendations were provided by the reviewers, to review course offerings, and update the program name and administrative structure. In response, the program created a plan outlining the specific actions proposed to address each recommendation as well as a timeline for implementation. The next cyclical review for this program is scheduled for 2024-25.

Total Number of Students with a Degree Graduating with:

	SI Minor	SI Diploma	Arabic Language I (Certificate)	Arabic Language II (Certificate)	Arabic Diploma
2018	3	0	2	1	0
2017	3	0	1	0	0
2016	2	0	3	1	0
2015	0	0	1	2	0

Background

In accordance with the University of Waterloo's Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response of the Studies in Islam (Minor, Diploma) and Arabic Language (Certificates, Diploma) programs delivered by Renison University College. A self-study (Volume I, II, III) was submitted to the Associate Vice-President, Academic on February 26, 2019. The self-study (Volume I) October 2019



presented the program descriptions and learning outcomes, an analytical assessment of the programs, including the data collected from a student survey, along with the standard data package prepared by the Office of Institutional Analysis & Planning (IAP). The CVs for each faculty member with a key role in the delivery of the program(s) were included in Volume II of the self-study.

From Volume III, two arm's-length reviewers were selected by the Associate Vice-President, Academic: Dr. Peter Frick, Professor of Religious Studies, and Dr. Sonny Lee, Professor of Chemistry.

Reviewers appraised the self-study documentation and conducted a site visit to the University on April 1, 2019. The visit included interviews with the Associate Vice-President, Academic; Dean of the Faculty of Arts; President and Vice-Chancellor of Renison; Acting Dean of Renison; Program Director; faculty members; staff and current students. The review team also had an opportunity to meet with representatives from the Library.

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

Program Characteristics

The Studies in Islam (SI) program is radically inter-disciplinary, working from the fundamental assumption that the totality of what we might call Islamic civilization is rich, multifaceted, and diversely manifested throughout many periods of history and within a mosaic of cultures. Therefore, this program seeks to present multiple perspectives, and, in doing so, to build bridges of understanding and foster meaningful dialogue. SI is an interdisciplinary academic minor that introduces students to the diversity of Islam and Muslims through courses that explore contemporary issues, Arabic language, Islamic civilization and culture, Islamic art, various aspects of Islamic thought and theology, Islamic history, and much more. The SI Minor is designed to challenge students to see their own disciplines through the lens of Islamic civilization and to see Islam through their disciplines. It introduces students to a mosaic of Muslim cultures and civilizations. The goal of this program is to help students discover the history and contributions of Islam as a crucial part of our shared, global heritage. Students can thus engage Islam in the fine arts, language and literature, drama, history, politics, science, anthropology, social development, gender and sex, and a myriad of other disciplines.

Students enrolled in any degree program may pursue a Minor in Studies in Islam and one of two Certificates in Arabic Language. Students enrolled in any non- or post-degree academic plan may pursue the Diploma in Studies in Islam and the Diploma in Arabic Language.



Summary of Strengths, Challenges and Weaknesses based on Self-Study

Strengths

- Relevance to society: SI is a program relevant to societal needs, responding to the current global condition through intercultural education and building awareness.
- Adding value to other programs: SI courses add value to many other University of Waterloo programs as evidenced by cross listed courses with East Asian Studies, Fine Arts, Religious Studies and Medieval Studies.
- Excellence in teaching: Consistently high student evaluations of SI courses and instructors is a testament to the program's commitment to providing high quality teaching experiences for our students.
- Unique University/community partnerships: SI supports and enhances the student experience through a variety of experiential learning opportunities. Through a well-established university/community lecture and workshop series, language conversation circles, community volunteer opportunities, and various other in and out of class opportunities, students are exposed to a number of learning experiences.
- Internationalization: SI is well-positioned to build international student exchanges as well as offering courses in cooperation with universities internationally. Work on several proposals with institutions in Spain, Turkey, Indonesia, Oman and other places is ongoing.

Challenges

- Marketing and promotion: One of the key challenges has been lack of support in marketing and promotion of the program. While SI was a UW program housed at Renison, in the first few years of our existence, there was minimal administrative and marketing support available for us. The program has tried to promote the SI Minor and SI courses every term with Arts advisors and through other channels, but needs much more help in this area.
- Arabic language certificate qualification: The self-study revealed that students are not clear about how to claim their language certificates. Hence, several students who qualified to receive the certificates did not claim them when they declared their intention to graduate.
- Enrollment: As an Arts Minor, enrollment numbers are impacted by the co-operative program on main campus. Many students are interested in taking SI courses but in many cases their program timeline does not allow the accommodation of these courses.
- Development and fundraising: another challenge has been in the area of development and fund raising. As over 99% of our students come from main campus, there is a great deal of potential to raise funds among UW alumni for the SI program. Since the program is housed at Renison, the Development office only has access to Renison alumni, something that does not benefit the program directly.



Summary of key findings from the external reviewers

Reviewers' stated: *"We think that Studies in Islam (SI) is a program in good standing. It has a clear perspective for its administrative home (SI will become part of the unit Culture and Language Studies) and academic development (SI will be renamed Studies in Islamic and Arab Cultures; the minor will also be revised in terms of required courses and elective courses)".*

Program Response to External Reviewer Recommendations

Recommendations

- 1. Change of Program Name:** Since the submission of the Self-Study in 2017, the academic dean at Renison has convened a Studies in Islam Advisory Task Force that met two times, once in each of October and November 2018. The conclusion of the task force coincides with our own recommendation to change the name of the program. The Academic Council of Renison has approved a change in nomenclature from Studies in Islam to Studies in Islamic and Arab Cultures. We fully approve of this change as it describes the actual teaching areas of the program more accurately. This recommendation is already in the process of being implemented.

Response

In December 2018, the Studies in Islam (SI) Advisory Task Force proposed a new name for SI, "Studies in Islamic and Arab Cultures." The name was deemed most appropriate for the program—this would allow Religious Studies (RS) aspects to be kept within the program, while more fully opening up its interdisciplinary potential. This also allows the program to differentiate itself from RS and Political Science, among others. And, it allows the program to focus on areas of strength at Renison, namely language teaching and Religious Studies. The proposed name was approved by Renison's Academic Council on March 8, 2019 and UW's Faculty of Arts Undergraduate Affairs Group on April 4, 2019.

- 2. Administrative integration into an existing Renison Academic Unit:** A parallel process to the change in nomenclature is the integration of SI/ Studies in Islamic and Arab Cultures into the existing unit Culture and Languages. Integration will do much to improve the continuity, stability, and accountability of the program and place it on equal footing with other, more established programs at Renison.

Response

The SI Advisory Task Force agreed that smaller programs are most vulnerable when they're out on their own – in times of financial pressures, for example, they become low-hanging fruit for cuts, without a larger "home" program which can speak for them with a strong voice. Given SI's focus on culture and language teaching, the task force concluded that the most



appropriate home and natural fit for SI is within the Culture and Language Studies Department. The merger was approved at Renison's Academic Council on Feb. 8, 2019, and came into full effect on May 1, 2019.

3. **Hiring full-time Director and Faculty (commitment made):** Similar to recommendation 2, a tenure-track faculty hire will aid continuity and stability while also enhancing program scholarship and research. Ideally, a second full-time tenure-track position would strengthen the program even more.

Response

Now that Studies in Islam has moved into the Department of Culture and Language Studies at Renison, it receives significant management from the Chair of CLS and administrative assistance from CLS's two staff persons. This reduces the need for a full-time Director of Studies in Islam. Instead, the Department has instituted a Coordinator of Studies in Islamic and Arab Cultures. This position is assumed by a full-time faculty member in SI, with responsibilities for planning SI course offerings, holding special events, and collaborating on matters related to SI. This parallels the administrative structure of other units in CLS: for example, the Department has a Coordinator of Humanities and a Coordinator of Chinese Language and Culture.

The program strongly agrees that more full-time faculty are necessary. The SI Advisory Task Force agreed that it would make the most sense for a first tenure-track hire to be advertised in the area of Arabic language and culture, and for a second to be advertised in Islamic Studies. In this way, the focus is on two of Renison's strengths – language teaching and Religious Studies; SI also has responsibilities under the shared disciplines equity agreement in RS, and so a hire who can teach in this area makes even more sense.

After the task force completed its work, changes in tuition-based funding by the Province complicated plans for new hires. Nonetheless, on January 11, 2019, Renison's Academic Council approved the creation of a new tenure track assistant professor in Arabic language and culture. A full search committee was struck by Renison's Academic Council on May 13, 2019, and the position was advertised beginning in August. The search is taking place during the Fall 2019 term, for a projected faculty start date of July 1, 2020. It is hoped that a second tenure track hire (Islamic Studies) will be possible in the following year. Also, effective, September 1, 2019, a frequent sessional was converted into a fractional-load definite-term lecturer position, in order to provide increased stability to the program and better security to its instructors.

4. **Review of course offering** (required courses, new courses, possible deletion of/addition to current elective courses): A course offering review is essential to maintain the relevance of courses (especially those cross-listed from other departments) to program goals. This must



be done on the basis of broad consulting, including course instructors, if possible. The creation of a curriculum map would be ideal.

Response

An initial review of the Studies in Islam plan took place during Winter 2019, resulting in a number of changes approved by Renison's Academic Council on March 8, 2019 and the Faculty of Arts Undergraduate Affairs Group on April 4, 2019:

- New Arabic subject code: To reflect the differentiation between language courses and non-language courses (culture, history, religion, literature, etc.) a new subject code ARABIC has been created. All current SI language courses will change to the ARABIC subject code, retaining all other course details (number, description, etc). This will indicate more clearly and intuitively to students the availability of Arabic language courses, and will provide a more accurate reflection of course content on student transcripts.
- Studies in Islamic and Arab Cultures Minor: The requirements for the Minor were changed to SI 121R, SI 131R, two language courses from ARABIC, two additional SI courses, and two electives from a list of courses across the faculties, all of which include significant material about Islam and/or Arab culture. This reduced the number of Islamic Studies core courses that are required. The core course SI 121R Islam in the World remains. The rather similar SI 221R Islam, the West, and the World was removed, as was the capstone course SI 390R Understanding Islam. And the requirement to take one of SI 250R/MEDVL 250R The History of Islamic Civilization from Late Antiquity to 1300 or SI 251R/MEDVL 251R The History of Islamic Civilization from 1300-1800: The Islamic Gunpowder Empires was removed. They were replaced by SI 131R Arab Culture, which includes some consideration of Islam but is not focused on religion as such. Additionally, as with the East Asian Studies Minor, SI introduced a language requirement: any two of our Arabic language courses. These are the strongest courses within SI and the only one consistently taught by permanent faculty. The result of these changes is that students who wish to steer toward an interest in Islam will be able to do so; those who have stronger interests in Middle Eastern history, art, politics, or other areas will also be able to pursue such tracks to the Studies in Islamic and Arab Cultures minor. Finally, after consulting with other programs, the program removed some non-SI electives that do not deliver significant instruction on Islamic or Arab cultures (PSYCH 349R Cross-Cultural Psychology; SDS 240R Art and Society ; RS 125 What is religion?) .



Further curriculum review is ongoing: in Fall 2019 there are plans to trim courses that are not being taught, propose cross-listings with appropriate areas, and make further adjustments to the list of acceptable electives. New courses will also be created, as appropriate.



Implementation Plan

	Recommendations	Proposed Actions	Responsibility for Leading and Resourcing (if applicable) the Actions	Timeline for addressing Recommendations
1.	Change of program name	Rebranding as Studies in Islamic and Arab Cultures	Chair of CLS	Accomplished – effective September 2020
2.	Administrative integration into an existing Renison academic unit	Merger with Culture and Language Studies Department	Chair of CLS	Accomplished – effective May 1, 2019
3.	Hiring full-time Director and Faculty	There is no plan to hire a full-time Director for the program. Hiring of tenure track Assistant Professor in Arabic language and culture Hiring of tenure track Assistant Professor in Islamic Studies	Chair of CLS	Search underway for Arabic position (anticipated state date: July 1, 2020) Search for Islamic Studies position may begin in 2020
4.	Review of course offerings (required courses, new courses, possible deletion of/addition to current elective courses)	Initial review, overhaul of plan, and creation of Arabic language course code Further review to reduce unnecessary courses, cross-list certain courses, propose new courses as appropriate	Chair of CLS	First review, plan changes, and creation of ARABIC: accomplished Further review: Fall 2019

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



Date of next program review

2024-2025

Date

Signatures of Approval

Handwritten signature of Jeff Wilson in black ink.

July 22, 2020

Chair/Director

Date

Handwritten signature of Prof. Campbell in black ink.

July 24, 2020

AFIW Administrative Dean/Head (*For AFIW programs only*)

Date

Sheila Ager

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August 5, 2020

Faculty Dean

Date

Note: AFIW programs fall under the Faculty of ARTS; however, the Dean does not have fiscal control nor authority over staffing and administration of the program.

Handwritten signature of Dan DeVidi in black ink.

August 6, 2019

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

Date

Associate Vice-President, Graduate Studies and Postdoctoral Affairs
(For graduate and augmented programs)

Date

Checklist for SUC/SGRC Reviewer Feedback Quality Assurance Office

Final Assessment Report: Studies in Islam (Minor, Diploma) and Arabic Language (Certificates, Diploma)

Name of Reviewer: Vivian Dayeh

Date: 5/11/2020

Does the Final Assessment Report:

1. Include a credible implementation plan that not only addresses the substantive issues identified from the program review process, but also clearly identifies:
 - The actions that will follow from specific recommendations? ☒ Yes ☐ No
 - Those who will be responsible for acting on those recommendations? ☒ Yes ☐ No
 - Those who will be responsible for providing resources? ☒ Yes ☐ No
 - Priorities for implementation and realistic timelines for initiating and monitoring actions? ☒ Yes ☐ No
2. Provide rationales for any recommendations that have not been pursued? ☒ Yes ☐ No

General Comments

The Studies in Islam and Arabic Language FAR provided a well-written and clear summary of both programs at Renison University College. The FAR highlights the actions completed or are in process from the recommendations in the review (i.e. it has a credible implementation plan).

Checklist for SUC/SGRC Reviewer Feedback Quality Assurance Office

Final Assessment Report: Studies in Islam

Name of Reviewer: Richard Wikkerink

Date: 3/18/2020

Does the Final Assessment Report:

1. Include a credible implementation plan that not only addresses the substantive issues identified from the program review process, but also clearly identifies:
 - The actions that will follow from specific recommendations? ☒ Yes ☐ No
 - Those who will be responsible for acting on those recommendations? ☒ Yes ☐ No
 - Those who will be responsible for providing resources? ☒ Yes ☐ No
 - Priorities for implementation and realistic timelines for initiating and monitoring actions? ☒ Yes ☐ No
2. Provide rationales for any recommendations that have not been pursued? ☒ Yes ☐ No

General Comments

The following are not recommendations in the report, but given that enrolment is mentioned, consideration may be given to the following:

- Wondering about measuring only those students who complete the minor as a way of assessing the impact of the program. Course-level enrolments may be valuable measure of impact
- Enrolment impact of co-op. Will the new Honours Arts co-op program enhance enrolments or has consideration been given to aligning course offerings with some program sequences?



Final Assessment Report

Science and Business (BSc), Biotechnology-Economics (BSc), Biotechnology-CPA (BSc)

June 2020

Executive Summary

External reviewers found that the Science and Business (BSc), Biotechnology-Economics (BSc) and Biotechnology-CPA (BSc) programs delivered by the Faculty of Science were in good standing.

"We found all three programs in good standing with good student performance."

A total of 5 recommendations were provided by the reviewers. In response, the program created a plan outlining the specific actions proposed to address each recommendation as well as a timeline for implementation. The next cyclical review for this program is scheduled for 2024-2025.

Background

In accordance with the University of Waterloo's Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response of the Honours Regular and Honours Co-operative Science and Business (BSc), Honours Co-operative Biotechnology-Economics (BSc) and Honours Co-operative Biotechnology-CPA (BSc) programs delivered by the Faculty of Science.

Initiated between 1998 and 2000, these programs are housed in the Faculty of Science and are run from the Dean of Science Office. Students are taught predominantly by domain experts in the four Science departments and in the Faculty of Arts (dominantly School of Accounting and Finance and Department of Economics) as well as several Science instructors who have had extended applied careers in a variety of science and business areas. During the review period (2010-2017), the average fall enrollment (all years) was approximately 400, with over 60 degrees awarded annually (see below). Enrolment increased in SC-BUS, decreased in BT-ECON and remained stable in BT-CPA.

Enrolment and Degrees Awarded During the Review Period (2010-2017)

	SC-BUS (Reg + Co-op)	BT-ECON (Co-op)	BT-CPA (Co-op)
Average Total Fall Enrolment (all Years)	300	44	51
Average Annual Degrees Earned	45	8	10



A self-study (Volume I, II, III) was submitted to the Associate Vice-President, Academic on November 16, 2018. The self-study (Volume I) presented the program descriptions and learning outcomes, an analytical assessment of the programs, including the data collected from a student survey, along with the standard data package prepared by the Office of Institutional Analysis & Planning (IAP). The CVs for each faculty member with a key role in the delivery of the program(s) were included in Volume II of the self-study.

From Volume III, two arm's-length external reviewers were selected by the Associate Vice-President, Academic: Dr. Kin Lo, Professor, Sauder School of Business, University of British Columbia, and Dr. Darren Meister, Associate Professor, Ivey Business School, Western University.

Reviewers appraised the self-study documentation and conducted a site visit to the University on March 19 and 20, 2019. An internal reviewer from the University of Waterloo, Dr. Paul Marriott, Professor in the Department of Statistics and Actuarial Science, was selected to accompany the external reviewers. The visit included interviews with the Associate Vice-President, Academic; Dean of the Faculty of Science; Science Associate Dean, Undergraduate; Director of the Science and Business programs; and meetings with faculty members and instructors, staff and current students. The Review Team also had an opportunity to tour the facilities and meet with representatives from the Library, and Co-operative Education.

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

Program Characteristics

Science and Business (SC-BUS): The SC-BUS program (regular and co-op) allows students to develop a foundation both in science and its implementation within business and government. By providing knowledge in science, business, and information technology and skills in critical thinking, decision-making, oral presentations, conflict management and teamwork, the program aims to prepare students for management careers in the technology-intensive global marketplace. Key features of the program include: 10.0 units of science (with conditions on level), 6.0-7.0 units of business, 1.0 unit of mathematics, 0.5 unit of computer science, and 3.0 units of SCBUS workshops.

SC-BUS is also offered with seven specializations: Biology, Biochemistry, Biotechnology, Chemistry, Earth Sciences, Environmental Sciences, and Physics.

Biotechnology/Economics (BT-ECON): The BT-ECON program allows students to acquire knowledge of scientific principles and key economic concepts to help transform research ideas into new processes and products. The program prepares students for careers as economic forecasters, business or government economists, scientific research managers or regulatory



analysts. Key features of the program include: 11.75 units of science, 7.0 units of economics and 2.0 units of SCBUS workshops.

Biotechnology/Chartered Professional Accountancy (BT-CPA): The BT-CPA program enables students to provide accounting and advisory services in the rapidly growing biotechnology business sector of the economy. The program prepares students to become professional accountants who work in the public, industry or government sectors, with an understanding of the specialized needs of biotechnology. Features of the program include: 8.75 units of science, 10.5 units of accountancy, 3.0 units that include statistics, mathematics, computer science, and speech communication and 0.5 unit of SCBUS workshop.

Summary of Strengths, Challenges and Weaknesses based on Self-Study

Strengths

SC-BUS, BT-ECON and BT-CPA share a number of strengths in that they:

- Are purposefully designed to support students attaining knowledge, skills and judgment in two importantly intersecting fields: science and business.
- Allow opportunities for students to develop professional skills and pursue viable career options, with high employability according to survey data of graduating students.
- Create a close-knit, active and inclusive community that includes professional and personal mentoring and a potentially strong professional network after graduation.
- Provide above-average salaried work term employment opportunities that are valued as judged by both students and employers.
- Provide women with a destination for quality science training (a traditionally underrepresented gender in some Science programs).

SC-BUS:

- Develops teamwork, critical thinking, leadership and presentation skills through scaffolded SCBUS workshop courses.
- Enjoys steady and growing enrolment with above average retention rates.
- Allows flexible and multidisciplinary focus within science field.

BT-ECON:

- Attracts academically strong students.
- Develops teamwork, critical thinking, leadership and presentation skills through scaffolded SCBUS workshop courses.

BT-CPA:

- Attracts academically strong students.
- Experiences high program retention rate.
- Provides an efficient pathway (along with 8-month MAcc degree) to sit Common Final Examination (CFE) for the chartered professional accountant designation.



Challenges

At the end of the review period (2010-2017), the following statements were valid.

The challenges common to all three programs are:

- There has been no program-specific curriculum committee, and so curricular review and renewal has been largely limited to that required for program self-studies.
- There is limited integration of science and business concepts and applications outside the SCBUS workshop courses and limited integration with Velocity Science and other UWaterloo innovation and entrepreneurship programs.
- Sessional instructors are needed to meet SC-BUS teaching needs.

SC-BUS:

- Co-op visa student enrolment has been declining for reasons that are unclear as of yet.
- The SCBUS program prepares students for careers both in the science or the business sector. Each sector uses a different mix of the graduate's science and business skills. Students typically align themselves into one sector or another as a result of their co-op experiences. Based on the Science Advancement Intentions Survey done just before graduation, post-graduation positions are predominantly focussed in the business sector (with consultants or financial institutions) as opposed to product or technology development with science/technology firms.

BT-ECON and BT-CPA:

- The course requirements are highly prescribed with little to no flexibility (e.g., ≤ 1 free elective).
- The linkages between academic theory and practical application are not deep.
- These are niche programs with likely limited growth potential.

Weaknesses

SC-BUS:

- The SC-BUS program exists as 16 academic plans (i.e., a regular and co-op stream of SC-BUS, plus 7 SC-BUS specializations), yet the 8 physical science specializations (Chemistry, Earth Sciences, Environmental Sciences, Physics) account for only 10% of graduates. Academic plans with low enrolment lead to unwarranted recruitment, administrative, advising and support costs.
- The retention rate for SC-BUS regular is low; most students leave SC-BUS (voluntarily or involuntarily) or modify their plan to SC-BUS co-op.

BT-ECON:

- Retention is relatively low and decreasing further. While there is no obvious decline in the number of students starting BT-ECON during the review period, an increasing number



are transferring to another program, typically SC-BUS co-op or Honours Biology co-op. The viability of this program long-term must be critically appraised.

- Co-op work placements in Science-specific positions have been limited to-date for this cohort.

Summary of Key Findings from the External Reviewers

The external reviewers found all three programs in good standing with good student performance. They observed that the BT-ECON program has a strong incoming class, but a low number of students graduating as they switch in to other programs. The reviewers did not find strong reasons to continue the BT-ECON program; alternatively, the Faculty could look at easing progression requirements and increasing flexibility in the program to improve retention.

Program Response to External Reviewers' Recommendations

Recommendations

As per the Implementation Plan that follows, the Director of Science and Business is responsible for leading the initiatives described below.

1. Develop a strategic vision for the programs.

Response

The reviewers recommended a strategic vision be developed as they found differing perspectives of the programs (e.g., science-based programs with a business perspective versus business programs drawn from science students).

To-date, these dual identities have served the programs well. While the finalization of the Faculty of Science strategic plan is pending, there is clear direction from the Dean and the Associate Dean of Science, Undergraduate Studies to the three-member, instructional Science & Business team (two faculty members, one of whom is the Director, and a third who is a staff member) about the role of the Science and Business programs in the Faculty.

In 2016 (the latter portion of the program review period), the SCBUS team created a mission, a vision, values, positioning and a key skill list for the programs; this work was shared with and supported by the Associate Dean of Science, Undergraduate Studies. Led by the Science & Business Director, this document will be reviewed and adjusted accordingly by the team after considering the current University strategic plan and the updated Faculty strategic plan. Thus, this review process will provide additional guidance on scope of the programs, guidelines for growth and program continuity, curriculum needs and faculty hiring requirements.



The reviewers also recommended growth options and priorities be examined for the programs. This will be done during the strategic review described above. In addition to the strategic overview described above, many other factors impact the growth of these programs. For example, senior faculty (Dean, Associate Dean Undergraduate, Director Science and Business) must assess and balance:

- Faculty of Science enrollment targets with respect to the overall incoming pool of students.
- Program growth and strategic priorities across the Faculty of Science.
- Domestic and international student considerations and related ratios.
- Ratio of direct entry SC-BUS students in first year versus transfer-ins during upper years.
- Core program characteristics (e.g. group work is a key part of the SC-BUS courses. Since ideal group size is known to be 6-8, when SC-BUS groups exceed 10-12, the goals of the program are compromised).
- The loss of incoming students from the Chinese University of Geosciences Beijing (CUGB) 2 +2 program.
- Student enrollment and retention factors related to the BT-ECON program with respect to direct entry and low retention.

2. Rationalize the program options.

Response

During the review period, there were 16 SC-BUS academic plans (including seven specializations, offered in co-op and regular streams of study), plus BT-ECON and BT-CPA.

SC-BUS: Eight SC-BUS specialization academic plans were inactivated for Fall 2019 or Fall 2020 because of consistently low enrollments (Chemistry, Earth Sciences, Environmental Sciences, and Physics, in co-op and regular streams of study).

As part of the ongoing strategic vision process mentioned above, the remaining SC-BUS specializations will be reviewed. Potential outcomes to be explored will include maintaining the continuing specializations focused in areas of life sciences, where enrolment has been consistently focused or, alternatively, re-configuring the specializations into two broader-based specializations (Life Sciences and Physical Sciences), offered in both streams of study. The current intention is to maintain the existing set of eight SC-BUS academic plans.

BT-ECON: The declining enrolment and low program retention rate documented during the program review necessitated considerations that included either changes to admission criteria and curriculum or inactivation of the program. The reviewers suggested a possible reconfiguration of the program into a SC-BUS, Economics specialization. This option was considered but would have resulted in insufficient science content for a BSc degree. As a



result, because of the declining enrolment and sustained low retention, BT ECON was inactivated for Fall 2021.

BT-CPA: While the program is small, it is a successful, unique program with a high retention rate. Little change is anticipated. Since the review period, applications from visa students have been allowed; this is expected to increase enrolment. Attention to the program will focus on curriculum review regarding flexibility and concept integration (see Recommendation 5). As of January 2020, the review has been completed and program structure maintained.

3. Improve branding internally and externally.

Response

Since 2017 and ongoing to present, the external recruitment profile and material is and has been reviewed and updated to align with Science and Marketing and Undergraduate Recruitment (MUR) objectives and guidelines (e.g., presence in Faculty of Science brochure, program brochures, Science & Business and MUR websites, Fall Open House presentations, website upgrades, OUF presence). The plan is to maintain this strong external branding. The internal branding will be coherent with the external branding.

Some of the program instructors are cross-appointed into relevant Science departments and participate in departmental activities. The perceived limited awareness or understanding of these programs by the Science departments will be addressed by presentations at their departmental faculty meetings and inclusion of departmental representatives on the curriculum committee (see Recommendation 5); these presentations are occurring in 2020.

4. Continue to Build Faculty Complement.

Response

Subsequent to the strategic vision review and the program rationalization, the faculty complement will be considered further; however, the complement may not need to be increased. Since 2015, two dedicated lecturers with different backgrounds were hired by the Dean of Science (one began after the review period ended). These additional faculty members have allowed academic and service duties to be more equitably distributed and single points of failure in teaching and service duties to be mitigated. It has also allowed the resourcing and activation of SCBUS 424, the capstone course. The new faculty members are cross-appointed to relevant Science departments, helping them to bring new knowledge to the classroom. The suggestion of adding a faculty member with scholarship commitments will be reviewed with the Dean of Science, after the strategic vision review. Any increase in faculty complement would be funded by the Dean of Science Office; currently there is no plan to increase the complement.



During the review period, a sessional instructor was hired to address the commitment made to the China University of Geosciences, Beijing (CUGB) to offer the SC-BUS Earth Sciences specialization (regular) plan as part of a 2+2 agreement. As of Fall 2019, this hire was no longer needed because the SC-BUS Earth Sciences specialization was inactivated due to low enrolment.

5. Create a Curriculum Review Committee.

Response

This is being created in Spring 2020 by the Director of Science and Business in consultation with the Associate Dean, Science, Undergraduate Studies. The function of this committee, in general, will be to review, update, guide and maintain the programs on an appropriate timeline as needed. They will develop a frame of reference, then review, use and build on the corpus of materials available now (curriculum maps, program objectives, yearly program outline diagrams, revised calendar descriptions of the SCBUS workshops, newly defined Areas of Emphasis, recommended electives and academic requirements defined by Chartered Professional Accountants of Ontario, where relevant).



Implementation Plan

	Recommendations	Proposed Actions	Responsibility for Leading and Resourcing (if applicable) the Actions	Timeline for addressing Recommendations
1.	Develop a strategic vision for the programs.	Continue to implement existing program strategic direction.	Director, Science and Business	On going
		Review SCBUS strategic vision subsequent to current University and pending Faculty Strategic Plans. Director to discuss with stakeholders including Dean of Science, Associate Dean of Science, Undergraduate Studies, Departmental Chairs, SCBUS team etc. Align if needed.	Director, Science and Business	The latest University Strategic Plan was released in Fall 2019. The creation of the Science Strategic Plan is in progress. Review implications of these Strategic Plans for SCBUS, BT-ECON and BT CPA (expected by end of 2020).
		Set growth priority and targets for the programs within the frame of Faculty of Science. Director to discuss with Dean of Science, Associate Dean Undergrad, Marketing and Undergraduate Recruitment (MUR), Registrar's Office, Institutional Analysis and Planning (IAP), SCBUS faculty and staff etc.	Director, Science and Business	Completed, Fall 2019



2.	Rationalize the program options	Determine optimal number and type of SC-BUS specializations. Director to discuss with relevant stakeholders such as Dean of Science, Associate Dean Undergrad, Departmental Chairmen, SCBUS faculty and staff etc.	Director, Science and Business	Complete. Eight specializations were deactivated due to low enrolments: Chemistry regular & coop, Physics regular & co-op, Environmental Services regular & co-op, Earth Sciences regular & co-op (7 inactivated for Fall 2019; Earth Sciences regular inactivated for Fall 2020).
		Review BT-ECON program with a view to either reformulating or inactivating. Director to discuss with above stakeholders	Director, Science and Business	Complete. Program deactivated for Fall 2021 (declining enrolment and low retention).
		Review structure of BT-CPA. Either reformulate as Science-CPA or leave as status quo. Director to discuss with above stakeholders	Director, Science and Business	Review completed and program structure maintained.
3.	Improve branding internally and externally	Continue to collaborate with MUR and Science Recruitment on recruitment activities (events, materials, websites).	Director, Science and Business	Ongoing
		Improve hallway signage near SCBUS instructor hub area.	Director, Science and Business	Started. Conclude in Fall 2020
		Create and give 10 minute presentation to relevant SCI and ARTS Departments and other stakeholder groups	Director, Science and Business	Started. Complete in Fall 2020
		Maintain SCBUS website and contribute to MUR SCBUS website	Director, Science And Business	Ongoing



		Nominate SCBUS alum for relevant awards	Director, Science and Business	Ongoing as per Advancement deadlines
4.	Continue to Build Faculty Complement	Programs are currently suitably staffed. Should this change, see Recommendation #1.	Director, Science and Business	As necessary. Specific intervention not foreseen in near term.
5.	Create a Curriculum Review Committee (CRC)	Create CRC chaired by Director, run by Academic Advisor and having membership from Science and Arts Departments and a program student.	Director, Science and Business	In-progress (Spring 2020).
		Set Terms of Reference and review and prioritize items from Reviewers' Report	Director, Science and Business	Not applicable until CRC struck.
		Ongoing commitment to scholarly review	Director, Science and Business	In the meantime, curriculum discussion and responsive changes continue. For instance, changes to the BT-CPA plan have been approved by SUC for Fall 2021.



Date of next program review

2024-2025

Date

Signatures of Approval


Chair/Director

Jan 17 2020
Date

AFIW Administrative Dean/Head (*For AFIW programs only*)

Date

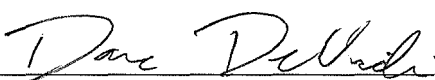


17.1.20

Faculty Dean

Date

Note: AFIW programs fall under the Faculty of ARTS; however, the Dean does not have fiscal control nor authority over staffing and administration of the program.



January 2020

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

Date

Associate Vice-President, Graduate Studies and Postdoctoral Affairs
(For graduate and augmented programs)

Date

Checklist for SUC/SGRC Reviewer Feedback Quality Assurance Office

**Final Assessment Report: Science and Business (BSc), Biotechnology-Economics (BSc),
Biotechnology-CPA (BSc)**

Name of Reviewer: Benoit Charbonneau

Date: 7/16/2020

Does the Final Assessment Report:

1. Include a credible implementation plan that not only addresses the substantive issues identified from the program review process, but also clearly identifies:

▪ The actions that will follow from specific recommendations?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
▪ Those who will be responsible for acting on those recommendations?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
▪ Those who will be responsible for providing resources?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
▪ Priorities for implementation and realistic timelines for initiating and monitoring actions?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
2. Provide rationales for any recommendations that have not been pursued? ☒ Yes ☐ No

General Comments

This FAR clearly addresses the external reviewers' recommendations. For some recommendations, work has already been done and completed.

Requested Revisions

A large number of revisions were asked, but they seem to come mainly from two issues:

- The original version did not make it clear to someone outside the Faculty of Science how the program was structured, where it was housed etc. Some of that became clearer when one got to the Implementation Plan table at the end of the document, but it was very difficult to understand the main text without that context.
- The original version was not clear on timing. For instance, it mentioned existing material and that seemed to contradict implicitly recommendations that took place in the program review. Upon revision of the FAR, it became clear the material has been created in reaction to the recommendations. It would be prudent to remind writer of how long these whole review processes last, since reading the document can take place a long time after it is written.

The revised version addresses these concerns and some other minor concerns.

Checklist for SUC/SGRC Reviewer Feedback Quality Assurance Office

Final Assessment Report:

Name of Reviewer:

Date:

Does the Final Assessment Report:

1. Include a credible implementation plan that not only addresses the substantive issues identified from the program review process, but also clearly identifies:
 - The actions that will follow from specific recommendations? ☐ Yes ☐ No
 - Those who will be responsible for acting on those recommendations? ☐ Yes ☐ No
 - Those who will be responsible for providing resources? ☐ Yes ☐ No
 - Priorities for implementation and realistic timelines for initiating and monitoring actions? ☐ Yes ☐ No
2. Provide rationales for any recommendations that have not been pursued? ☐ Yes ☐ No

General Comments

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Two Year Progress Report

Fine Arts (BA, MFA)

October 2018; updated January 2020

Background

The last review of Fine Arts undergraduate and graduate programs was completed on December 31, 2014 when we received the report from external reviewers Alex Poruchnyk (University of Manitoba) and Brian Merritt (Western University). Their initial site visit took place on November 20th & 21st, 2014.

Progress on Implementation Plan

Recommendations

1. Recommendation: The Department [should] continue to find ways to promote its distinct strengths and uniqueness on campus, as well as within the region and larger cultural community.

Status: completed, instituted and ongoing

Details: Fine Arts instituted a faculty administrative position in public relations in 2015, which was meant to strengthen its communication efforts through the Fine Arts website, Facebook, Instagram, Akimbo, etc. This administrative position was also tasked with creating a 'splash-page' that would run parallel and is linked to the official UW site. The intent was to appeal to the art-focused audience that is the Department's primary audience.

UWAG was able to employ a part-time Audience Coordinator (through the UW Work Study program) for two years which helped increase UWAG's profile (and, by extension, the Department's) regionally and nationally. Both positions were not ongoing as the focus of personnel priorities shifted and additional resources are not unavailable. The department is considering adding social media (public relations), in consultation with the Dean of Arts, as a responsibility of the Administrative Coordinator, Undergraduate Studies, as a central repository for accounts, passwords and content.

The University of Waterloo Art Gallery (UWAG) continues leading edge programming of regional, national and international significance. [S.A.I.L.](#) (Student Art Innovation Lab: our Airstream trailer community outreach project) launched in the summer of 2017 and runs annually from June through August. This program is run by alumni and current students and has been very successful; in 2019, the team facilitated 33 events to 3905 participants.



Feedback collected from participants has been generally positive. Students who have worked with S.A.I.L have found the experience invaluable and it has led to employment opportunities for a number of students.

The MFA program has been advertised in three nationally significant art journals: *Canadian Art*, *Border Crossings* and *Images Festival* (Toronto), as well as on the key arts and culture online newsboard Akimbo and Akimbits. Our MFA students also participated in the province-wide exhibition of Graduate level art *First Art Fair* (Hamilton). Each summer, our Undergrad and Grad students are offered an opportunity to apply for a juried exhibition at Art Mûr Gallery (Montréal), and 3 undergrads are chosen by the faculty to apply to the *BMO Art First!* juried exhibition. In 2017, 3 students were nominated but not selected for final exhibition.

2. Recommendation: The University, Department and University of Waterloo Art Gallery work together to determine the most effective means possible to place appropriate public signage identifying the location of the Gallery to the campus and larger community.

Status: incomplete

Details: Ivan Jurakic, Director/Curator of UWAG has reached out to Plant Operations, particularly the University Architect to request permission to install appropriate public signage but has thus far been met with resistance. Since the responses to this report began, UW has recently completed the signage but it does not include the Department or the gallery in ECH. Those with decision making authority in Plant Operations have indicated that what currently exists in terms of signage (East Campus Hall and the street address) is all that will be provided.

3. Recommendation: The reviewers strongly recommend the University work with the Department to find the means to increase technical support for the Fine Art program. We would consider the addition of at least one .5 technical position critical to current program delivery. We also recommend the Department explore the feasibility of hiring appropriately skilled and trained graduate students or senior undergraduate students to aid with wood and metal shop supervisions.

Status: incomplete

Details: As of December 2019, funding for such a position is not yet available. The Administrative Manager has started communication for both a 0.5 staff member for UWAG as well as an additional 0.5 technician position but has been told, by decision makers in the Dean of Arts Office that only staff positions that will generate revenue (Development, Marketing, etc.) will be approved at this time.

The Department has considered hiring appropriately skilled and trained graduate students or senior undergraduate students. The complexity of supervision needed with respect to



policies, procedures, and guidelines from the Safety Office (i.e., after hours supervision) and the budget restrictions for Policy 30, Point 5 (for graduate students) has hampered the efforts to consider this part of the recommendation. For example, if a graduate student is employed either separately or as a TA, the hourly wage (for Arts) will be \$34 per hour; for the same work from an undergraduate, our current budget allows \$15 per hour. This is a violation of Policy 65 – Equality in Employment.

4. Recommendation: The University consider the means of increasing Fine Art studio space to meet the demands of recent enrolment and teaching area expansions. During the Appraisal Committee visit there was mention of possible future annexation of spaces in ECH currently occupied by other programs. In the reviewers' view, this would be an ideal solution. In the interim, we feel the Department consider limiting undergraduate enrolment growth until more campus space comes available.

Status: complete and instituted

Details: Fine Arts took possession of the available Finance & Procurement office spaces in ECH in the summer of 2016, cleared them, and converted the entire space to faculty offices, and a Grad computer lab. We prioritized the space and dedicated most of it to the senior (4th year) studio/lab. The senior (4th year) studio/lab in the former ECH Finance and Procurement space is complete, with all renovations conforming to contemporary building codes. The acquisition of this space has allowed Fine Arts to move the Graduate studios up to the previous 4th year studios (ECH 2105).

The ECH 2105 MFA studios are complete, with all renovations conforming to contemporary building code. The former MFA space (ECH 1237) is renovated and complete, and is used as a multi-purpose "clean" fabrication and performance space and is used regularly by several different disciplines, with an emphasis on electronic applications and installations, and performance. Blinds to cover the large picture windows facing Philip Street have been installed for diversified utility and student safety. As a result of these changes we were able to increase our graduate cohort from 8 in 2016 to 10 in 2018.

5. Recommendation: The Department consider revising the Experiential Learning course requirements to allow intern students the possibility of repeat assignments with employers and sufficient time to follow through on initiated projects.

Status: Complete.

Details: The Department faculty agrees that pedagogically appropriate FINE 243-343 courses can appear 4 times on a student transcript (as opposed to the current 2).

6. Recommendation: The Faculty of Arts and Fine Arts Department work together to find a way to offset the current workload of the Department Administrative Assistant, particularly during peak program enrolment periods.



Status: complete and instituted

Details: In November 2015 Fine Arts hired a new part-time contract position Undergraduate Coordinator to assist the Associate Chair Undergraduate Studies, which freed up the Administrative Assistant/Graduate Coordinator to properly assist the Associate Chair Graduate Studies and the Department Chair. The part time position was converted to a fulltime contract in March 2016 and in April 2017 it became an FTE.

7. **Recommendation:** The Department consider extending the weekly visits of a main campus librarian to Visual Resource Centre to advise students in their broader research needs to promote the acquisition of information skills through in-class bibliographic instruction at both the undergraduate and graduate level.

Status: completed, instituted but discontinued

Details: It was Department consensus that students were not making effective use of the service and therefore it was discontinued.

8. **Recommendation:** The Visual Resource Centre work with the University to enable Fine Art students to gain access to its holdings from remote locations.

Status: partially complete and under consideration

Details: The Visual Resources image database is made available via a link on its web page, and an account is sent at the beginning of every term to each faculty member teaching in Fine Arts (including those of cross-listed courses). The Visual Resources Curator has doubts about the wisdom of publishing the DVD holdings online but intends to have the book holdings online in the near future.

9. **Recommendation:** The University review its art collection holdings and consider hiring a third party consultant to undertake a systematic inventory and assessment, including appraisals and condition reports, in order to determine policies appropriate to the handling, storage, display, and insuring (or potential deaccessioning) of its contents.

Status: incomplete

Details: As of December 2019, there are no funds for such an appointment. Based on donation and purchase values recorded in the collections database, the insurable value of the collection is currently listed as \$814,500. That being said, without a thorough appraisal we have no way of knowing whether the value of the artworks has increased or decreased over time. Since 2011, aside from artworks still on display in offices and public spaces across campus, the bulk of approximately 720 artworks has been amalgamated in East Campus Hall 1238, adjacent to the Gallery. In 2015, we secured funds from the Faculty of Arts to new vertical and loft storage capacity, and updated the collection database during that same period. Since then, we have maintained the bulk of the collection in storage.



The Department would, if funds were to become available, allocate monies in these ways:

- a) Hiring a third-party consultant on a limited-term appointment to undertake condition reports, ascertain the value of the permanent collection, and update or replace the existing Excel database with a more user-friendly collections software.
- b) Hire a second full- or part-time Gallery staffing position or establish a co-staffing arrangement with Fine Arts for a shared technical staffing position with viable experience in handling, conserving, and collections management.

10. Recommendation: The Department consider the feasibility of providing Fine Arts student interns the opportunity of working with the University permanent collection to develop appropriate interpretative signage for each piece from the permanent collection currently installed around campus.

Status: complete and ongoing

11. Recommendation: The Department work with the University to resolve issues associated with the implementation of the new UW Enrolment system in the Fine Art program. The current system has placed inordinate pressures on the faculty and staff, frequently requiring manual enrolment of its students.

Status: incomplete; ongoing

Details: As of December 2019, the Fine Arts Undergraduate Coordinator does not have access to the system to enroll students in courses with a cap. Courses with caps and reserves will continue to be required for enrollment because of the complexity of FINE studio courses. The Department has formally requested that the staff member be given access via the Arts Undergraduate Office (AUO), but this request has been denied. The rationale is that there are staff in the AUO who can do this task for FINE. This creates additional work for both offices and slows down the process; however, the final decision rests with the AUO.

12. Recommendation: The Department limit further enrolment growth until such time that faculty workloads can be relieved through a reduction of required teaching loads or the creation of a further faculty position.

Status: complete and instituted

Details: In 2015-16 Fine Arts revised the undergraduate curriculum, which allowed a reduction to a 2 + 2 course load for all faculty in 2016.

13. Recommendation: The Committee recommends that the University examine its promotion criteria in view of encouraging progress through the ranks and better reviews in supporting of faculty promotions, particularly promotion to the rank of full professor.



Status: Ongoing

Details: Joan Coutu was promoted to the rank of Professor in 2017. Other faculty are currently being encouraged to present themselves for promotion to the rank of Professor.

14. **Recommendation:** The committee strongly supports the Visual Culture Program Plan as it moves towards consolidation as an interdisciplinary degree with a home base in the Fine Art Program. We recommend it going forward with developed and formally instituted protocols to guarantee the commitment of faculty, space, and resources necessary to sustain its viability over the long term. We further recommend the institution of a governing body constituted by core faculty to coordinate and guide its optimal and ongoing delivery as an integrated program.

Status: ongoing and under consideration

Details: As a new program, Visual Culture is still in an early state of evolution. A governing body initially instituted the Visual Culture plan, and a governing body is currently being convened for its ongoing delivery.

15. **Recommendation:** The appraisers recommend the Department examine the feasibility of implementing a Studio and Visual Culture Major Degree stream to respond to increased student demand for an academic plan representative of a balance of courses drawn from the Studio and Visual Culture programs.

Status: ongoing and under consideration

Details: As a new program, Visual Culture is still in an early state of evolution. Currently a student cannot officially get a joint degree in Studio and Visual Culture because both programs are housed in the same department, although numerous students have completed the appropriate courses to get such a degree (the students' diplomas and transcripts will say a major in either Studio or Visual Culture, but not both). We will continue to discuss this issue with the Arts Undergraduate Office and will consider ways to more specifically acknowledge the work done in the area of Visual Culture.

After extensive work, Fine Arts has revised and re-developed the existing Honours Studio stream to be live in the 2021 undergraduate calendar. At this time, there was no further discussion to move forward with a Studio and Visual Culture Joint Degree stream.

16. **Recommendation:** In revisiting their current studio course offerings, we recommend a Department Curriculum Committee review of the content of current course offerings with eye to further minimizing students' experience of blind spots and redundancies of course content encountered by students in their progression through the program.

Status: complete and instituted



Details: A Departmental Curriculum Committee was formed, and the undergraduate curriculum was revised and updated, eliminating redundancies and was instituted in Fall 2016.

17. Recommendation: The Department continue its enhancement of professional practice workshops for the MFA students in order to assure their access to a broader set of professional skill sets.

Status: complete and instituted

Details: Over the past 2 years Fine Arts has provided increased professional practice experience for MFA students above and beyond the Keith & Win Shantz Research Scholarship by scheduling international field trips, professional workshops with visiting artists (typically in the winter term), and regularly as subjects in the Graduate Seminar.

*Note: in 2016 the MFA program was expanded from 8 to 10 students.

18. Recommendation: The Department restore offering the course Topics in Museums, Galleries and Curatorship (FINE 330) and consider making the course a requirement of the Professional Practice Specialization stream. We also recommend the Department consider a renaming this Specialization stream to reflect its focus on gallery practices and provide it more explicit identification to the potential employers after students graduate.

Status: incomplete but under consideration

Details: Fine Arts agrees with the recommendation and is planning how to integrate such a course in the existing new curriculum. However, as of December 2019, the status of this recommendation remains incomplete.

19. Recommendation: The Department consider adding a media course to the core requirements of drawing and sculpture in the studio major program to balance students' interdisciplinary skill sets of its students.

Status: incomplete but under consideration

Details: Fine Arts agrees with the recommendation and is considering how to integrate such a course in the existing degree plans. As of December 2019, the status remains incomplete.

20. Recommendation: The Department continue to develop the MFA Pedagogy course, particularly in the areas of pedagogical theory and through workshops in student engagement strategies and critiquing approaches and the development of teaching philosophies.

Status: complete and instituted

Details: Fine Arts now offers a specific pedagogy elective stream in the MFA degree plan.



21. Recommendation: MFA professionalizing workshops adding to further for MFA (paralleling those offered in undergraduate program).

Status: see #17 above

Details: see #17 above.

22. Recommendation: As an alternative to the 20 still image documentation currently required in support of MFA applications, we recommend Department consider making explicit allowances for applicants to submit documentation of time-based media (i.e. media, video, sound, performance, installation etc.). This would fall in line with the broadened interdisciplinary orientation of the program and more effectively align with the goals of its evolving program.

Status: complete and instituted

Details: The MFA application web page now acknowledges the submission of time-based application material.

Explain any circumstances that have altered the original implementation plan:

N/A

Address any significant developments or initiatives that have arisen since the program review process, or that were not contemplated during the review:

- Addition of full time FTE Undergraduate Coordinator
- Establishment of Administrative Assistant/Graduate Coordinator
- New faculty office space, Grad computer lab, 4th yr. studio/lab
- Proposed new interdisciplinary fabrication studio/ lab (ECH 1237)
- Expansion of MFA program by 2 positions
- 10 new purpose built Grad studios (ECH 2105)
- Undergrad curriculum revision and resultant 2+2 faculty teaching load
- Addition of one Definite Term Lecturer (3 yr.)
- SAIL



Updated Implementation Plan:

	Recommendations	Proposed Actions	Responsibility for Leading and Resourcing (if applicable) the Actions	Timeline for addressing Recommendations
1.	UWAG signage (#2)	continuing	Director/Curator UWAG; Chair of Fine Arts	Winter 2020
2.	New technical support position (#3)	continuing	Chair of Fine Arts	Unclear
3.	UWAG Registrar (contract) (#9)	continuing	Director/Curator of UWAG; Chair of Fine Arts	Unclear
4.	Fine Arts UG Coordinator access to Registrar's enrollment system (#11)	continuing	Chair of Fine Arts	Unclear
5.	Studio/Visual Culture Major (#15)	continuing	Associate Chair, UG Studies	September 2022
6.	Restoration of FINE 330 (#18)	continuing	Chair of Fine Arts; Associate Chair, UG Studies	September 2020
7.	Core media course (#19)	continuing	Fine Arts Curriculum Committee	September 2022

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: N/A



UNIVERSITY OF
WATERLOO

Date of next program review: 2021
Date

Signatures of Approval:

D. Kinter
Chair/Director
May 31, 2017
Date

[Signature]
AFIW Administrative Dean/Head (For AFIW programs only)
Date
25/x/17

[Signature]
Faculty Dean
Date
Oct 26, 2017

[Signature]
Associate Vice-President, Academic
(For undergraduate and augmented programs)
Date

[Signature]
Associate Provost, Graduate Studies
(For Graduate and augmented programs)
Date
Oct. 30, 2017

Checklist for SUC/SGRC Reviewer Feedback Quality Assurance Office

Two-Year Progress Report: Fine Arts

Name of Reviewer: Dan Wolczuk

Date: 7/28/2020

Does the Two-Year Progress Report:

- | | | |
|--|---|-----------------------------|
| 1. Clearly describe progress achieved on the various action items in the implementation plan? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. Explain convincingly any circumstances that would have altered the original implementation plan? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. For items that are behind schedule, propose an amended implementation schedule that is reasonable and credible? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Address significant developments or initiatives that have arisen since the program review process, or that were not contemplated by the program review process? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |

General Comments

Now that a couple of pieces of information I had requested have been added, I feel that the report fully covers everything it needs to.

University of Waterloo
SENATE
Report of the President
19 October 2020

FOR INFORMATION

Recognition and Commendation

Five University of Waterloo researchers have been named **fellows of the Royal Society of Canada (RSC)** and **members of the Royal Society of Canada's College of New Scholars, Artists and Scientists**. They are among 87 new fellows elected by their peers for outstanding scholarly, scientific, and artistic achievement and 50 new members of the College of New Scholars, Artists and Scientists across Canada. Waterloo's new RSC fellows and members are:

Fellows of the Royal Society of Canada

- **Susan Horton** (School of Public Health and Health Systems; jointly appointed with the Department of Economics) is known internationally for her work on global health economics. Her work on economics of nutrition contributed significantly to successful efforts to emphasize nutrition investments in international policy. Her current work on economics of cancer and of diagnostics aims to increase attention to these topics within the Sustainable Development Goal for Universal Health Coverage. She is a Fellow of the Canadian Academy of Health Sciences.
- **Imre Szeman** (Communication Arts) is an internationally acclaimed cultural theorist. His landmark research establishes the shaping influence of fossil-fueled dependency on modern society. Professor Szeman's work propelled a new discipline - energy humanities - which grapples with the cultural transformations required for a global shift to sustainable and renewable forms of energy. A highly collaborative, interdisciplinary and public-facing scholar, he is the co-founder of the Petrocultures Research Group and numerous initiatives advocating for energy transition.

Members of the Royal Society of Canada's College of New Scholars, Artists and Scientists

- **Jay Dolmage** (English Language and Literature) is the Founding Editor of the highly impactful *Canadian Journal of Disability Studies*. Winner of the 2015 PROSE award, Professor Dolmage's work brings together rhetoric, disability studies, and critical pedagogy, in an accessible yet ground-breaking body of articles, talks, and workshops. A fierce advocate for disability rights, Dolmage is committed to publishing Open Access and accessible material and helped to author the international guidelines for accessible electronic books.
- **Josh Neufeld** (Biology) is an ecologist who characterizes microbial communities in terrestrial, aquatic, and host-associated habitats. By developing and combining cultivation-dependent and molecular techniques, his lab explores the "microbes that matter" to connect these novel microorganisms with the important roles that they play in their communities. His passion for microbiology and its communication has resulted in authorship of a microbiology textbook, multiple teaching awards, and service as Chief Editor for The ISME Journal.
- **Maria Strack** (Geography and Environmental Management) is a Canada Research Chair in Ecosystems and Climate who leads an internationally recognized research program investigating greenhouse gas exchange in peatland ecosystems - the world's largest natural terrestrial carbon

stores. This work includes participation in some of the first peatland reclamation projects in Alberta's oil sands. She works closely with industry, government and non-governmental organizations to translate her findings into improved land management in the face of climate change.

(adapted from the *Daily Bulletin*, 11 September 2020)

Cheriton School of Computer Science Professor **Jeffrey Shallit** is one of five foreign members elected to the **Finnish Academy of Science and Letters for 2020**. The Finnish Academy of Science and Letters is a broad-based learned society with the principal aim of promoting scientific research and acting as a bond between those engaged in advanced research. Members of the Academy are at the top of their profession, and being invited as a member constitutes a distinguished achievement in a scientist's career. Professor Shallit is an accomplished computer scientist interested in the interplay between number theory, algebra, logic, discrete mathematics, and the theory of computation. Most of his research focuses on combinatorics on words and automata theory, especially on decision procedures. Professor Shallit's books, journal and conference papers have been cited more than 8,500 times. Collectively, his research contributions have an h-index of 39 on Google Scholar. With his colleague Jean-Paul Allouche, Director of Research at the Centre national de la recherche scientifique, he coauthored *Automatic Sequences: Theory, Applications, Generalizations*. This noted text covers sequences generated by finite automata and their generalizations, with applications to number theory and theoretical physics. Published in 2003 by Cambridge University Press, *Automatic Sequences* has been cited almost 1,500 times. With Eric Bach, he coauthored *Algorithmic Number Theory: Efficient Algorithms*, a book that provides a thorough introduction to the design and analysis of algorithms for problems from the theory of numbers. Cited almost 1,000 times to date, this foundational book in computing was published in 1997 by MIT Press. He is also one of four authors of *Neverending Fractions: An Introduction to Continued Fractions*, a book cowritten with Jon Borwein, Wadim Zudilin, and the late Alf van der Poorten (1943–2010), published by Cambridge University Press in 2014.

(adapted from the *Daily Bulletin*, 25 September 2020)

University of Waterloo
SENATE
Report of the President
19 October 2020

FOR INFORMATION

Tenure and Promotion of Faculty Members

The 2019/20 tenure and promotion cycle carried out under Policy 77 – Tenure and Promotion has resulted in the following individuals being awarded tenure and/or promoted, effective 1 July 2020.

Awarded Tenure and Promoted to Associate Professor:

BAJCSY, Michal – Electrical and Computer Engineering
BAUER, Andrew – School of Accounting and Finance
BOLUK, Karla – Recreation and Leisure Studies
BOYLE, Philip – Sociology and Legal Studies/Stratford School
CAO, Shi – Systems Design Engineering
CRAIG, Paul – Biology
DEAN, Jennifer – School of Planning
DAĞTAŞ, Seçil – Anthropology
DIETL, Werner – Electrical and Computer Engineering
DUSAILLANT-FERNANDES, Valérie – French Studies
FEKE, Jacqueline – Philosophy
FERRO, Mark – School of Public Health and Health Systems
FURTADO, Nadine – School of Optometry and Vision Science
JIANG, Ning – Systems Design Engineering
KAPRE, Nachiket – Electrical and Computer Engineering
KELETA-MAE, Naila – Communication Arts
LAW, Edith – Computer Science
MACDONALD, Shana – Communication Arts
MARTIN-MARTINEZ, Eduardo – Applied Mathematics
MEHLENBACHER, Ashley – English Language and Literature
MUFTI, Mariam – Political Science
NAGAPPAN, Meiyappan – Computer Science
NELSON, Peter – Combinatorics and Optimization
NGUYEN, Kim – Communication Arts
PARKER, Thomas – Economics
PATEL, Tejal – School of Pharmacy
POPE, Michael – Chemical Engineering
SAVARESE, John – English Language and Literature
SATRIANO, Matthew – Pure Mathematics
SCHIPPER, Derek – Chemistry
SCHWEIZER, Vanessa – Knowledge Integration
SCOTT, Andrea – Systems Design Engineering
SHEN, Yi – Statistics and Actuarial Science
THOMPSON, Jessica – Fine Arts/Stratford School of Interaction Design and Business
TUNG, James – Mechanical and Mechatronics Engineering
VIDEKANIC, Bojana – Fine Arts
VOORHEES, Gerald – Communication Arts
WATTS, Christopher – Anthropology
WHITESIDE, Heather – Political Science
WHITSON, Jennifer – Sociology and Legal Studies/Stratford School
YAKYMCHUK, – Chris Earth and Environmental Sciences
ZHU, Yeying – Statistics and Actuarial Science

Awarded Tenure:

GURFINKEL Arie – Electrical and Computer Engineering
SCIAINI, Germán – Chemistry

Promoted to Professor:

AUCOIN, Marc – Chemical Engineering
BAAJ, Hassan – Civil and Environmental Engineering
COSKUN, Altay – Classical Studies
COZZARIN, Brian – Management Sciences
CHENOURI, Shoja – Statistics and Actuarial Science
CRAIK, Neil – School of Environment, Enterprise and Development
DAUN, Kyle – Mechanical and Mechatronics Engineering
EDGINTON, Andrea – School of Pharmacy
ENGLISH, Elizabeth – School of Architecture
FIDAN, Baris – Mechanical and Mechatronics Engineering
FISCHMEISTER, Sebastian – Electrical and Computer Engineering
FUKASAWA, Ricardo – Combinatorics and Optimization
HAYES, Geoffrey – History
HOEY, Jesse – Computer Science
INGALLS, Brian – Applied Mathematics
LAMONT, Victoria – English Language and Literature
MACEACHEN, Ellen – School of Public Health and Health Systems
MALHOTRA, Shavin – Conrad School of Entrepreneurship Engineering
MCMURRY, Andrew – English Language and Literature
NILSEN, Elizabeth – Psychology
PATEL, Hiren – Electrical and Computer Engineering
QUADRILATERO, Joe – Kinesiology
SCHOST, Éric – Computer Science
SINGH, Simron – School of Environment, Enterprise and Development
TOLSON, Bryan – Civil and Environmental Engineering
WALBRIDGE, – Scott Civil and Environmental Engineering
WEN, John – Mechanical and Mechatronics Engineering
WETTIG, Shawn – School of Pharmacy
YARUSEVYCH, Serhiy – Mechanical and Mechatronics Engineering

University of Waterloo
REPORT OF THE DEAN OF APPLIED HEALTH SCIENCES TO SENATE
October 19, 2020

FOR INFORMATION

A. APPOINTMENTS

Change in Probationary Appointments

CHAURASIA, Ashok, Assistant Professor, School of Public Health and Health Systems, second probationary term extended on year (COVID-19) ending June 30, 2022.

DEVRIES-ABOUD, Michaela, Assistant Professor, Department of Kinesiology, second probationary term extended one year (COVID-19) ending June 30, 2023.

Definite Term Research Appointment

ROBERTSON, Andrew, Research Associate, Department of Kinesiology, October 1, 2020 – September 30, 2021.

Adjunct Appointment

Graduate Supervision

VORSTMAN, Jacob, Associate Professor, School of Public Health and Health Systems, September 1, 2020 – August 31, 2024.

Adjunct Reappointments

Graduate Supervision

LAGARDE, Emmanuel, Professor, School of Public Health and Health Systems, September 1, 2020 – August 31, 2022.

LAU, Lincoln, Assistant Professor, School of Public Health and Health Systems, January 1, 2021 – December 31, 2021.

SYLVETSKY, Allison, Assistant Professor, School of Public Health and Health Systems, September 1, 2020 – December 31, 2021.

Special Lecturer Appointments

FERRO, Annalise, Lecturer, School of Public Health and Health Systems, September 1, 2020 – December 31, 2020 and January 1, 2021 – April 30, 2021.

ZAZA, Christine, Co-lecturer, Faculty of Applied Health Sciences, September 1, 2020 – December 31, 2020.

SHANBHAG, Gitanjali, Co-lecturer, Faculty of Applied Health Sciences, September 1, 2020 – December 31, 2020.

Postdoctoral Appointment

ACTON, Rachel, School of Public Health and Health Systems, September 14, 2020 – December 12, 2022.


Lili Liu, Dean

Applied Health Sciences

UNIVERSITY OF WATERLOO
REPORT OF THE DEAN OF THE FACULTY OF ARTS TO SENATE
October 19, 2020

FOR INFORMATION

A. APPOINTMENTS

Definite Term Appointments

THIELEN, Tobias, (BSc 2013, MSc 2015, PhD 2019 Technische Universität Kaiserslautern, Germany), Lecturer, Stratford School of Interaction Design and Business) September 1, 2020 to August 31, 2023.

Tobias is a welcome addition to the Stratford School of Interaction Design and Business as he has competence in both undergraduate and graduate teaching, and experience in experiential learning and integrating industry participation in the classroom. His area of expertise in business management, entrepreneurship and innovation combined with his background in engineering provides a great fit with the research and curricula at the Stratford School of Interaction Design and Business.

Cross Appointment

MCLEVEY, John, Associate Professor, Department of Knowledge and Integration to Department of Sociology and Legal Studies, July 1, 2019 to June 30, 2022.

PLAISANCE, Kathryn (Katie), Associate Professor, Department of Knowledge and Integration to Department of Philosophy, July 1, 2020 to June 30, 2023.

Adjunct Appointments – Instruction

MARICIC, Alan, Lecturer, Department of History, September 1, 2020 to December 31, 2020.

TOURANGEAU, Wesley, Lecturer Department of Sociology and Legal Studies, September 1, 2020 to December 31, 2020.

Adjunct Appointments – Graduate Supervision

BOHNS, Vanessa, Associate Professor, Department of Sociology and Legal Studies, September 1, 2020 to August 31, 2021.

DAVIES, Scott, Associate Professor, Department of Sociology and Legal Studies, September 1, 2020 to August 31, 2021.

PERRY, Barbara, Associate Professor, Department of Sociology and Legal Studies, September 1, 2020 to August 31, 2021.

THOMPSON, Sara, Associate Professor, Department of Sociology and Legal Studies, March 1, 2020 to December 31, 2020.

Adjunct Reappointments – Instruction

ALMAULA, Mirali, Lecturer, Department of Communication Arts, September 1, 2020 to December 31, 2020.

BALAISIS, Nicholas, Lecturer, Department of Communication Arts, September 1, 2020 to December 31, 2020.

BARICHELO, Steve, Lecturer, School of Accounting and Finance, September 1, 2020 to December 31, 2020.

BASHIR, Mohsin, Lecturer, School of Accounting and Finance, September 1, 2020 to December 31, 2020.

BERGSTROM, Anton, Lecturer, Arts First Program, Faculty of Arts, September 1, 2020 to December 31, 2020.

BRIGGS, Catherine, Lecturer, Department of History, September 1, 2020 to December 31, 2020.

BUIANI, Roberta, Lecturer, Department of Communication Arts, September 1, 2020 to December 31, 2020.

CALERDON, Jesus, Lecturer, School of Accounting and Finance, September 1, 2020 to December 31, 2020.

CHASMAR, Hugh, Lecturer, School of Accounting and Finance, September 1, 2020 to December 31, 2020.

COCARLA, Sasha, Lecturer, Department of Philosophy, September 1, 2020 to December 31, 2020.

CYR, Dylan, Lecturer, Department of History, September 1, 2020 to December 31, 2020.

DEHGHANI, Morteza, Lecturer, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

DE ROOIJ-MOHLE, Margreet, Lecturer, Department of Germanic and Slavic Studies, September 1, 2020 to December 31, 2020.

DOYLE, Jennifer, Lecturer, Department of Communication Arts, September 1, 2020 to December 31, 2020.

EHRENTAUT, Judy, Lecturer, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

FERNANDEZ, Stephen, Lecturer, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

GLADKOVA, Olga, Lecturer, Department of Communication Arts, September 1, 2020 to December 31, 2020.

HANCOCK, Michael, Lecturer, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

HILL, Heather, Lecturer, Department of Communication Arts, September 1, 2020 to December 31, 2020.

HUTCHISON, Jesse, Lecturer, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

KAPOOR, Akash, Lecturer, School of Accounting and Finance, September 1, 2020 to December 31, 2020.

KHOLDI, Amir-Shahram, Lecturer, Department of History, September 1, 2020 to December 31, 2020.

LEROUX, Carlie, Lecturer, Department of Sociology and Legal Studies, September 1, 2020 to December 31, 2020.

MANJI, Noorin, Lecturer, Department of Sociology and Legal Studies, September 1, 2020 to December 31, 2020.

MEANING, Lindsay, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

OFILI, Patricia, Lecturer, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

OBEID, Moussa, Lecturer, Department of Economics, September 1, 2020 to December 31, 2020.

PACEY, Dean, Lecturer, School of Accounting and Finance, September 1, 2020 to December 31, 2020.

PIERCE, Kathleen, Lecturer, Department of Communication Arts, September 1, 2020 to December 31, 2020.

RAY, Nicholas, Lecturer, Arts First Program, Faculty of Arts, September 1, 2020 to December 31, 2020.

REDDOCK, Jennifer, Lecturer, Department of Communication Arts, September 1, 2020 to December 31, 2020.

SCHWARTZ, Shira, Lecturer, Department of Communication Arts, September 1, 2020 to December 31, 2020.

SCHWEITZER, David, Lecturer, Department of History, September 1, 2020 to December 31, 2020.

SHAKESPEARE, Robert, Lecturer, Department of Communication Arts, September 1, 2020 to December 31, 2020.

SHAJANI, Basit, Lecturer, School of Accounting and Finance, September 1, 2020 to December 31, 2020.

SIDER, Kimber, Lecturer, Department of Communication Arts, September 1, 2020 to December 31, 2020.

SUEN, Alexander, Lecturer, Arts First Program, Faculty of Arts, September 1, 2020 to December 31, 2020.

VANCE, Dan, Lecturer, School of Accounting and Finance, September 1, 2020 to December 31, 2020.

WARRINER, Keith, Associate Professor (Associate Professor Emeritus), Department of Sociology and Legal Studies, September 1, 2020 to December 31, 2020.

WHITE, Matthew, Lecturer Department of Communication Arts, September 1, 2020 to December 31, 2020

WIENS, Brianna, Lecturer, Department of Communication Arts, September 1, 2020 to December 31, 2020.

WOODFORD, Benjamin, Lecturer, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

Adjunct Reappointments – Graduate Supervision

BEHARRY, Edward, Clinical Supervision, Department of Psychology, September 1, 2020 to August 31, 2021.

BEHARRY, Pamela, Clinical Supervision, Department of Psychology, September 1, 2020 to August 31, 2021.

DODGSON, Philip, Clinical Supervision, Department of Psychology, September 1, 2020 to August 31, 2021.

GAVRIC, Dubravka (Dee), Clinical Supervision, Department of Psychology, September 1, 2020 to August 31, 2021.

GIFFORD, Shannon, Clinical Supervision, Department of Psychology, September 1, 2020 to August 31, 2021.

MCHUGH, Anne, Clinical Supervision, Department of Psychology, September 1, 2020 to August 31, 2021.

REIMER, Susanna, Clinical Supervision, Department of Psychology, September 1, 2020 to August 31, 2021.

STEVENS, Elizabeth, Clinical Supervision, Department of Psychology, September 1, 2020 to August 31, 2021.

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

NORTON, Roy, Assistant Professor, Department of Political Science, September 1, 2020 to August 31, 2025.

Research Faculty

LOCHNER, Martin, Research Associate, Department of Psychology, September 1, 2020 to April 30, 2021.

SCHMIDT, Pamela Maria, Research Associate, Department of English Language and Literature, September 1, 2020 to August 31, 2021.

Graduate Students Appointed as Part-Time Lecturers

ALTAHER, Ayesha, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

BERESFORD, Sally, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

BHOYROO, Haneesha, Department of French Studies, September 1, 2020 to December 31, 2020.

BLACKBURN, Jordan, Department of Fine Arts, September 1, 2020 to December 31, 2020.

BUSCEMI, Joseph, Arts First Program, Faculty of Arts, September 1, 2020 to December 31, 2020.

CAMERON, Christopher, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

CARPENTER, Justin, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

EL AMYOUNI, Elaine, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

GHANIAH, Vanya, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

GIANNAKIPOULOS, Christopher, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

GIBSON, Ian, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

IRWIN, Ashley, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

KIM, Jin Sol, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

MCTAVISH, Sarah, Arts First Program, Faculty of Arts, September 1, 2020 to December 31, 2020.

MEHRABIAN, Houman, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

MILLER, Chris, Arts First Program, Faculty of Arts, September 1, 2020 to December 31, 2020.

MORENO OJEDA, Diana, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

MORTON, Travis, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

PEARSON, Sara, Department of Fine Arts, September 1, 2020 to December 31, 2020.

RACICOT, Toben, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

RAWDING, Jay, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

RICKERT, Jennifer, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

SHATALOVA, Elizaveta, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

SIMMONS, Maria, Department of Fine Arts, September 1, 2020 to December 31, 2020.

TAWFIK, Reem, Department of Psychology, September 1, 2020 to December 31, 2020.

TAYLOR, Christin, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

WATTS, Hannah, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

WOJCIECHOWSKI, Christine, Department of Sociology and Legal Studies, September 1, 2020 to December 31, 2020.

YOON, John, Department of English Language and Literature, September 1, 2020 to December 31, 2020.

ZAMAN, MD, Arts First Program, Faculty of Arts, September 1, 2020 to December 31, 2020.

Staff Appointments to Faculty

CAMPBELL, Greg, Lecturer, Department of Communication Arts, September 1, 2020 to December 31, 2020.

B. ADMINISTRATIVE APPOINTMENTS

BOYLE, Philip, Associate Chair, Undergraduate Studies – Sociology, Department of Sociology and Legal Studies, September 1, 2020 to August 31, 2022.

Administrative Reappointment

FRICK, Peter, Associate Chair, Undergraduate Studies, Department of Religious Studies, September 1, 2020 to August 31, 2022.

CHANGE in DATES

AURINI, Janice, Associate Chair, Undergraduate Studies – Sociology, Department of Sociology and Legal Studies, **from** July 1, 2019 to June 30, 2021 **to** July 1, 2019 to August 31, 2020.

C. SABBATICAL LEAVES

For approval by the Board of Governors:

KIRTON, Douglas, Associate Professor, Department of Fine Arts, January 1, 2021 to December 31, 2021, twelve month leave at full salary.

LEPAGE, Elise, Associate Professor, Department of French Studies, January 1, 2021 to June 30, 2021, six month leave at full salary.

SABBATICAL LEAVE – Cancelled

CARTER, Angela, Associate Professor, Department of Political Science, January 1, 2021 to June 30, 2021, six month leave at 85% salary.



Sheila Ager
Dean, Faculty of Arts

UNIVERSITY OF WATERLOO
REPORT OF THE DEAN OF ENGINEERING TO SENATE
October 19, 2020

FOR INFORMATION

A. *APPOINTMENTS*

Probationary Term Reappointment

BOEKHORST, Jane, Assistant Professor, Conrad School of Entrepreneurship and Business, July 1, 2021 – June 30, 2024. PhD in Human Resource Management, York University, Toronto, ON, 2015; Master of Industrial Relations, Queen's University, Kingston, ON, 2010; Bachelor of Commerce, University of Guelph, Guelph, ON, 2009.

MEKONNEN, Tizazu, H., Assistant Professor, Department of Chemical Engineering, July 1, 2021 – June 30, 2024, PhD, University of Alberta, Alberta, 2013, MSc, Chemical Engineering Addis Ababa University, Ethiopia, 2008; BSc, Addis Ababa University, Ethiopia, 2004.

WARD, Valerie, Assistant Professor, Department of Chemical Engineering, July 1, 2021 – June 30, 2024. Postdoctoral fellowship, Chemical Engineering, Massachusetts Institute of Technology, (MIT), 2017; PhD, Chemical and Biochemical Engineering, Western University, London, ON, 2016; MSc, Chemical Engineering, University of Waterloo, Waterloo, ON, 2012; BSc, Biology, Molecular Biology and Biotechnology – Co-op, University of Waterloo, Waterloo, ON, 2009.

New Definite Term Reappointment-full-time

ABDEL-WAHAB, Wael, Research Assistant Professor, Department of Electrical and Computer Engineering, September 1, 2020 – August 31, 2022. PhD in highly efficient millimeter-wave-integrated antennas, Electrical and Computer Engineering, University of Waterloo, Waterloo, ON, 2011; MS in computational electromagnetic using numerical methods and its applications in Radio Waves (RF) circuits, Electrical and Communication Engineering, 2004, Cairo University, Cairo, Egypt, 2004.

ROUFAIL, Reem, Lecturer, Department of Systems Design Engineering, September 15, 2020 – September 14, 2023. PhD, Mining Engineering, University of British Columbia, BC, 2011, MSc (Materials/Environmental Concentration, The American University, Cairo, 1997, Bachelor of Science, Mechanical Engineering Egypt, 1992.

Visiting Appointments

REZENDEBARBOSA TURBIANI, Franciele, Associate Professor, Department of Chemical Engineering, January 2, 2021 – February 21, 2021.

HAN, Xiao Xia, Scholar, Department of Chemical Engineering, September 1, 2020 – December 31, 2020.

Adjunct Reappointments

Graduate Supervision and Research

SHAH, Arash, Assistant Professor, Department of Civil and Environmental Engineering, September 1, 2020 – August 31, 2022.

SLAWSON, Robin, Associate Professor, Department of Civil and Environmental Engineering, August 9, 2020 – August 8, 2023.

SYKES, Jonathan, Professor, Department of Civil and Environmental Engineering, September 1, 2020 – August 31, 2023.

Cross Appointments

CORY, David, Professor, Department of Chemistry to Department of Electrical and Computer Engineering, October 15, 2019 – October 31, 2022.

FIDAN, Baris, Professor, Department of Mechanical and Mechatronics Engineering to Department of Electrical and Computer Engineering, September 1, 2019 – August 31, 2022.

GORBET, Robert, Associate Professor, Department of Knowledge Integration to Department of Electrical and Computer Engineering, September 1, 2020 – August 31, 2023.

Changes in Appointments

B. ADMINISTRATIVE APPOINTMENTS

CUI, Bo, Associate Director, External –Nanotechnology Engineering program, September 1, 2020 – August 31, 2023.

GORBET, Maud, Deputy Chair, Department of Systems Design Engineering, September 1, 2020 – August 31, 2021. (This is a new position).

GROVE, Jason, Interim Associate Chair, Undergraduate Studies, September 1, 2020 – August 31, 2021.

IVKOVIC, Igor, Associate Chair, Undergraduate Studies, September 1, 2020 – August 31, 2021.

TSUI, Ting, Director, Nanotechnology, UG Program, September 1, 2020 – August 31, 2023.

LI, Jonathan, Professor, Department of Geography and Environmental Management to Department of Systems Design Engineering, June 1, 2020 – May 31, 2023.

ADMINISTRATIVE REAPPOINTMENTS

BHATTACHARYA, Kankar, Associate Chair, Graduate Studies, September 1, 2020 – August 31, 2021.

FIEGUTH, Paul, Associate Dean, Outreach, September 1, 2020 – December 31, 2020.

FOR APPROVAL BY THE BOARD OF GOVERNORS

E. SABBATICALS

KOFMAN, Jonathan, Associate Professor, Department of Systems Design Engineering, May 1, 2021 – April 30, 2022, twelve months at 100% salary.

Mary Wells

Mary A. Wells, Dean
Faculty of Engineering

University of Waterloo
REPORT OF THE DEAN OF ENVIRONMENT TO SENATE
October 19, 2020

FOR INFORMATION

A. APPOINTMENTS

Special Appointments

Instruction

BERRY, Peter, Lecturer, Department of Geography and Environmental Management, September 1, 2020 to December 31, 2020.

HORNE, Rob, Planner in Residence, School of Planning, September 1, 2020 to April 30, 2021.

Graduate Supervision

SUTHERLAND, William, Assistant Professor, School of Environment, Resources and Sustainability, September 1, 2020 to August 30, 2023.

Graduate Supervision and Research

ALI, Genevieve, Associate Professor, Department of Geography and Environmental Management, September 1, 2020 to August 31, 2023.

BRENNING, Alexander, Professor, Department of Geography and Environmental Management, September 1, 2020 to August 31, 2023.

ERLER, Andre, Assistant Professor, Department of Geography and Environmental Management, October 1, 2020 to December 31, 2024.

HIPEL, Keith, University Professor, Department of Geography and Environmental Management, September 1, 2020 to December 31, 2024.

Cross Appointments

GORBET, Rob, Associate Professor, Department of Knowledge Integration to the Department of Electrical and Computer Engineering, September 1, 2020 to August 31, 2023.

MCLEVEY, John, Associate Professor, Department of Knowledge Integration to the Department of Sociology and Legal Studies, July 1, 2019 to June 30, 2022.

LI, Jonathan, Professor, Department of Geography and Environmental Management to the Department of Systems Design Engineering, June 1, 2020 to May 31, 2023.

PLAISANCE, Kathryn, Associate Professor, Department of Knowledge Integration to the Department of Philosophy, July 1, 2020 to June 30, 2023.

B. ADMINISTRATIVE APPOINTMENTS

MINAKER, Leia, Director, Survey Research Centre, Faculty of Mathematics, September 1, 2020 to August 31, 2023.

C. SABBATICAL LEAVES

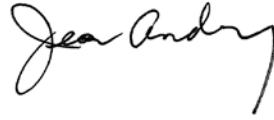
For Approval by the Board of Governors

NEPAL, Sanjay, Professor, Department of Geography and Environmental Management, January 1, 2021 to June 30, 2021 at 85% salary.

Unpaid Leaves

HOMER-DIXON, Thomas, Professor, Faculty of Environment, January 1, 2021 to December 31, 2021.

WOLFE, Sarah, Associate Professor, School of Environment, Resources and Sustainability, January 1, 2021 to December 31, 2021.

A handwritten signature in black ink, appearing to read "Jean Andrey". The signature is fluid and cursive, with the first name "Jean" and last name "Andrey" clearly distinguishable.

Jean Andrey
Dean

University of Waterloo
REPORT OF THE DEAN OF MATHEMATICS TO SENATE
October 19, 2020

FOR INFORMATION

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

Definite Term - Appointments

KHARAL, Rosina, (BSc, 2001; MMath, 2004; PhD, 2020, all from the University of Waterloo), Lecturer, David R. Cheriton School of Computer Science, September 1, 2020 – August 30, 2022. Dr. Watson will teach six courses per year and perform other duties which may include support and development of online curriculum.

SIDOROV, Nikita (MSc, 1992, St. Petersburg State University; PhD, 1996, Steklov Mathematical Institute at St. Petersburg), Research Associate Professor, Dept. of Pure Mathematics, September 1, 2020 – December 31, 2020.

WATSON, Stacey (BA, 1989, York University; MSc, 2013, Columbus State University; PhD, 2018, University of North Carolina at Charlotte), Lecturer, David R. Cheriton School of Computer Science, September 1, 2020 – August 30, 2022. Dr. Watson will teach six courses per year and perform other duties which may include support and development of online curriculum.

Adjunct Appointments

Research

KESHAV, Srinivasan (University of Cambridge), Professor, David R. Cheriton School of Computer Science, October 1, 2020 – June 30, 2024.

YI, Grace (University of Western Ontario), Professor, Dept. of Statistics and Actuarial Science, July 1, 2020 – June 30, 2023.

Adjunct Reappointments

Instructor

BEMBENEK, Eric, Lecturer, Office of the Dean, September 1, 2020 – December 31, 2020.

DLIN, Richard, Lecturer, Office of the Dean, September 1, 2020 – December 31, 2020.

HACKMAN, Robert, Lecturer, David R. Cheriton School of Computer Science, September 1, 2020 – December 31, 2020.

HILBURN, Justin, Lecturer, Dept. of Pure Mathematics, September 1, 2020 – December 31, 2020.

KAMAL, Zille Huma, Lecturer, David R. Cheriton School of Computer Science, September 1, 2020 – December 31, 2020.

KOHLER, Dave, Lecturer, Dept. of Statistics and Actuarial Science, September 1, 2020 – December 31, 2020.

KOTECHA, Sachin, Lecturer, Office of the Dean, September 1, 2020 – December 31, 2020.

McLEISH, Don, Lecturer, Dept. of Statistics and Actuarial Science, September 1, 2020 – December 31, 2020.

NIJJAR, Paul, Lecturer, David R. Cheriton School of Computer Science, September 1, 2020 – December 31, 2020.

RESCH, Janelle, Lecturer, Dept. of Applied Mathematics, September 1, 2020 – December 31, 2020.

RETTINGER, Jordan, Lecturer, Office of the Dean, September 1, 2020 – December 31, 2020.

SHARMA, Puneet, Lecturer, Office of the Dean, September 1, 2020 – December 31, 2020.

SOHAIL, Nasir, Lecturer, Office of the Dean, September 1, 2020 – December 31, 2020.

STRUTHERS, Cynthia, Lecturer, Dept. of Statistics and Actuarial Science, September 1, 2020 – December 31, 2020.

WANG, Fei, Lecturer, Dept. of Combinatorics & Optimization, September 1, 2020 – December 31, 2020.

Research

CUNNINGHAM, William, Professor Emeritus, Dept. of Combinatorics and Optimization, August 1, 2020 – July 31, 2023.

DUPUIS, Maite (Perimeter Institute), Associate Professor, Dept. of Applied Mathematics, August 1, 2020 – July 31, 2023.

SELLAROLI, Guiseppe (Perimeter Institute), Assistant Professor, Dept. of Applied Mathematics, September 1, 2020 – August 31, 2023.

TOMPA, Frank, Professor Emeritus, David R. Cheriton School of Computer Science, September 1, 2020 – June 30, 2024.

Graduate Students reappointed as Part-time Lecturer

CHEESEMAN, Alison, Dept. of Applied Mathematics, September 1, 2020 – December 31, 2020.

EASTMAN, Brydon, Dept. of Applied Mathematics, September 1, 2020 – December 31, 2020.

HAO, Sun, Dept. of Combinatorics and Optimization, September 1, 2020 – December 31, 2020.

JENTSCH, Peter, Dept. of Applied Mathematics, September 1, 2020 – December 31, 2020.

KING, Nathan, David R. Cheriton School of Computer Science, September 1, 2020 – December 31, 2020.

MAHMOUD, Amena, Dept. of Combinatorics & Optimization, September 1, 2020 – December 31, 2020.

MATHESON, Daniel, Dept. of Applied Mathematics, September 1, 2020 – December 31, 2020.

SIVAS, Abdullah, Dept. of Applied Mathematics, September 1, 2020 – December 31, 2020.

B. ADMINISTRATIVE APPOINTMENTS

MINAKER, Leia, Director, Survey Research Center, Office of the Dean, September 1, 2020 – August 31, 2023.

ADMINISTRATIVE REAPPOINTMENTS

WEDDELL, Grant, Associate Director of Undergraduate Studies, David R. Cheriton School of Computer Science, September 1, 2020 – August 31, 2021.

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

NICA, Alexandru (Professor), Dept. of Pure Mathematics, January 1, 2021 – December 31, 2021, with 85% salary.

POUPART, Pascal (Professor), David R. Cheriton School of Computer Science, January 1, 2021 – June 30, 2021, with 85% salary.

Change In Appointment

FENG, Ben (Assistant Professor), Dept. of Statistics and Actuarial Science, September 1, 2020 – February 28, 2021, with 100% salary. This is a special early sabbatical (*ref.* Dean's Report to Senate, March 2020). This sabbatical is cancelled.

D. SPECIAL LEAVE

COOK, William (Professor), Dept. of Combinatorics and Optimization, September 1, 2020 – December 31, 2020. This is an unpaid leave.



Mark Giesbrecht
Dean

UNIVERSITY OF WATERLOO
REPORT OF THE DEAN OF SCIENCE TO SENATE
October 19, 2020

For information:

A. APPOINTMENTS

Definite Term Reappointment – Part-Time

BERNATH, Peter, Research Professor, Department of Chemistry, April 1, 2021 to March 31, 2024.

Adjunct Appointments

Research

SIDHU, Sachdev, Professor, School of Pharmacy, October 1, 2020 to September 30, 2023.

Graduate Supervision and Research

WOLFE, Elie S., Professor, Department of Physics and Astronomy, September 1, 2020 to August 31, 2024.

Adjunct Reappointments

Research

DMITRIENKO, Gary, (Professor Emeritus) Professor, Department of Chemistry, September 1, 2020 to August 31, 2023.

PAPASTERGIOU, John, Assistant Professor, School of Pharmacy, November 1, 2020 to October 31, 2023.

Research and Other

LEE, Linda Li-Wen, Assistant Professor, School of Pharmacy, November 1, 2020 to October 31, 2023.

Undergraduate Instruction and Research

BAHL, Mala, Assistant Professor, School of Pharmacy, November 1, 2020 to October 31, 2023.

Undergraduate Instruction, Graduate Instruction, Graduate Supervision and Research

OSEI, Ernest, Professor, Department of Physics and Astronomy, January 1, 2021 to August 31, 2024.

Cross Appointment

SERVOS, Mark R., Professor, Department of Biology cross appointed to Department of Chemistry, September 1, 2020 to August 31, 2023.

B. *ADMINISTRATIVE REAPPOINTMENT*

WOO, Stanley, Director and Associate Dean, School of Optometry and Vision Science, July 1, 2021 to June 30, 2025.

FOR APPROVAL BY THE BOARD OF GOVERNORS**C. *SABBATICAL***

EDWARDS, David, Professor, School of Pharmacy, Split Sabbatical, January 1, 2021 to June 30, 2021 and January 1, 2022 to June 30, 2022, Sabbatical July 1, 2022 to March 31, 2023, 100% salary arrangements.

SWANSON, Heidi, Associate Professor, Department of Biology, January 1, 2021 to December 31, 2021, 100% salary arrangements.

CHANGE IN SABBATICAL

NAZAR, Linda, Professor, Department of Chemistry, sabbatical dates changed from September 1, 2020 to August 31, 2021 to May 1, 2021 to April 30, 2022, 100% salary arrangements.



R.P. Lemieux
Dean

RPL:lw

University of Waterloo
SENATE GRADUATE & RESEARCH COUNCIL
Report to Senate
19 October 2020

Senate Graduate & Research Council met on 14 September 2020 and agreed to forward the following item to Senate for approval as part of the regular agenda.

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

FOR APPROVAL

NEW PROGRAM

Faculty of Arts

1. **Motion:** To approve the Graduate Diploma (GDip) in Computational Data Analytics for the Social Sciences and Humanities, effective 1 January 2021, as presented at Attachment #1.

Rationale: The Big Data/Machine Learning revolution is occurring at a rapid pace and is extremely relevant to students in social sciences and humanities (SSH), especially at the graduate level. The proposed program will offer a unique blend of advanced graduate training in the analysis, interpretation, and archiving of extremely large and complex datasets. However, as opposed to other Big Data/Machine Learning programs, there will also be an emphasis on showing students how their traditional skills in critical thinking and “storytelling” are particularly relevant in explaining observable trends in large datasets. They will also be trained to summarize findings that can be digested in a relatively non-technical manner and that result in actionable impacts in either a public or private sector setting. What is unique is that students will be taught Big Data methods from the perspective of different disciplines, which will result in an expansive skill set. Further, consistent with the University’s core strength in experiential education, courses will be focused on a teams-based learning approach, when possible, through which students from different disciplines will work together on projects and assignments, in order to simulate employment in the real world.

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

Charmaine Dean
Vice President, Research & International

Prior to form submission, review the [new graduate program instructions](#). For questions about the form submission, contact [Trevor Clews](#), Graduate Studies and Postdoctoral Affairs.

Faculty: Arts

Program: Graduate Diploma (GDip) in Computational Data Analytics for the Social Sciences and Humanities

Program contact name(s): Anindya Sen

Form completed by: Anindya Sen

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

Proposed effective date: Term: Winter Year: 2021

[Graduate Studies Academic Calendar \(GSAC\)](#) section (include the link to the section (web page) where the new program will be located):

<https://uwaterloo.ca/graduate-studies-academic-calendar/arts/departments/economics>

Proposed Graduate Studies Academic Calendar content:

GRADUATE DIPLOMA (GDIP) IN COMPUTATIONAL DATA ANALYTICS FOR THE SOCIAL SCIENCES AND HUMANITIES

Program information

- **Delivery mode**
 - On-campus
- **Program type**
 - Diploma
- **Study option(s)**
 - Coursework

Admission requirements

- **Minimum requirements**
 - The GDip in Computational Data Analytics for the Social Sciences and Humanities is offered in conjunction with any University of Waterloo master's or doctoral program.
 - Students may apply by completing an online application form, available from the Department of Economics website. The application must identify the courses that students would like to take in fulfillment of the GDip requirements. Students will receive an admission decision from the Program Director.
 - Students must be in good standing in their home master's or doctoral program to take courses for the GDip in Computational Data Analytics for the Social Sciences and Humanities.
 - Students must maintain an average of 70% across courses for this Diploma.

Degree requirements

Coursework option:

- **Courses**

- In order to obtain the GDip in Computational Data Analytics for the Social Sciences and Humanities, students must successfully complete 3 graduate level courses (0.50 unit weight) in addition to the degree requirements of their home master's or doctoral program. There can be no double counting of courses for different degrees/diplomas.
- Students must complete 3 of the following 12 courses (or other courses that fit with the goals of this GDip, as approved by the Program Director):
 - ANTH xxx Critical Data Studies: Making and Using Data in Society (*pending development/approval*)
 - ECON 526 Fundamentals in Programming for Big Data Analysis (*pending SGRC approval*)
 - ECON 625 Numerical Methods for Economists
 - ECON 626 Machine Learning for Economists (*pending SGRC approval*)
 - GEOG 606 Introduction to Geographic Information Systems
 - HIST 640 Digital History
 - INTEG 640 Computational Social Science
 - INTEG 641 Hard Decisions and Wicked Problems
 - PS 699 Special Topics: Topic 3 Coding and Programming
 - PS xxx Data Mining and Machine Learning
 - PSYCH 640 Special Topics in Psychology: Topic 10 Data Analysis & Graphing in R
 - SOC xxx The Politics & Practices of Big Data (*pending development/approval*)

- **Link(s) to courses**

- Graduate course search

Diploma website

Departmental approval date (mm/dd/yy):

Reviewed by GSPA (for GSPA use only) ☒ **date** (mm/dd/yy): 05/07/2020

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**



**GRADUATE EXPEDITED PROPOSAL
OF THE
GRADUATE DIPLOMA (GDIP) IN COMPUTATIONAL
DATA ANALYTICS FOR THE SOCIAL SCIENCES &
HUMANITIES
(CDASH)
BY THE**

DEPARTMENT OF ECONOMICS

**Submitted to the
Ontario Universities Council on Quality Assurance**

VOLUME I - PROPOSED BRIEF

MAY 2020

TABLE OF CONTENTS

1. Introduction	1
2. Objectives of the Program (QAF 2.1.1)	4
3. Admission Requirements (QAF 2.1.2)	7
4. Structure (QAF 2.1.3)	7
5. Program Content (QAF 2.1.4)	7
6. Mode of Delivery (QAF 2.1.5)	10
7. Assessment of Teaching and Learning (QAF 2.1.6)	12
8. Resources for All Programs (QAF 2.1.7)	14
9. Resources for Graduate Programs (QAF 2.1.8)	17
10. Quality and Other Indicators (QAF 2.1.10)	18
Appendix A - Summary of Learning Outcomes Mapped to Courses and Assessment Methods	20

1. Introduction

The Big Data/Machine Learning revolution is occurring at a rapid pace and is extremely relevant to students in social sciences and humanities (SSH), especially at the graduate level. Big Data refers to large volumes of data, structured and unstructured that can be measured in terabytes.¹ In an age where every Facebook, Twitter, and Instagram post is a data observation that can be archived, and at some point becomes a part of a historical dataset, there is a significant demand for employees who can scrape, collect, aggregate and analyze such large information sets through advanced statistical methods, such as Machine Learning – which is the use of algorithms and statistical models employed by computer systems use to execute tasks without using explicit instructions – in a meaningful manner and deliver key insights. These skills are not exclusively relevant to social media platforms – they are important in any context where digital technology is enabling the collection of terabytes of data. There is a need for courses that not only teach students how to analyze such large datasets, but are also couched in behavioral theories that are required to interpret and understand collective behavior and choices made by individuals. Perhaps most important, this training will produce students who are well versed on how to assess societal impacts of massive data collection, associated privacy issues, election manipulation, and appropriate government policy. This is critical given current public concerns on such issues.

The University of Waterloo seeks to establish a Type 2 Graduate Diploma (GDip) in Computational Data Analytics for the Social Sciences & Humanities (CDASH) that will expose students to some of these methods and teach contemporary computational and data analytics skills that can be employed to analyze and study Big Data. The GDip in CDASH will be hosted by the Department of Economics, with support from the Departments of Anthropology, Economics, History, Psychology, Sociology and Legal Studies, Geography, and Knowledge Integration. In order to obtain the GDip in CDASH, students must take three courses over and above course requirements for their home degree/program. All courses will be delivered in-person on campus.

The Learning Outcomes and skills that we expect students to acquire from the GDip include: (1) core technical competencies such as statistical and computational methods for accessing and analyzing data including commercial software tools like R, Python, Tableau, SQL knowledge that can be applied to machine learning and other computational methods; (2) training in programming languages such as R, Python, Tableau, SQL; (3) tools to assess societal impacts of data collection and coding practices employed by both the private and public sectors; and (4) the ability to extract narratives from data analysis and creating summaries for stakeholders.

¹ A Terabyte is a unit used for measuring the amount of information that a computer can store and consists of 1,000 gigabytes.

Graduate students in the humanities and social sciences will benefit from training in computational methods that will allow them to analyze decision making, choices, and other facets of human behaviour based on data culled from the internet and social media. These skills are in high demand and will considerably increase the public and private sector employability of graduate students in the Social Sciences and Humanities.

While there is a rich tradition of statistics in the humanities and social sciences, Big Data analysis often requires Machine Learning and other tools/techniques, which are not as common in SSH programs. The unique feature of the GDip in CDASH courses is that they will be embedded with examples and learning methods that are geared towards students in the social sciences and humanities, so that the skills can be immediately applied in a real world setting or to research pursued by such graduate students. In this respect, there is an increasing recognition that Big Data methods/Machine Learning need to be a part of the toolkit for researchers in the social sciences and humanities. Considered to be among the prominent economists of her generation, Susan Athey of Stanford University states that: “I believe that machine learning (ML) will have a dramatic impact on the field of economics within a short time frame.”² However, the emerging importance of Big Data and Machine Learning methods is not restricted to Economics. A recent special issue of *Psychological Methods* edited by Harlow and Oswald (2016) consists of papers based on Big Data in Psychology, some of which look at the availability of large datasets from Twitter, Facebook, and other social media platforms that can be harnessed to investigate attitudes and behaviors.³ While advocating caution and the need to ensure that big data methods like machine learning do not make theoretical work redundant, as well as the inherent bias in social media data (self-selection from the data being dependent on who uses the social media platform), McFarland, Lewis, and Goldberg (2016) acknowledge that the use of Big Data and Machine Learning methods can be of immense value to sociologists interested in studying human systems, behavior, and social networks.⁴

In a similar vein, Lazer and Radford (2017) discuss how much easier conducting natural experiments have become with appropriate Big Data methods. In terms of sociologists actively using Big Data, Desmond Patton of Columbia University harnesses Twitter data to study dynamics of violent gangs in Chicago.⁵ His research looks at the use of digital platforms by marginalized youth as a mechanism for finding peer communities where they can try to

² Susan Athey (2019), ‘The Impact of Machine Learning on Economics’, book chapter in ‘The Economics of Artificial Intelligence: An Agenda’, edited by Ajay Agrawal, Joshua Gans, and Avi Goldfarb, published by the University of Chicago Press

³ Harlow, Lisa L. and Frederick L. Oswald (2016). ‘Big Data in Psychology: Introduction to Special Issue, *Psychol Methods* 21(4): 447–457.

⁴ McFarland, D.A., Lewis, K. & Goldberg (2016) ‘Sociology in the Era of Big Data: The Ascent of Forensic Social Science’, *A. Am Soc* 47(12). <https://doi.org/10.1007/s12108-015-9291-8>.

⁵ Patton, Desmond et al. (2017), ‘Gang violence on the digital street: Case study of a South Side Chicago gang member’s Twitter communication’, *New Media and Society* 19(7): 1000-1018.

exercise power through sharing of images of guns and/or violence, but also as a venue for expressing grief and a need for help.

Big Data and Machine Learning are beginning to appear in the humanities. A research team at the University of California at Berkeley has used feature frequency profiling (FFP) methods to investigate relationships between different types of text. A part of their research has employed text analysis to ascertain whether certain work attributed to Shakespeare is consistent with his style of writing in other plays that are more likely to have been written by him. Ian Milligan of the Department of History, University of Waterloo, is doing pioneering work in developing software and algorithms to help historians in using web archives for their research.

The above discussion clearly illustrates the type of research being conducted in different social sciences/humanities with Big Data and associated methods. Firms in the financial services, retail, wholesale, transportation, and hospitality sectors all require analysis of basic data trends in order to optimize delivery and find efficiencies. Graduates should also attract interest from consulting firms. Different levels of government are becoming aware of the need for computational methods and their relevance to public policy.

Another extremely important contribution that social sciences/humanities students are expected to make in the future, is to help craft and formulate discussions on societal implications stemming from Artificial Intelligence/Machine Learning methods used by firms. The massive amounts of data collected by Google, Facebook, Amazon, and Netflix have raised concerns on whether individual privacy is being adequately protected and whether private citizens are being sufficiently educated on how their own information is being used by these firms – the Facebook data breach and how data were then used to impact voting during the 2016 U.S. Presidential Election - being a prime example.⁶ Further, such firms are examples of “first to the post – winner takes all” success stories, and as a result have become virtual monopolies with considerable resources and economic power, all stemming from their ability to collect and analyze data that no other economic entity has access to. In these regard, policymakers are grappling with how to construct appropriate regulation.

However, the ability to collect large amounts of data is not the only societal concern related to firm market power. The way that firms use their data might also raise concerns. For example, there is some emerging evidence that algorithms employed by financial services firms might have the unintended consequence of reducing credit access to minority groups. On the other hand, responsible data analytics results in better products, pricing, and innovation that benefits all of society. In summary, the GDip in CDASH seeks to offer a blend of skills that introduce graduate students to not only advanced statistical methods currently being used in industry and government but also critical reasoning on societal implications from the use of such methods and data collected from individuals.

⁶ ‘Facebook-Cambridge Analytica: A timeline of the data hijacking scandal’, by Sam Meredith, published by CNBC on Tuesday April 10th 2018 and available at <https://www.cnn.com/2018/04/10/facebook-cambridge-analytica-a-timeline-of-the-data-hijacking-scandal.html>.

To the best of our knowledge this will be the first GDip in computational data analytics hosted by a Faculty of Arts in Canada, and focused on the needs of students in the humanities and social sciences. This is important as Big Data/Machine Learning programs are typically housed in Departments of Mathematics & Statistics, Engineering, and Computer Science. These programs do not include social science/humanities theories and critical reasoning with respect to data analytics, nor are they accessible to most graduate students in Arts. Further, such programs also do not typically have courses that teach students the importance of societal impacts from data collection, storage, coding practices, and how data can be used to manipulate electoral outcomes. The establishment of the GDip in CDASH is a proactive approach as opposed to a reactive response to the rapid evolution of Big Data based data analytics that are becoming widespread, and for which students in the social sciences and humanities must be adequately prepared.

This brief was prepared after extensive consultations with faculty members in Arts and Environment, in order to elicit feedback, determine support for the diploma, and evaluate commitment towards teaching required courses across different departments. Surveys of graduate students in Arts were also carried out to elicit feedback and assess interest in the proposed diploma. Seventy percent of respondents indicated “a strong possibility in pursuing a graduate diploma in computational data analytics, if established”.

In its general meeting on March 29th 2019, the Department of Economics agreed to host the diploma.

2. Objectives of the Program ([QAF 2.1.1](#))

The proposed program will offer a unique blend of advanced graduate training in the analysis, interpretation, and archiving of extremely large and complex datasets. However, as opposed to other Big Data/Machine Learning programs, there will also be an emphasis on showing students how their traditional skills in critical thinking and “storytelling” are particularly relevant in explaining observable trends in large datasets. They will also be trained to summarize findings that can be digested in a relatively non-technical manner and that result in actionable impacts in either a public or private sector setting. What is unique is that students will be taught Big Data methods from the perspective of different disciplines, which will result in an expansive skill set. Further, consistent with the University’s core strength in experiential education, courses will be focused on a teams-based learning approach, when possible, through which students from different disciplines will work together on projects and assignments, in order to simulate employment in the real world.

The GDip in CDASH will benefit graduate students and society in the following ways:

1. Graduate students in the humanities and social sciences need training in different coding/programming skills. Available courses from computer science/math/statistics have high technical prerequisites that most SSH students would not have. Students will obtain training in languages such as R, Python, Tableau, and SQL, that they will be able to use in text mining, the collection and analysis of structured and unstructured data,

and data visualization. They will also be exposed to advanced statistical methods such as machine learning and natural language processing. What is significant is that students will obtain the benefit of learning Big Data methods from the perspective of multiple disciplines in the social sciences and humanities. The GDip in CDASH will offer training in how to scrape, store, and analyze real time and historical data generated from websites and applications.

2. Through unique course offerings, the GDip in CDASH will harness the training that social science/humanities students have in evaluating the impacts of economic power on society and how data can be used to affect democratic outcomes. Therefore, students will be trained to contribute to contemporary problems on data collection, storage, and use, as well as appropriate regulation.
3. There will be an emphasis on training students to extract narratives from data analysis and creating informative summaries for stakeholders. There is a demand for students who are not only proficient in coding, but are also able to interpret analytics performed on the data and can tell stories based on behavioral theories which is valued by public and private sector employers. Most big data programs do not seem to be focused on data interpretation from a social science or humanities perspective. However, there is a need to train students with a program that is at the intersection of arts and technology, which some people think actually produces the best technology (See, for example, <http://www.fastcompany.com/3034947/the-future-of-work/why-top-tech-ceos-want-employees-with-liberal-arts-degrees>).
4. The private sector has made significant strides in harnessing returns from Big Data analytics. However, there is also a need for public sector employees to be able to effectively harness and analyze information on public attitude towards programs and policies. SSH students have a tendency to apply for government positions and this GDip will add value to their resumes.
5. The GDip will allow graduate programs in the University to offer another qualification with strong demand and linked to improved job prospects, at a relatively low cost.

In summary, the GDip in CDASH will train students in coding, data interpretation and visualization from a multi-disciplinary perspective that will enable them to work in teams and to communicate key findings to stakeholders in a manner that leads to actionable impacts. The GDip in CDASH will also give students different theoretical frameworks from the social sciences/humanities that will allow them to analyze societal issues relating to data collection and use by firms and governments. Appendix A contains some positions that could be relevant to graduates with this GDip.

There are many Canadian universities that now offer Master's level Big Data degrees from either a department in engineering, mathematics, computer science, or through a faculty of business. Degrees from a STEM faculty are in most cases focused on building on coding and programming skills that students learn from a corresponding undergraduate degree. On the other hand, programs available from business schools train students to be able to take knowledge from Big Data analysis and be able to unpack insights that can aid business intelligence and decision making. There is no current graduate level diploma or certificate program, which is focused on the needs of students in the humanities and social sciences.

In terms of other programs, York University's School of Continuing Education has started a Certificate in Big Data Analytics and a Certificate in Advanced Data Science and Predictive Analytics (<https://continue.yorku.ca/certificates/big-data-analytics-program/>), each of these certificates consisting of three 8 week courses. McMaster's DeGroote School of Business is also starting a Big Data Analytics Certificate consisting of five courses and a capstone course (<https://www.mcmastercce.ca/bigdata-course-descriptions>). Ryerson University also has started a Certificate in Data Analytics, Big Data, and Predictive Analytics (<https://ce-online.ryerson.ca/ce/default.aspx?id=3558>). All these diplomas/certificates are focused on some form of business intelligence. However, none of these programs are accessible to students in humanities or the social sciences because of advanced requirements in math and statistics.

Finally, the GDip in CDASH is consistent with the strategic commitments of the University of Waterloo's new Strategic Plan (2020-2025), one of which is: "Empower students to leverage diverse learning experiences by creating more flexible learning pathways", and one of its key objectives: "Stimulate opportunities for interdisciplinary research by developing more flexible graduate programs".⁷ This GDip also echoes the Faculty of Art's emphasis on [the importance of multi-disciplinary learning](#). Further, the GDip in CDASH is closely aligned with both the University and Faculty Strategic Plans by providing an applied curriculum to prepare graduates to meet the evolving societal challenges posed by Big Data. It is also designed to address clear labour force needs and train students to seamlessly fit into positions and become valued and productive employees.

The GDip will be housed in the Department of Economics, and includes contributions from the Departments of Anthropology, Economics, Geography, History, Psychology, and Knowledge Integration. The required courses for the GDip in CDASH will include some existing courses; however, some new courses will need to be developed by the above departments. Any registered graduate students at the University of Waterloo will be eligible for the GDip in CDASH.

The Learning Outcomes of the GDip in CDASH have been mapped against the Ontario Council of Academic Vice-Presidents (OCAV) Graduate Degree Level Expectations (GDLEs) (see Section VI).

⁷ <https://uwaterloo.ca/strategic-plan/>.

3. Admission Requirements ([QAF 2.1.2](#))

The GDip in CDASH will be open to students already accepted and enrolled in a University of Waterloo graduate degree program. Students will be required to complete an online form, which will be available from the Department of Economics website. The student will specify the courses they would like to take in fulfillment of the GDip requirements and will receive an admission notification from the Program Director. With respect to program completion/graduation, the Program Director and graduate administrators from the student's home department will review the student's record to ensure that the GDip requirements have been met and will provide confirmation to the Office of Graduate Studies and Postdoctoral Affairs. Students must be in good standing in their home master's or doctoral program to take courses for the GDip in Computational Data Analytics for the Social Sciences and Humanities.

4. Structure ([QAF 2.1.3](#))

The GDip in CDASH will be administered by the Department of Economics. There will be a Program Director from the Department of Economics appointed by the Dean of Arts, in consultation with the Departmental Chair, who will be responsible for the administration of the program. These duties will include: ensuring that a sufficient number of relevant courses are available to students; that the courses meet student expectations; and communicate student progress with graduate administrators in home departments. The Director will be assisted on matters relating to academic curriculum and program design by a committee consisting of representatives from each participating department. The Program Director will be assisted by the Graduate Administrator of Economics. However, tracking students in completion of requirements and qualification for the GDip in CDASH will also be the responsibility of the Graduate Administrator of the students' home department.

In order to obtain the GDip in CDASH, students must successfully complete three graduate level courses (0.5 credit unit weight) over and above program requirements in their home graduate program. There can be no double counting of courses for different degrees/diplomas. The courses will be taught by faculty primarily from different departments in Arts. Students must maintain an average of 70% across courses for this Diploma.

5. Program Content ([QAF 2.1.4](#))

Students must complete three of the following twelve courses from Economics, Knowledge Integration, Psychology, Sociology and Legal Studies, Geography, Anthropology, Public Service and History, or other courses that fit with the goals of this GDip, as approved by the Program Director. With the exception of the courses from Sociology and Legal Studies, and Anthropology, all courses have been approved. We expect the courses from Sociology and Legal Studies, and Anthropology to be ready no later than January 1, 2021. All courses have been designed and will be taught by professors who are considered experts in their fields.

None of these courses are mandatory. Students can choose any three of the twelve prescribed courses in order to fulfill the GDip in CDASH requirements.

Section VI maps the twelve courses against GDLEs. The courses are:

ECON 526 Fundamentals in Programming for Big Data Analysis

This course covers fundamental skills in programming that are essential for the analysis of big data sets. In addition to teaching the basics of programming using languages such as R, Python and SQL, the course provides an introduction to techniques including parallel programming and cloud computing. An overview of key data visualization techniques will also be presented.

Prerequisite: An undergraduate statistics course that contains multivariate regression analysis and some exposure to a statistical software package. Examples of relevant course include ARTS 280 Statistics for Arts Students, ECON 221 Statistics for Economists, PSCI 314 Quantitative Analysis, PSCI 314 Quantitative Analysis.

ECON 626 Machine Learning for Economists

This course explores a variety of machine learning methods used to analyze complex economic data and inform policy decisions. The course introduces students to predictive methods and exploratory data analysis for high-dimensional data. These methods, such as decision trees and neural networks, are applied to observational data with an emphasis on the analysis of large and/or complex datasets of interest to social scientists and policy makers.

Prerequisite: An undergraduate level advanced econometrics course equivalent to ECON 421

HIST 640 Digital History

Digital history, the application of new and emerging technologies to the study of history, is an important field that has begun to reshape historical production and scholarship. This graduate level course introduces students to the literature on digital history, and then puts theory into practice by digitally collecting, publishing, and producing new historical knowledge with cutting-edge tools.

INTEG 640 Computational Social Science

We are living in an age where digital information is being produced at an unprecedented rate. This explosion of digital data has the potential to revolutionize the way we learn about the world, and how we conduct research related to urgent social and political problems. This course focuses primarily on the knowledge and skills necessary for doing high-quality research with digital data. The course is divided into four core sections: (1) a research-oriented introduction to the programming language Python, (2) collecting, cleaning, and combining digital datasets, (3) analyzing digital datasets using tools from machine learning, text analysis, and social network analysis, and (4) privacy and confidentiality. There will be an emphasis on good research design throughout the course. Previous courses in research methods and / or statistics are an asset, but are not required.

GEOG 606 Introduction to Geographic Information Systems

Introduction to GIS concepts and to their application in geographic studies using basic GIS software. This course is designed for students with little or no prior experience with GIS.

PSYCH 640 Special Topics in Psychology: Topic 10 Data Analysis & Graphing in R (or another topic as approved by the Program Director)

This course aims to explore the following topics at the intersection of data and behavioral sciences:

- Exploration of supervised and unsupervised machine learning approaches for behavioral sciences
- Use of cross-validation for exploratory analyses of archival and experimental multivariate data with multiple predictors and dependent variables
- Utilization of Principal component, confirmatory factor analyses and cluster analyses for big data projects
- Scalable on-line experiments on social media platforms
- Forecasting-based analyses for social sciences: Tracking trajectories and patterns of socio-cultural change over time
- SEM trees at the intersection of structural equation models and Machine-learning based regression trees

A focus of this course will be on teaching students on how to manipulate data from different social media platforms and study individual choices and behavioural responses.

ECON 625 Numerical Methods for Economists

The course covers important topics related to scientific computing through applications in either microeconomics, macroeconomics or economics. The topics include: floating point arithmetic, nonlinear equations, optimization, numerical derivatives and numerical integration, differential equations, and simulation of dynamic models.

Static and dynamic general equilibrium modelling; computation, calibration and simulation. Sensitivity analysis. Policy applications.

INTEG 641 Hard Decisions and Wicked Problems

Every day, nuanced decisions are made at the personal level (what job offer to accept), an organizational level (whether to recall a faulty product), and in the form of public policy (when and where to develop renewable energy). This course introduces decision analytic tools for systematically structuring messy problems to identify trade-offs among different decisions and to explore them intelligibly. For public policy problems, the challenges of values conflicts and "truth decay" (i.e., the political polarization or outright rejection of facts) will be considered. Additional decision contexts that push the limits of traditional analytic approaches will also be addressed (e.g. wicked problems, deep uncertainty).

SOC xxx The Politics & Practices of Big Data

There has been an explosive growth in the volume, velocity and variety of data production, sharing, and management. Our daily lives and the environments we inhabit - our homes, work spaces, and public spaces - are captured as data and mediated through data-driven technologies: mobile and distributed devices and sensors, cloud computing, and social media. The common assurances are that 'big data' will lead to better science and a more refined understanding of our world. This course explores the epistemological, ethical, material, political and economic dimensions of big data with particular attention paid to understanding big data in relation to questions of difference: race, gender, class, sexuality, and disability. Who decides what kind of data speaks and for whom? How do data shape our understanding of the world? How might we work towards a data literacy that seeks to foreground knowledge production and practices in science and technology? Data - small, medium, big - are not neutral, objective, and pre-analytic in nature. Rather, data shape and are shaped by the instruments, practices, contexts and knowledge used to generate, collect, process, analyse, and store them. Topics covered in the course may include: historicizing big data; data colonization; data profiling; security, privacy, and surveillance; data leaks and dumps; predictive policing; data infrastructures and materiality; data ethics

PS 699 Special Topics: Topic 3 Coding and Programming

This course covers fundamental skills in programming that are essential for the analysis of large data sets that may be structured or unstructured. In addition to teaching the basics of programming using languages such as R, Python and SQL, the course provides an introduction to techniques including parallel programming and cloud computing. An overview of key data visualization techniques will also be presented. Applications will be presented through case studies based on Open Data.

PS xxx Data Mining and Machine Learning

This course will consist of advanced applications of programming languages such as R, Python and SQL and introduce students to basic machine learning models. Students will learn how to apply learning algorithms to mining social media and conduct text analysis and natural language processing.

ANTH xxx Critical Data Studies: Making and Using Data in Society

This course uses insights from anthropology, sociology, history and political sciences to probe critically into how data are made and used in society, how infrastructures matter, and how the quantitative/qualitative divide as well as classifications in their social, historical and political contexts guide the production and use of (big) data.

6. Mode of Delivery and Graduate Degree Level Expectations ([QAF 2.1.5](#))

All courses will be taught on-campus in a traditional classroom setting with weekly lectures scheduled during the fall and winter terms. Students who wish to take the more computationally demanding courses such as: ECON 626 Machine Learning for Economists, ECON 625 Numerical Methods in Economics, PSYCH xxx Statistics and Big Data Experiments, and INTEG 440 / 640 Computational Social Science, would be advised to first take ECON 526

Type 2 Graduate Diploma (GDip) in Computational Data Analytics for the Social Sciences & Humanities (CDASH)

Fundamentals in Programming for Big Data Analysis as this course teaches fundamental skills in coding that are helpful for the other courses.

Although the completion of the GDip in CDASH does not lead to the awarding of a Masters degree, the program and its courses have been designed to address Masters Graduate Degree Level Expectations (GDLEs) to ensure a) that these courses deliver content appropriate to post-undergraduate training; and b) that these courses impart unique skills with respect to data analytics.

Table 1 lists the University of Waterloo's Masters GDLEs, which are based directly on the Ontario Council of Academic Vice Presidents (OCAV) GDLEs 1-6 and the associated Learning Outcomes mapped to GDLEs for the CDASH GDip.

Table 1 GDLEs and Learning Outcomes for the Graduate Diploma in Computational Data Analytics for the Social Science and Humanities (CDASH)					
		Appropriately organize and transform structured and unstructured large data for analysis	Apply advanced computational and statistical methods to analyze large data from a Social Science and Humanities perspective	Communicate insightful narratives from data analysis to diverse audiences	Critically assess the social consequences of data collection, storage and security
GDLE		1, 3, 4	1, 2, 3, 4	4, 5	4, 6
Courses	Fundamentals in Programming for Big Data Analysis	X	X		
	Machine Learning for Economists	X	X		
	Digital History	X	X	X	X
	Computational Social Science	X	X	X	X
	Introduction to Geographic Information Systems	X	X	X	X
	Special Topics in Psychology: Topic 10 Data Analysis & Graphing in R	X	X	X	X
	Numerical Methods for Economists	X	X		
	Hard Decisions and Wicked Problems	X	X	X	X
	The Politics & Practices of Big Data			X	X
	Special Topics: Topic 3 Coding and Programming	X	X		
	Critical Data Studies: Making and Using Data in Society			X	X
	Data Mining and Machine Learning	X	X	X	X

7. Assessment of Teaching and Learning ([QAF 2.1.6](#))

Assessment of Teaching and Instructor Effectiveness

The GDip in CDASH course evaluation plan will include collection and analysis of the following data: (1) Students are asked to complete course evaluations of online courses during the last two weeks of term using the University of Waterloo's standard, online evaluation instrument. This instrument includes specific questions for both the course and instruction; (2) Instructors will have the ability to add individual feedback questions throughout the course content, assessing student satisfaction with content presentation, order, and effectiveness; (3) in addition to the University of Waterloo's standard online evaluation form, the GDip in CDASH will implement exit surveys of students once they complete degree requirements and solicit their opinion on whether GDLE's were successfully met and overall opinions on the value of the diploma; (4) contact will be maintained with alumni in order to solicit feedback on the usefulness and impact of skills obtained through the GDip in CDASH; (5) the program committee will meet on a regular basis to discuss overall student achievement and satisfaction in the program based on feedback from course evaluations, exit surveys, and alumni responses. The program committee will use this information to plan course development, improvements, and offerings.

Assessment of Learning

Each course has its own specific learning outcomes, consistent with the learning outcomes listed in Table 1. Each of the required courses will employ a number of different evaluation tools. Broadly speaking, students will be expected to demonstrate the knowledge they have gained through completion of written assignments, projects, possible short research papers, and presentations. There will be an emphasis on group work and team-based learning. There will also be effort in getting people in the real world who work actively with large datasets and computational methods, to give guest lectures. Table 2 lists the different methods that will be used for each course in order to meet GDLEs.

Table 2 Assessing Learning				
	Appropriately organize and transform structured and unstructured large data for analysis	Apply advanced computational and statistical methods to analyze large data from a Social Science and Humanities perspective	Communicate insightful narratives from data analysis to diverse audiences	Critically assess the social consequences of data collection, storage and security
GDLE	1, 3, 4	1, 2, 3, 4	4, 5	4, 6
Cours	Fundamentals in Programming for Big Data Analysis	Individual and group assignments	Individual and group	

Type 2 Graduate Diploma (GDip) in Computational Data Analytics for the Social Sciences & Humanities (CDASH)

			assignments, tests, exams		
	Machine Learning for Economists	Individual and group assignments	Individual and group assignments, tests, exams		
	Digital History	Individual and group assignments	Individual and group assignments, tests	Individual and group assignments, presentations	Individual and group assignments, presentations
	Computational Social Science	Individual and group assignments	Individual and group assignments, tests,	Individual and group assignments, presentations	Individual and group assignments, presentations
	Introduction to Geographic Information Systems	Individual and group assignments	Individual and group assignments, tests	Individual and group assignments	Individual and group assignments
	Special Topics in Psychology: Topic 10 Data Analysis & Graphing in R	Individual and group assignments	Individual and group assignments, tests,	Individual and group assignments, presentations	
	Numerical Methods for Economists	Individual and group assignments	Individual and group assignments, tests, exams		
	Hard Decisions and Wicked Problems	Individual and group assignments	Individual and group assignments, tests	Individual and group assignments, presentations	Individual and group assignments, presentations
	Special Topics: Topic 3 Coding and Programming	Individual and group assignments	Individual and group assignments, tests	Individual and group assignments, presentations	
	The Politics & Practices of Big Data			Individual and group assignments, presentations, tests, exams	Individual and group assignments, presentations, tests, exams
	Critical Data Studies: Making and Using Data in Society			Individual and group assignments, presentations, tests, exams	Individual and group assignments, presentations, tests, exams
	Data Mining and Machine Learning	Individual and group assignments	Individual and group assignments, tests	Individual and group assignments, presentations	Individual and group assignments, presentations

8. Resources for All Programs ([QAF 2.1.7](#))

No further physical resources are needed given that the diploma is based on existing courses that are already or planned to be offered, and therefore already includes access to information technology, classrooms, and regular support for both instructors and students, and the University of Waterloo Library's significant e-resources.

The Departments of Economics, Geography, Psychology, History, Knowledge Integration, Anthropology, and Sociology and Legal Studies have committed to ensuring that eligible courses will be made available to students and be taught by faculty members who are considered experts in their fields. A brief description of faculty research interests are given below.

Britt Anderson, Associate Professor of Psychology

(<https://uwaterloo.ca/psychology/people-profiles/britt-anderson>)

Dr. Anderson's research in cognition emphasizes mechanistically specific and computationally framed hypotheses combined with behavioral studies in normal subjects and people with focal brain injury. His current research focuses on attention and updating.

Hilary Bergsieker, Assistant Professor of Psychology

(<https://uwaterloo.ca/psychology/people-profiles/hilary-bergsieker>)

Dr. Bergsieker has expertise in trust formation and maintenance in diverse groups, social cognition, bias reduction, and network science. She has extensive experience teaching graduate-level statistics courses and employs a variety of advanced methods in her own research, including dyadic longitudinal data analysis, experience sampling, structural equation modelling, and social network analysis. Bergsieker is a Fellow in the Engendering Success in STEM research consortium and was recently named a Rising Star by the Association for Psychological Science.

Joel Blit, Associate Professor of Economics

(<https://uwaterloo.ca/scholar/jblit>)

Dr. Blit's research is on the economics of innovation. His work has examined, among other things, the role of multi-location firms as a channel for the geographic diffusion of knowledge, whether intellectual property rights promote innovation, and whether immigration increases innovation in Canada. His ongoing work is mapping technology space using machine learning to analyse patent documents.

Pierre Chausse, Associate Professor of Economics

(<https://uwaterloo.ca/economics/about/people/pchause>)

Dr. Chausse is an econometrician and studies generalized empirical likelihood models and is an expert on empirical applications using R software.

Igor Grossman, Associate Professor of Psychology

(<https://uwaterloo.ca/psychology/people-profiles/igor-grossmann>)

Dr. Grossmann aims to translate big ideas in social sciences ideas into concrete research. In particular, his work examines how sociocultural factors impact adaptive emotion regulation, wise reasoning and sound judgment in everyday life. His interdisciplinary work combines various methods, including big data analytics, archival studies, psychophysiology, virtual reality, diary surveys, and behavioral experiments to target complex social issues.

Goetz Hoeppe, Associate Professor of Anthropology
(<https://uwaterloo.ca/anthropology/people-profiles/gotz-hoeppe>)

Dr. Hoeppe's research concentrates on the social lives of data and representations in scientific practice with a focus on the environment. He has begun a project funded by the Social Sciences and Humanities Research Council of Canada, considering how the sharing and reuse of open-access data is embedded in the social and material work of scientific laboratories. It focuses on how junior climate scientists are instructed to produce, use, and re-use digital data using diverse technologies and material probes. The project aims to contribute to improving the re-usability of climate science research data.

John McLevey, Assistant Professor of Knowledge Integration and Sociology
(<https://www.johnmclevey.com/>)

Dr. McLevey is an expert in computational social science and network science, with substantive interests in the sociology of science and science policy and environmental social science. He runs a research lab called NETLAB which specializes in network science (e.g. statistical models for network data, measurement of relational and attribute similarity and diversity in networks structure and evolution of large-scale collaboration networks in science, the effects of diversity in scientific teams) and machine learning approaches to computational text analysis. NETLAB is funded by an Early Researcher Award from the Ontario Ministry of Research and Innovation and a variety of grants from SSHRC. McLevey teaches courses in research design and methods, computational social science, and data visualization. He is currently writing a methods book called *Doing Computational Social Science*, which is under contract with SAGE (UK). Students who have graduated from his research lab are currently employed in data science jobs in government and industry, or are pursuing further graduate degrees in data science.

Ian Milligan, Associate Professor of History
(<https://ianmilligan.ca/>)

Dr. Milligan is Associate Professor in the Department of History at the University of Waterloo. His primary research focus is on how historians can use web archives. He teaches courses in historical methodology, postwar Canada, and digital history, and supervises graduate students in diverse areas including postwar Canadian history, video games, and childhood studies and is experienced in teaching text mining methods. In 2016, he was awarded the Canadian Society for Digital Humanities Outstanding Early Career Award. He also holds an Ontario Early Researcher Award. Milligan is principal investigator of the Web Archives for Historical Research group, which is supported by the Andrew W. Mellon Foundation, the Social Sciences and Humanities Research Council and the Ontario Ministry

of Research and Innovation. Between 2013 and 2018, Milligan has received over a million dollars as principal investigator in federal, provincial, and foundation funding.

Lennart Nacke, Associate Professor at the Department of Communication Arts
(<https://uwaterloo.ca/communication-arts/people-profiles/lennart-nacke>).

Dr. Nacke is an Associate Professor at the Department of Communication Arts, the Associate Director Graduate Studies for Stratford campus, and the Director of the HCI Games Group at the University of Waterloo's Games Institute. Professor Nacke teaches User Experience, Human-Computer Interaction, and Game Design at the University of Waterloo. As part of the Games Institute, he is researching cognitive and emotional elements of player experience in video games, immersive virtual reality (VR) environments, and gameful applications, often using physiological measures together with surveys and player interviews. His research interests involving computational methods include applications to gamification, games user research, and social relationship-building games.

Mikko Packalen, Associate Professor of Economics
(<https://sites.google.com/site/mikkopackalen/>)

Dr. Packalen's current research examines how demographics, geography, and institutions influence the adoption of new ideas by scientists and inventors, how new ideas develop into transformative ideas that improve health outcomes and facilitate economic growth, and how to measure the novelty of science and invention. He completed his undergraduate studies at the University of Helsinki and earned his PhD in economics from Stanford University. His current work has received funding from the National Institute of Aging and Amazon Web Services.

Thomas Parker, Assistant Professor of Economics
(<https://uwaterloo.ca/economics/people-profiles/thomas-parker>)

Dr. Parker is an econometrician working on a variety of theoretical problems with empirical applications and is interested in the use of machine learning on economic problems.

Chris Riddell, Associate Professor of Economics
(<https://uwaterloo.ca/economics/people-profiles/chris-riddell>)

Dr. Riddell's teaching and research are closely connected to the manipulation and analysis of data including in particular raw administrative records. Much of his research involves evaluating government programs and legislation as well as internal firm practices. The bulk of his research thus involves the cleaning, manipulation and analysis of raw, administrative records. On teaching, Professor Riddell typically teaches Program Evaluation at the graduate level along with Statistics for Economists and Econometrics at the undergraduate level. In all of these courses, the students make use of various data sets including important Statistics Canada surveys such as the Labour Survey and the Canadian Community Health Survey, along with influential policy experiments such as the US class size experiment Project STAR.

Vanessa Schweizer, Assistant Professor of Knowledge Integration
(<https://uwaterloo.ca/knowledge-integration/people-profiles/vanessa-schweizer>)

Dr. Schweizer holds a Masters in Environmental Studies and a PhD in Engineering and Public Policy. She blends these interdisciplinary interests through her work on scenarios, which are common tools for collective decision-making. In a variety of contexts, collective decision-making includes many processes such as articulating aspirations and values, exercising foresight, confronting uncertainties and risks, and negotiating tradeoffs. She uses machine learning/big data methods in her research, an example being understanding the importance of cultural issues with respect to the implementation of climate change policies.

Anindya Sen, Professor of Economics

(<https://uwaterloo.ca/economics/people-profiles/anindya-sen>)

Dr. Sen is interested in the societal and market effects of data accumulation by large firms and the corresponding role of optimal regulation with respect to privacy and innovation.

Jennifer Whitson, Assistant Professor of Sociology

(<https://uwaterloo.ca/stratford-school-of-interaction-design-and-business/people-profiles/jennifer-r-whitson>)

Dr. Whitson is a sociologist who researches the secret life of software, the people who make it, and how both change our daily lives. Her current projects centre on digital media incubators, indie game makers, and on the surveillance implications of data-driven design, respectively

She's particularly interested in the shifting production models of the global game industry, and tracing how risk management practices, datamining, and digital distribution shape developers' creative work and the larger cultural role of games.

The design, deployment, and use of communication software is shaped by economic, social, technological and political concerns, which then create certain constraints and affordances in how people can use these technologies. For example, her work on gamification traces how governance and control are designed into games, smartphones, and websites, and how playful rationalities are used to shape user behaviour and thus govern through freedom and pleasure rather than fear and risk.

Most recently, she is conducting ethnographic work inside game studios and with developer communities to learn about the struggle for new media producers to find a balance between creative work and economic sustainability, asking "In a 'sharing' community where most digital products like games are low/cost free, how do what we love while still managing to pay the rent?"

9. Resources for Graduate Programs ([QAF 2.1.8](#))

The GDip in CDASH is a Type 2 Graduate Diploma that is only open to graduate students currently registered at the University of Waterloo; therefore, they should already have financial support from home departments. Hence, the GDip does not offer any further financial assistance. In addition, students will not be writing a Master's level Major Research Paper or Thesis. Hence, faculty resources will not be required for any supervisory duties.

10. Quality and Other Indicators ([QAF 2.1.10](#))

The quality and experience of faculty is outlined in the CVs contained in Volume II of this Brief. As noted, faculty members come from a variety of disciplinary backgrounds and are considered experts in computational data analytics. The Curriculum Committee is committed to ensuring consistency and quality across the necessarily interdisciplinary courses. The initial Program Director will be Anindya Sen who has nearly a decade of experience in program administration, first as Associate Chair of Graduate Studies at the Department of Economics and then as the Director of the Master of Public Service program, which is an interdisciplinary program that consists of courses taught by faculty from Political Science, Economics, English, and Sociology. As a result, he has the necessary administrative expertise to ensure the smooth operation of an interdisciplinary program, which results in integrated learning outcomes for students. Professor Sen has extensive experience in conducting Big Data oriented research and has been funded on a variety of machine learning based projects. He is also a Research Fellow at the C.D. Howe Institute of Canada.

Appendix A - Summary of Learning Outcomes Mapped to Courses

Program Outcome	Associated GDLE		Courses										
		ECON 526	ECON 626	HIST 640	INTEG 640	GEOG 606	PSYCH 640	ECON 625	INTEG 641	PS 699	SOC xxx	ANTH xxx	PS xxx
Appropriately organize and transform structured and unstructured large data for analysis	1, 3, 4	X	X	X	X	X	X	X	X	X			X
Apply advanced computational and statistical methods to analyze large data from a Social Science and Humanities perspective	1, 2, 3, 4	X	X	X	X	X	X	X	X	X			X
Communicate insightful narratives from data analysis to diverse audiences	4, 5		X	X	X	X	X	X	X	X	X	X	X
Critically asses the social consequences of data collection, storage and security	4, 6			X	X	X	X		X		X	X	X

Course	Forum communication	Multi-part assignments	Quizzes/Tests	Written assignments/ arguments/policy briefs	Data interpretation, synthesis, visualization	Technical reports/plans	Video production	Slide Deck/Presentations	Other
ECON 526		X	X		X				
ECON 626		X	X		X	X			
HIST 640	X	X		X	X	X			
INTEG 640	X	X	X	X	X	X			
GEOG 606		X	X		X				
PSYCH 640		X	X		X	X			
ECON 625		X	X		X				
INTEG 641	X	X	X	X	X			X	
PS 699	X	X	X	X	X	X		X	
SOC xxx	X		X	X	X			X	
ANTH xxx	X		X	X	X			X	
PS xxx	X	X	X	X	X	X		X	

Appendix B - Job Descriptions relevant to the GDip CDASH

1. Senior Analyst, Data Analytics

TVO

Toronto, Canada Area

Apply on company website Apply to TVO on their website

Job description

The Senior Analyst will implement cross-platform data analytics for the organization's Business Information. This includes Google Analytics for Web Properties, Audience data for broadcast digital and social media; Proprietary data of our educational products including revenues, usage, and educational metrics; Proprietary donor and CRM data, and various third party data sources (including custom research) that provide competitive market analysis.

This individual will provide quantitative and qualitative findings on TVO's and competitors to assist various departments and inform the overall strategic planning efforts of the company. The Senior Analyst will be assigned projects and may develop objectives with clients. He or she will design and carry out background research, data analytics proposals, sample design, data instruments; collects, analyzes and interprets data. Produces written reports for internal and external distribution and oral reports; proposes recommendations and may present results to clients. Provides information on media, education, communications, societal and related issues that meet corporate and client needs. Consults with clients as required. May direct activities of other data personnel on selected projects. Performs other related duties.

The position will be responsible for standard reporting, ad hoc requests, and special projects reporting to the Manager, Data Analytics. The Senior Analyst is a versatile contributor to the Analytics team, collaborating with internal stakeholders. The successful candidate will be confident in media and educational data and will be supported in the evolution of their digital analytic skills.

Specific Accountabilities:

- Ability to data mine the Proprietary Database to extract viewer/user and product information and provide insights based on it.
- In partnership with internal clients, develop objectives, documentation and oversee implementation of Google Analytics and other digital data instruments (e.g. Twitter, Facebook, YouTube, Brightcove, etc.)
- Implement, maintain & update tracking Tags via Google Tag Manager and in liaison with developers.
- Consult with internal clients on carrying out data projects and develop objectives where needed
- Provide television audience analysis for TVO
- Produce written reports proposing recommendations and present to clients:
- Market-focused weekly summaries, genre-specific program tracks, and digests of periodic studies
- Ad hoc requests from internal clients by running, analyzing, and interpreting the appropriate data, and communicating the relevant results

- Create Weekly & Monthly dynamic Dashboards to inform decisions
- Track and monitor information from syndicated and proprietary research sources
- Analyze behavioural and attitudinal trends in media usage and consumption
- Attend meetings with other departments (Programming, Production, Marketing) to present informative and actionable research findings
- Work on a variety of custom projects with guidance and supervision from the Manager of Analytics and/or internal clients.

Knowledge and Skills:

- Bachelor's Degree in business, marketing, communications, statistics, or related field, coupled with experience with presenting qualitative and quantitative research findings
- Advanced current working knowledge of Google Analytics with a focus on creating customized views, dimensions & filters
- Proficient with Google Tag Manager and advanced implementation of tracking tags
- Working experience with JavaScript & API usage
- Working experience with A/B and multivariate testing tools such as Google Website Optimizer

Optimizer

- Advanced SQL Query skill & knowledge of Relational Databases
- Experience in creating Dynamic Dashboards using excel and BI Tools (Tableau etc.)
- Experience with Numeris (BBM Infosys) is desirable
- Experience with PMB or other syndicated datasets and experience reconciling multiple datasets to leverage insights responsible for decision-making
- Staying current on new developments in data analytics, measurement tools, and self-serve options. Experience in developing a business case recommending options
- Keen attention to detail, sharp analytical skills and ability to interpret, communicate and present data
- Must bring a sense of urgency, able to work independently, remain flexible, manage and prioritize workload with shifting priorities and ad hoc requests
- Strong communication skills, both written and verbal, coupled with well-developed presentation, interpersonal and relationship building skills
- Able to engage at all levels of internal and external business partners
- Must have strong teamwork and collaboration skills, can anticipate and recognize areas of conflict, able to elicit relevant input and feedback from others in a diplomatic and timely fashion, and able to influence opinions in a positive manner
- Proficiency with Windows-based PC applications such as Excel, Word, and

PowerPoint

- Familiarity with comScore, Twitter, Facebook, Hootsuite and digital analytics tools
- Curiosity and willingness to learn.

2. **Data Research Analyst**

Job description

ScribbleLive is the provider of the world's leading complete content marketing and live publishing software platform. Our all-in-one SaaS solution combines predictive analytics with content workflow technologies and is used by over 500 enterprises including Red Bull, Bayer, Ferrari, CNN, Oracle, and Yahoo!. Our team of world-class engineers and data scientists are

looking for new members who want to disrupt the industry. Whether it's working on deep natural language processing for integrating our newly acquired Insights product, buy-sell economics for the ScribbleMarket, or real-time publishing technologies for CoverItLive, you will be working on challenging problems unique to our space.

Our team is focused on delivering advanced analytics and data-science capability to the ScribbleLive product.

Reporting to VP, Client Services, the incumbent will help provide services to our growing list of clients helping with coordination, data collection, data management, analysis, and report writing for regular and ad-hoc research projects. The position is responsible for coordinating assigned research and evaluation projects; collecting qualitative and quantitative data, assembling data and/or manipulating raw data from primary and secondary data sources, analyzing data (including use of inferential statistics), interpreting data, and developing reports and summaries (including graphical summaries) of research findings. Responsibilities will include but not limited to: providing consulting support to brands and media based clients in the design and conduct of research projects and/or evaluation initiatives; collecting, compiling, analyzing and interpreting data for research related projects; and report generation.

Responsibilities:

- Coordinates and conducts research and evaluation projects, including assisting with the development of research designs and strategies for data collection, analysis and interpretation.
- Conduct research on consumer opinions and marketing strategies, collaborating with marketing professionals, statisticians, pollsters, and other professionals.
- Prepare reports of findings, illustrating data graphically and translating complex findings into written text.
- Retrieves data from the ScribbleLive's own data driven software, existing market research and other publicly available market data sources.
- Plans and coordinates KPIs with our clients and internal stakeholders.
- Seek and provide information to help companies determine their position in the marketplace.
- Analyzes and interprets KPI results and trends to support reporting duties.
- Monitor industry statistics and follow trends in trade literature.
- Responds in a timely manner to ad-hoc requests for KPI data, analysis and report writing, and/or distribution of KPI data and research reports.

Qualifications:

- Experience with boolean logic a must.
- Minimum Bachelor's Degree or equivalent in disciplines such as Statistics, Mathematics, Economics, Marketing, Social Sciences or Business Administration.
- Minimum 2 years work experience managing diverse research and analysis activities.
- Experience in marketing or business is required.
- Proven expertise in research methods, questionnaire development and inferential statistical analysis.
- Superior oral, written and verbal presentation skills.
- Superior attention to detail and accuracy to identify errors or inconsistencies in data and ensure accuracy in all research reports, summaries and analytical tasks.

- Superior planning and coordination skills to handle multiple projects and work under pressure to meet competing deadlines and changing priorities.
- Proficiency in the use of word processing software, such as Microsoft Word.,
- Ability to work with minimal supervision and deliver quality work in a high volume or pressure office.
- Proven problem-solving, analytical and interpretive skills to analyze business needs and user requirements to plan projects and/or design solutions.
- Adept in using MS Office applications such as Word and Excel.

3. **Analytics & Insights Analyst**

Why LoyaltyOne

Are you passionate to leverage your analytics talent to help more than 100 of the world's leading brands to improve marketing outcomes and deliver differentiated performance? Are you looking for building an extraordinary career and analytics expertise in one of the most respected analytics companies in Canada? Join LoyaltyOne's growing analytics practice to become a part of the 100 smart and business-oriented analytics thought-leaders and practitioners to translate data to analytics to insights to strategy to results. For 6 consecutive years, LoyaltyOne has been recognized by Hewitt Associates as one of the 50 Best Employers in Canada, demonstrating LoyaltyOne's continued commitment to providing a great work experience for its associates and a great service experience for its clients. Don't miss this opportunity to take your career to a whole new level with LoyaltyOne.

About LoyaltyOne

LoyaltyOne owns and operates the AIR MILES Reward Program, North America's premier coalition loyalty program. LoyaltyOne is a global leader in the design and implementation of coalition loyalty programs, customer analytics and loyalty services for Fortune 1000 clients around the world. LoyaltyOne's unparalleled track record delivering sustained business performance improvement for clients stems from its unique combination of hands-on practitioner experience and continuous thought leadership. LoyaltyOne has over 20 years history leveraging data-driven insights to develop and operate some of the world's most effective loyalty programs and customer-centric solutions.

About the Opportunity

The AIR MILES Reward Program Analytics & Insights practice is growing significantly and we are looking for a well-rounded Analytics & Insights Analyst to join our team in Toronto/Calgary/Montreal. We are looking for a best-in-class analytics practitioner with a blend of proficient technical skills and strong business acumen. The Analyst plays an expert role in the application & execution of consumer data and analytics to support the development of customer-centric business strategies and Loyalty Marketing for our clients.

Responsibilities

- Subject Matter Expert in Loyalty & Marketing Analytics for the assigned client portfolio
- Contribute to all phases of campaign management (ideation, planning, targeting, list generation, measurement, recommendation) with a focus in pre-analysis and post-analysis

- Work collaboratively with internal business partners to fully understand external client's business needs
- Work collaboratively with internal business partners to clearly define analysis / campaign scope, objectives, targeting & measurement strategy for client's loyalty marketing initiatives
- Assist in the translation of business requirements into technical specifications
- Extract, cleanse and modify raw data from data warehouse, conduct customer analysis or campaign measurement to identify opportunities for clients to maximize the use of AIR MILES Reward Program to drive incremental sales
- Present analysis results and recommendations in business language in different forums/meetings
- Identify further marketing opportunities for our clients by triangulating industry / competitive analyses with external 3rd party information (research, government reports / trends)
- Create case studies to demonstrate how analytics drive revenue, profit or efficiencies for our clients and for LoyaltyOne
- Automate process using SAS/SQL and/or make suggestions to tool / process improvement to drive operational efficiency
- Ensure timely completion of analysis while maintaining high quality
- Balance the demands of multiple concurrent projects while maintaining a high level of diplomacy
- Respond to ad hoc requests (internal & external) for analysis, data and information on a regular basis
- Contribute in other corporate strategic initiatives as required

Qualifications

Functional Expertise:

- Bachelor's degree in a quantitative field: Statistics, Economics, Computer Science, Engineering
- Hands-on proficient experience with SAS, SQL, relational databases, data warehouse, BI, UNICA
- VB, R, C+ skills an asset
- Expert in Microsoft Office (advanced Excel and PowerPoint)
- Expert knowledge in direct marketing, campaign management, experimental design, customer analytics, CRM, segmentation, modeling
- Prefer 3-5 years of customer analysis / insight delivery experience in a complex data-driven organization

Business Acumen / Soft Skills:

- Retail / merchandising / financial services industry knowledge a definite advantage
- Problem solving skills coupled with the "can do" attitude
- A strategic / analytical thinker who can link assigned tasks to the bigger picture
- Excellent listening, presentation and communication skills (verbal and written)
- Excellent organizational, time management and project management skills

Leadership:

- Ability to effectively manage multiple assignments at once
- Provide fact-based opinion in campaign design and strategy recommendations

4. **Senior Data Analyst, Customer Analytics**

Apply on company website Apply to Canadian Tire on their website

Job description

The Customer Insights and Analytics Group at Canadian Tire deliver customer-focused analytical solutions and insights that enable lasting and meaningful customer relationships. We are a diverse and dynamic team of consultants, data scientists, developers, and consumer researchers united by a common goal – placing the customer at the center of every business decision. We utilize the latest data technologies and advanced analytical techniques to demystify shopper behaviour and embed those insights deep within the fabric of the business.

Genuinely passionate about the transformative power of customer data and our role as the “voice” of our customers, we relentlessly push the boundaries of customer science to ensure we understand our customers better than anyone else and deliver the experiences that will earn their continued loyalty. Our work is redefining the Canadian Tire shopping experience and is a key pillar in our mission to become the most innovative retailer in the world.

Responsibilities

- Building innovative self-serve analytics tools that give users the ability to interactively explore the vast amount of our customer data, directs the users to the key drivers and provide answers for the business questions
- Developing clear and sound measurement methodology that applies to all area of the business
- Identifying new business/analytical opportunities and develop solutions to drive customer centric business decisions
- Acting as SME, Analytics and Technical expert of the customer data; provide innovative and interactive analytical tools to the business
- Utilizing programming and visualization skills to stitch together multiple systems and data sources to provide holistic view of our customers and present it in a way that is easily digestible
- Managing multiple projects in a fast paced, ever-changing business environment

Qualifications

- Post-secondary education in business, analytics, economics, engineering and/or a related field
 - Demonstrated superior analytical, and data mining skills with the ability to collect, organise, analyse, and disseminate significant amounts of information with attention to detail and accuracy
 - Ability to build and present data concisely through visually appealing interactive dashboards, BI tools, etc.
 - Identify, analyze, and interpret trends or patterns in complex data sets
 - Programming and Data Visualization experience with - SAS, SPSS, SQL, R, Tableau, SSAS Tabular
 - Working knowledge of Netezza, Hadoop, SAS, SQL, Tableau, SSAS Tabular
 - Customer Retail/Loyalty analytics experience is a strong asset
5. Analyst, Customer Analytics & Database Marketing
- Apply

5. Holt Renfrew

Toronto

Sign in to ApplySign into LinkedIn to apply

Job description

At Holt Renfrew, our mission is to present exceptional experiences together with the finest luxury products for life's every day and extraordinary moments. The Analyst, Customer Relationship Marketing (CRM) defines the luxury lifestyle shopping experience through building lasting relationships with our people, customers and partners by applying data mining and statistical techniques to large, multichannel (DM, web, email) data sets in order to develop predictive models and customer segmentation.

This analysis supports the achievement of customer relationship marketing (CRM) goals for the Holt Renfrew Marketing team including: acquisition, up-sell, cross-sell and retention and will be integrated with overall CRM and data-driven marketing initiatives and solutions.

Specific responsibilities include (but are not limited to) the following:

- Build effective partnerships with major internal contacts, i.e. executives and management across the organization
- Produces datasets, analyses, tabulations, graphics and listings
- Develops, documents and tests analysis data and programming codes to meet regulatory and company standards
- Designs, developments, codes, tests, debugs and documents applications to satisfy the requirements of one or more user areas
- Contributes to on-going quality improvement efforts within each project
- Evaluates existing reports and identifies potential problems through regular audit activities, troubleshooting as appropriate
- Participates in hands-on new development as well as support, maintenance or enhancement of existing applications
- Ownership of the creation of predictive/forecasting models for departments based on historical data and potential changes to key drivers
- Support business stakeholders by understanding current state business models and contributing to opportunity assessments, feasibility studies and business case development for improved and/or new solutions
- Works closely with client management to identify and specify complex business requirements and processes
- Prepare detailed commentary to explain the financial results and assist the various lines of business in developing action plans as required
- Perform financial analysis to assist in the evaluation of potential business opportunities and proposed strategic initiatives
- Serves as the Subject matter Expert for data mapping and SAS scripts
- Complies with all Health & Safety policies and requirements

Desired Skills and Experience

The ideal candidate:

- Bachelor's degree in statistics, mathematics, computer science or related quantitative field
- 3 years of data mining and modeling - SAS Enterprise Guide 4.1, SAS Macro language and SAS SQL
- SAS Certified Base Programmer; or Advanced Programmer

- Base SAS, SAS/STAT, SAS/GRAPH, and Campaign Management SAS required
- Needs to have experience working with SAS and solid SAS SQL querying skills
- Experience in marketing, loyalty, retail or financial industry
- A strong, demonstrated background in applied statistical analysis, specifically in modeling and target marketing applications
- Knowledge of concepts such as customer segmentation and profiling, clustering, associate and basket analysis, RFM
- Strong quantitative skills, attention to detail, a high aptitude for problem solving and a natural interest in understanding customer behavior

6. Director, Data Analytics Branch

Organization: Ministry of Government and Consumer Services

Division: Enterprise Digital Service Integration

City: Toronto

Job Term: 1 Permanent

Job Code: XEXE2 - Executive 2

Salary: \$130,930.00 - \$164,930.00 Per Year

Understanding the job ad – definitions Posting Status: Open Targeted

Job ID: 123955

Do you have a passion for data and analytics? Would you be interested in an opportunity to help make Digital Government a reality for Ontario? Then, bring your drive and passion for analytics and innovation and join the exceptional leadership team at the Enterprise Digital Service Integration Division, Ministry of Government and Consumer Affairs. In a sector where people and quality government services matter, working as Director of Data Analytics puts you in the center of decision making using data to drive change in how we develop policy and deliver services across the Ontario Provincial service.

In this role, you will lead the definition, development and delivery of a plan for how the Ministry can make use of the data sources we are responsible for, as well as the data sources we need, to reimagine the services that we deliver to our staff, other ministries, as well as the public and businesses of Ontario. You will provide analytical leadership and support strategic analysis enterprise-wide, while building capacity and leading a high performing team of managers and analysts.

What can I expect to do in this role?

Reporting to the Assistant Deputy Minister, and working horizontally across the ministry's lines of business, you will:

- Lead and promote the capabilities of business analytics and intelligence in supporting strategic direction, priority setting, policy development, service development and operational planning, with the lens of advancing an enterprise-wide data driven culture
- Measure and monitor progress against objectives and performance of the ministry Data Analytics Strategic Plan and make recommendations for continuous improvement of business analytics technologies, policies, processes, and procedures
- Provide oversight into the coordination and improvement of data quality and the integration of information system development
- Oversee statistical analysis/modelling/frameworks to ensure reliability, credibility and viability of recommendations presented to senior management and stakeholders

- Lead a highly skilled team of management and professionals, ensuring development of analytical capacity, validation of analysis and results, and a collaborative, team-based approach to achieve organizational goals

How do I qualify?

Leadership

- You have proven leadership skills to promote excellence, deliver results and manage risks in an evolving change management environment
- You have a record of getting results through others and have a reputation of being open, transparent and effective in influencing others
- You model leadership by creating and promoting a cross-functional team environment which encourages employees to work collaboratively in both formal and informal teams and networks to achieve common objectives
- You lead by example and foster a workplace culture of high performance, diversity, inclusion and equity

Data and Analytics Expertise

- You are considered a leader with expert level knowledge of the major domains within the field of Data Analytics, and Business Intelligence
- You demonstrate an expert level of knowledge and ability to keep current with multiple tool-sets used in the delivery of data related functions from ETL tools through to big data and artificial intelligence
- You have a strong working level of knowledge of the major delivery models associated with the infrastructure, technologies and tools of data related functions, such as on-premise based technologies, virtualization, appliances, managed services and cloud and hybrid-cloud architectures and associated service delivery models
- You have a solid working level of knowledge of general IT architectures, trends, technologies, networks, infrastructures, principles and practices
- You have strong knowledge of and experience in applying change management theories, principles and practices and their application to guide the transformation of relevant data and analytic services
- You have an understanding of government directions, priorities, policies, strategies and planning processes to develop strategies and services
- You are a strategic and analytical thinker who is comfortable working with ambiguity in a fast paced environment
- You are experienced in providing solutions through imaginative approaches where constructive thinking and innovation are required

Relationship Management

- You can work across divisions and ministries or organizations to provide services and build strong partnerships
- You foster active networks and partnerships with other ministries, governments, private sector organizations and other jurisdictions, particularly in the field of analytics
- You are skilled at bringing people with varying viewpoints together in support of common goals
- You foster a collaborative work environment that promotes and facilitates transparency and accountability

Judgment and Political Sensitivity

- You have political acuity to anticipate and respond to sensitive situations

- You have demonstrated political acumen to engage and manage stakeholders and external networks in a complex environment, forging collaborative relationships
- You have flexibility and are open to new ideas that adapt to a changing environment

Additional Information:

Address:

1 Permanent, 777 Bay St, Toronto, Toronto Region

Compensation Group:Executive

Understanding the job ad – definitions Schedule:

Category: Executive

Posted on: Thursday, May 17, 2018

Note:

Interview Dates: The week of June 25

1. Data and information Scientist

Ontario Ministry of the Environment and Climate Change

Division: Information Management and Access Branch

City: Toronto

Job Term: 1 Permanent, 1 Temporary upto 12 months

Job Code: 6A008 - ProgPlanEval06

Salary: \$70,538.00 - \$103,944.00 Per Year

Understanding the job ad – definitions Posting Status: Open

Job ID: 121367 View Job Description

Are you looking for a great opportunity to showcase your data science expertise and analytics knowledge and skills? Do you want to be a part of the changes that affect MOECC? If so, we want to hear from you!

We are looking for a motivated professional to join our team to provide leadership and expertise in the field of data science analysis in order to enhance our data services catalogue with an innovative workbench of analytical tools that can serve a diverse client base in accordance with OPS principles and objectives.

What can I expect to do in this role?

As a Data and Information Scientist, you will:

- act as the leading technical expert in the field of data mining, data modelling, design, development and enhancement as it applies to complex environmental systems.
- provide strategic expertise and coordination for planning, development, implementation and delivery of, advice, support and education related to environmental data mining, data science, products and tools to support systems planning and decision making
- lead continuing improvement in analytic capacities for environmental systems management and planning
- develop and prepare various reports and papers on the application of methodologies, statistical methods and data analysis techniques
- lead the development of internal capacities for data mining and development of data analysis tools
- provide interpretation, advice, and expertise to client groups and other stakeholders
- provide strategic and operational leadership for planning, development and delivery of data mining and data services programs

- lead large, complex, high impact research and analytical studies, projects and activities

How do I qualify?

Technical Knowledge:

- You have knowledge of theories, concepts, methods and measures of environmental standards, Compliance, Permissions, and Science.
- You have knowledge of the range of analytical methods, techniques, and tools such as, but not limited to: statistical analysis and modelling, data mining, machine learning, deep learning, and algorithms, natural language processing, artificial intelligence and other related disciplines at the specified experience level.
- You have knowledge of relevant software packages, programming, statistics, and modelling to provide technical leadership to colleagues and internal/external clients.
- You have programming skills in the areas of big data, statistical modelling, and visual analytics.

Communication, Consultative and Relationship Management Skills:

- You can achieve consensus on policy issues and influence discussions with stakeholders.
- You have consensus-building and networking skills to maintain strong relationships with partner branches, other ministries, and internal and external stakeholders.
- You can develop support for key initiatives and ensure that the initiatives reflect the coordinated input from all key players.
- You have interpersonal and presentation skills to develop and maintain effective relationships with clients, stakeholders and colleagues and to participate in an advisory capacity on committees or working groups.

Leadership, Research and Analytical Skills:

- You can lead the design, development, implementation, evaluation and continuous improvement of data science program standards for programs and services.
- You have research and analytical skills to lead program/policy reviews and developments as it pertains to data analytics and Business Intelligence tools
- You can anticipate, identify and deal effectively with emerging relevant issues.
- You can analyze large, complex, multi-dimensional datasets with a variety of tools.
- You can assess both qualitative and quantitative information to evaluate the implications and impact of proposed policy changes.

Project Management Skills:

- You can plan and lead concurrent projects and have demonstrated ability to lead concurrent project teams

Additional Information:

Address:

1 Permanent, 40 St Clair Ave W, Toronto, Toronto Region

1 Temporary, duration up to 12 months, 40 St Clair Ave W, Toronto, Toronto Region

Compensation Group: Association of Management, Administrative and Professional Crown Employees of Ontario

Understanding the job ad – definitions Schedule: 6

Category: Consulting and Planning

Posted on: Tuesday, March 20, 2018

Note:

T-ET-121367/18(2)

UNIVERSITY OF **WATERLOO**



**GRADUATE EXPEDITED PROPOSAL
OF
GRADUATE DIPLOMA
IN
COMPUTATIONAL DATA ANALYTICS FOR THE SOCIAL
SCIENCES & HUMANITIES**

**Submitted to the
Ontario Universities Council on Quality Assurance**

**VOLUME II — FACULTY CURRICULA VITAE
APRIL 2020**

Vol II available [here](#)

University of Waterloo
SENATE UNDERGRADUATE COUNCIL
Report to Senate
19 October 2020

Senate Undergraduate Council met on 15 September 2020 and agreed to forward the following items to Senate for approval 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
English Language and Literature

1. **Motion:** That Senate approve the creation of a diploma in Creative Writing as described below, effective 1 September 2021.

Rationale: Creative writing courses are popular with non-English majors. A Diploma in Creative Writing enables students from other disciplines to earn a credential in this discipline, and will attract more students to this growing area in the department. The department has ample capacity to accommodate more students in these courses, including three full-time faculty willing to teach in this area. In addition, there is strong support from English Faculty at St. Jerome's University, which has a strong tradition of course offerings in creative writing and faculty active in the discipline.

ENGL 210C - Genres of Creative Writing
ENGL 335 - Creative Writing 1
ENGL 332 - Topics in Creative Writing
ENGL 336 - Creative Writing 2
THPERF 366 - Writing for Performance

Diploma in Creative Writing – Plan Requirements:

Students registered in degree programs or any non- or post-degree academic plan at the University of Waterloo may pursue the Diploma in Creative Writing.

The Diploma in Creative Writing requires successful completion of a minimum of two academic course units (four courses) with a minimum cumulative average of 70% as follows:

- ENGL 210C, ENGL 335
- two of ENGL 332, ENGL 336, THPERF 366

St. Jerome's University
Italian Language

2. **Motion:** That Senate approve the creation of a diploma in Italian language as described below, effective 1 September 2021.

Rationale and Background:

Rationale: Following the 2019 program review of the Italian Studies Minor, we have taken a good look at redundancies and gaps in our curriculum and in the undergraduate calendar itself. We would like to invigorate the language program and raise enrolment in our intermediate courses ITAL 201 and 202, by proposing a Diploma program requiring students to complete two full language credits (four courses).

ITAL 101 - Introduction to Italian Language 1
ITAL 102 - Introduction to Italian Language 2
ITAL 155 - Intensive Introductory Italian Language
ITAL 201 - Intermediate Italian 1
ITAL 202 - Intermediate Italian 2
ITAL 251 - Issues in Contemporary Italian Society
ITAL 396 - Special Topics/Directed Readings

Diploma in Italian Language - Plan Requirements:

Students registered in degree programs or any non- or post-degree academic plan at the University of Waterloo may pursue the Diploma in Italian Language.

Students must successfully complete two academic course units (four courses) in Italian language with a cumulative average of 70% from the following:

ITAL 101, ITAL 102, ITAL 155, ITAL 201, ITAL 202, ITAL 251, ITAL 396.

MAJOR MODIFICATIONS

Faculty of Arts

Theatre and Performance

3. **Motion:** That Senate approve the following changes to the Honours Theatre and Performance plan and the Theatre and Performance Minor, effective 1 September 2021.

Rationale and Background:

Changes to THPERF plans are proposed for the following reasons:

1. Better alignment with THPERF program goals by:
 - 1.1. focusing required courses on Theatre and Performance competencies (almost all are now studio courses)
 - 1.2. making gender and race courses required (these are the only non-studio courses)
 2. Ensuring a more progressive development of learning outcomes through the program (the “one of” 200 and 300 level course lists).
 3. Increasing accessibility to students in other departmental programs (reducing the number of first-year required courses, adding a first-year option – one of three 100-level courses).
 4. For the honours, clarifying the number of required courses (making one production course required, where it used to be a pre-requisite for 400 but not listed as required).
 5. Increasing the efficiency of plan delivery, given reduced faculty resources – flexibility to complete several units from THPERF, SPCOM or DAC subjects.
-

Changes to Plan Requirements:

Honours Theatre and Performance

- at least eight academic course units (~~16 courses~~) in Theatre and Performance, including:
 - ~~THPERF 100, THPERF 102/SPCOM 102, THPERF 200, THPERF 243, THPERF 244, THPERF 300, THPERF 301~~
 - ~~one of THPERF 400 or THPERF 410~~
 - **one of THPERF 100, THPERF 102, THPERF 149**
 - **one of THPERF 282, THPERF 378**
 - **one of THPERF 220, THPERF 221, THPERF 222, THPERF 246, THPERF 248**
 - **one of THPERF 306, THPERF 307, THPERF 316, THPERF 317, THPERF 389**
 - **THPERF 243, THPERF 244, THPERF 301, THPERF 400**
 - **2.5 additional units from THPERF, SPCOM, or DAC**

Further Rationale: Changing the minor plan title to Performance Creation will better communicate the breadth of performative modes now taught in the courses, which includes a significant range of non-traditional forms that are not well captured by the term “theatre.”

~~Theatre and Performance~~ **Creation** Minor

The ~~Theatre and Performance~~ **Creation** Minor requires successful completion of a minimum of four academic course units (~~eight courses~~) in ~~Theater and Performance~~ with a minimum cumulative average of 65%, including:

- ~~THPERF 100, THPERF 102/SPCOM 102, THPERF 200, THPERF 243~~
- **THPERF 243, THPERF 244**
- **one of THPERF 282, THPERF 378**
- **one of THPERF 220, THPERF 221, THPERF 222, THPERF 246, THPERF 248**
- **one of THPERF 301, THPERF 306, THPERF 307, THPERF 316, THPERF 317, THPERF 389**
- **1.5 units from THPERF, SPCOM or DAC**

Faculty of Arts Fine Arts

4. **Motion:** That Senate approve the following changes to the Honours Fine Arts Studio Practice plan, effective 1 September 2021.

Rationale and Background:

The plan that we are presenting has been designed to address several outstanding issues in the current Fine Arts Curricula. To begin, our Department’s faculty complement has changed over the past several years. The new hires bring research interests that lie outside what has been offered in our curriculum in the past. As well, the student demand on has shifted due to new Honours Arts Co-Op, increase in ARBUS Co-Op and regular student numbers, student interest in using technology, digital media, design and new forms of studio practices. In response, the decision was made to make strategic adjustments to our studio plans. Our new plans will remain under the same titles: Honours Fine Arts Studio Practice, Three-Year General Fine Arts General Studio Art, Fine Arts Studio Minor, and our two Specializations – Teaching Preparation Specialization and Digital Arts Specialization.

As a group we have carefully balanced the demands and needs of Fine Arts as an academic discipline and a professional practice, the demands and constraints of the Faculty of Arts and University as a whole while always

paying close attention to the student experience. Through successive conversations we have carefully considered our own pedagogy as it relates to studio production and visual and cultural theory prevalent in the 21st century. We have made it our priority to be fair to our students first and foremost, and also to all of our colleagues in the Department (faculty, technicians, and administrative staff).

In designing this plan, we have taken into consideration the following key issues that were arrived at in our curricular and visioning retreats and discussed and voted on in several departmental meetings:

1. To upgrade our curriculum to reflect more fully and appropriately the current artistic practices and modes of contemporary art praxis, the changes in our student body, and the evolution of our faculty complement that has a strong and varied sets of intradisciplinary skills.
2. To balance breadth and depth of knowledge in the field of contemporary art production that is embedded in our pedagogy with the many different approaches to art making that are present both within our department and outside it.
3. To support more Spring term teaching and consider Spring term as a key component of our teaching offering in order to support Honors Arts Co-op students and ARBUS students. We acknowledge that in order to thrive in an uncertain economy, more and more of our students will be in Co-op and/or ARBUS. We want to ensure that these students are able to receive equal access to courses, faculty and experiential learning opportunities while completing their degrees within their scheduled timeframes.
4. To streamline our resources and financial sustainability in order to be able to support the majority of our teaching with our current faculty complement.
5. To be conscious of enrolment in our courses and work on strategies to increase the enrollment.
6. To remove barriers so that a student's progression through the plan to graduation is more streamlined.
7. To help in transitioning between years (for example third into fourth year). We have paid attention to the ways in which a student might move from second to third year, and from third to fourth year. We have also considered how Honors Arts Co-op and ARBUS Co-op students need to move from second to third and into fourth years with particular attention given to their Co-op Work Terms.
8. To consider overall teaching philosophy of the Department. Some of the design points we have made as a department in our Visioning and Curricular Retreat were:
 - a. to build a strong sense of community in Fine Arts
 - b. to expose students early on to a variety of media, of practices of making art, and diverse approaches to making
 - c. to be interdisciplinary in our curriculum
 - d. to expose students early to studio practice
 - e. to have our Fine Arts foundation year be broad-based
 - f. to build a trajectory from skill-based to conceptually-based

With these considerations in mind we have made the following overall changes to our plans:

1. We have eliminated the Intensive Studio Specialization which added 2.5 units to our Honours Degree.
2. We have inactivated the courses that are no longer offered and the ones that we cannot offer.
3. We have shifted 0.5 units from first year courses to fourth year, and have also shifted 0.5 units from second year into third year. With this change in units we have created a more even distribution of units across the four years and added courses where we felt students needed more time to develop their skills.
4. We have also streamlined our required VCULT/Art History courses for studio majors by removing one required course, and by making sure that the important theoretical and historical context provided by these courses is not lost but in fact follows the students as they move from year one to year four. For this reason we have placed a VCULT/Art History course in each year in the studio program so that the knowledge gain in Art History is reflected in the work and the writings that students do in studio practice.
5. We have also structured our new plan to diversify what our students are taking in the first two years rather than in the last two years. We did this in order for students to become familiar with various approaches to artmaking early on so that by the time they reach third and fourth year they can choose an area to specialize in. We have

done this by making sure that our foundational studio course in the first-year exposes students to various ways of making art that our core faculty members will present to them. By removing the required medium-specific courses (drawing and sculpture) we have made sure that students can try out different media in order to get a more advanced training in that media in the third and fourth year.

6. We have reduced our Foundation Year course complement from current three required courses (FINE 100: Studio Fundamentals, FINE 112: Modern Art, and FINE 101/VCULT 101: Art History and Visual Culture) to two (FINE 100: Studio Fundamentals and FINE 101/VCULT 101: Art History in Visual Culture) thereby bringing our first year in line with other departments.

7. We have implemented two important Milestones for our students: the Fine Arts Health and Safety Milestone and the Fine Arts Woodshop Workshop Milestone, both of which deal with the increased use of our facilities (especially the fabrication studios), and the associated increased need for safety supervision. These Milestones were developed in close collaboration with our departmental Health and Safety Manager and Lab Technicians.

8. In our second year offerings we have removed important constraints and bottlenecks where our students were having issues proceeding into third year. In order to remove these barriers we have removed the requirements on the media-specific courses and opened up the second year to more flexible progression.

9. In our third year we have removed 0.25 unit courses which were restricting scheduling, but more importantly, were not allowing our faculty a more time for in-depth studio assignments, and our students to complete certain studio projects that needed more time (such as for example time to complete ceramic projects, building and coding more demanding electronic circuitry, or longer time finishing glazing for an oil painting), or to delve more deeply into conceptual topics in studio production.

10. In order to continue fostering the strong community that Fine Arts has always been proud of, we have decided that our students in third year should have one course in which all of the third-year students would be together. Historically, the third year has had an integrated course in which all students shared one large studio. We felt that this shared space was beneficial to our students and that designing a course like that again in our plan would support a collegial and mutually productive atmosphere in Fine Arts.

11. Finally, instead of a tiered approach to our plans in which students in Honours Fine Arts Studio Practice take 0.5 units in each Fall and Winter semester in the fourth year, and Intensive Honours students take 1.0 units in the fourth year, we have now redesigned the fourth year so that there are no separate streams, and all of our students take 1.0 unit course in Fall and Winter. This will allow our students to spend time developing a major body of work which is a requirement of the plan, and is a standard both in other teaching institutions, and in professional art practice.

Changes to Plan Requirements:

Honours Fine Arts - Studio Practice

Continuation in this academic plan requires a cumulative minimum overall average of 60% and a cumulative minimum Fine Arts major average of 70%.

Eligibility for graduation in the Honours Fine Arts - Studio Practice academic plan includes successful completion of the following requirements:

1. Appropriate program-level requirements. See Bachelor of Arts Degree Requirements.
2. Fine Arts plan-level requirements:
 - a minimum Fine Arts major average of 70%
 - at least eight academic course units in Fine Arts, including:
 - ~~FINE 100, FINE 112, FINE 209, FINE 302, FINE 319, FINE 474, FINE 475~~
 - ~~FINE 101/VCULT 101~~
 - ~~at least two of FINE 224, FINE 225, FINE 226, FINE 274~~

- ~~○ at least one of FINE 222, FINE 223, FINE 271, FINE 272~~
- ~~○ at least two of FINE 130, FINE 202, FINE 204, FINE 220, FINE 221, FINE 222, FINE 223, FINE 224, FINE 225, FINE 226, FINE 227, FINE 228, FINE 229, FINE 230, FINE 231, FINE 232, FINE 271, FINE 272, FINE 274~~
- ~~○ at least 0.5 unit from VCULT or FINE, or FINE 243 and FINE 343 (see Note 1)~~
- ~~○ at least four topics of FINE 307 or a combination of FINE 307 and other 300-level studio courses, for a total of 1.0 unit (see Note 1)~~
- **FINE 100, FINE 101/VCULT 101, FINE 209, FINE 319, FINE 327, FINE 407, FINE 472, FINE 473**
- **at least 2.0 units from: FINE 202, FINE 204, FINE 220, FINE 221, FINE 222, FINE 223, FINE 224, FINE 225, FINE 226, FINE 227, FINE 228, FINE 230, FINE 231, FINE 232, FINE 243, FINE 246, FINE 247, FINE 271, FINE 272, FINE 293**
- **at least two of FINE 309, FINE 312, FINE 315; or one of FINE 309, FINE 312, FINE 315, in combination with other 300-level studio courses, for a total of 1.0 unit.**

1. Notes

1. **Admission to 200-level studio courses requires successful completion of the Fine Arts Health and Safety Milestone and the Fine Arts Woodshop Workshop Milestone.**

~~1. Some FINE courses, many at the 300-level, are 0.25 unit in weight.~~

~~2. Admission to the Honours Fine Arts—Studio Practice academic plans is by consent of the Department at the end of the 1B term.~~

~~3. Admission to 200-level studio courses is by successful completion of FINE 100 and by submission and approval of portfolio of work done in studio courses.~~

~~4. In order to be admitted to the 300-level studio courses, students must have successfully completed FINE 319 and at least four 200-level FINE studio courses; have a minimum cumulative Fine Arts major average of at least 65%; and be registered in their 3A term or higher.~~

~~5.2. No one course may fulfil more than one requirement within any Fine Arts plan.~~

~~6. The Department of Fine Arts reminds students that advising is a partnership between the advisor and the student. Ultimately students should read the Calendar very carefully and are responsible for appropriate progress toward their educational goals.~~

Intensive Studio Specialization

~~In combination with the Honours Fine Arts—Studio Practice plan level requirements listed above, students interested in pursuing the Intensive Studio Specialization will be required to fulfil the following requirements:~~

~~▪ A minimum Fine Arts major average of 75%.~~

~~▪ Successful completion of 2.5 additional academic course units, for a total of 10.5 academic course units in Fine Arts:~~

~~○ FINE 308, FINE 407, FINE 476, FINE 477~~

~~○ one additional course from FINE 130, FINE 202, FINE 204, FINE 220, FINE 221, FINE 222, FINE 223, FINE 224, FINE 225, FINE 226, FINE 227, FINE 228, FINE 229, FINE 230, FINE 231, FINE 232, FINE 271, FINE 272, FINE 274~~

~~○ one additional topic of FINE 307 or a combination of FINE 307 and other 300-level studio courses~~

~~○ Notes~~

~~1. The Intensive Studio Specialization is only open to students majoring in an Honours Fine Arts—Studio Practice academic plan.~~

~~2. Students must achieve a cumulative major average of at least 75% in all Fine Arts courses counted towards their Honours Fine Arts major.~~

~~3. Students who have completed courses towards this specialization but are not able to sustain the required 75% major average but are still eligible for Honours standing will normally be allowed to continue in the Honours Fine Arts—Studio Practice major but without the specialization.~~

4. Admission to the Honours Intensive Studio Specialization is determined by:
- a cumulative Fine Arts average of at least 75%;
 - a grade of at least 75% in each 300-level studio course.

Faculty of Arts Fine Arts

5. **Motion:** That Senate approve the following changes to the Three Year General Fine Arts plan, effective 1 September 2021.

Rationale and Background:

Following from our overall Honours Plan changes we have also implemented plan changes in our Three Year General Fine Arts plan. To place the Three Year General on an equal level with our Honours plan in the first, second and third years we have made sure that students are required to do the same number of courses in those years, with an additional 0.5 unit course that students can choose to take from studio, VCULT/Art History offerings or experiential learning courses. It also allows students in the Three Year General Studio Plan to continue in the Honours plan if their plan average improves.

Changes to Plan Requirements:

Three Year General Fine Arts

Continuation in this academic plan requires a cumulative minimum overall average of 60% and a cumulative minimum Fine Arts major average of 65%.

Eligibility for graduation in the Three-Year General Fine Arts - General Studio Art academic plan includes successful completion of the following requirements:

1. Appropriate program-level requirements. See Bachelor of Arts Degree Requirements.
2. Fine Arts plan-level requirements:
 - a minimum Fine Arts major average of 65%
 - at least six academic course units in Fine Arts, including:
 - ~~FINE 100, FINE 112, FINE 209, FINE 319~~
 - ~~FINE 101/VCULT 101~~
 - ~~at least two of FINE 224, FINE 225, FINE 226, FINE 274~~
 - ~~at least one of FINE 222, FINE 223, FINE 271, FINE 272~~
 - ~~at least two of FINE 130, FINE 202, FINE 204, FINE 220, FINE 221, FINE 222, FINE 223, FINE 224, FINE 225, FINE 226, FINE 227, FINE 228, FINE 229, FINE 230, FINE 231, FINE 232, FINE 271, FINE 272, FINE 274~~
 - ~~at least 0.5 unit from VCULT or FINE art history courses, or FINE 243 and FINE 343 (see Note 1)~~
 - ~~at least 0.5 additional unit in studio~~
 - **FINE 100, FINE 101/VCULT 101, FINE 209, FINE 319, FINE 327**
 - **at least 2.0 units from: FINE 202, FINE 204, FINE 220, FINE 221, FINE 222, FINE 223, FINE 224, FINE 225, FINE 226, FINE 227, FINE 228, FINE 230, FINE 231, FINE 232, FINE 243, FINE 246, FINE 247, FINE 271, FINE 272, FINE 293**
 - **at least 0.5 unit from VCULT or FINE courses, or FINE 243 and FINE 343 (see NOTE 1)**
 - **at least two of FINE 309, FINE 312, FINE 315; or one of FINE 309, FINE 312, FINE 315, in combination with other 300-level studio courses, for a total of 1.0 unit.**

Notes:

- ~~1. Some FINE courses, many at the 300 level, are 0.25 unit in weight.~~
- ~~2. Admission to 200-level studio courses is by successful completion of FINE 100 and by submission and approval of portfolio work done in FINE 100 at the end of the 1A term.~~
- 1. Admission to 200-level studio courses requires successful completion of the Fine Arts Health and Safety Milestone and the Fine Arts Woodshop Workshop Milestone.**
- 2. No one course may fulfil more than one requirement within any Fine Arts plan.**

Faculty of Arts Fine Arts

- 6. Motion:** That Senate approve the following changes to the Fine Arts Studio Minor, effective 1 September 2021.

Rationale and Background:

In our previous Fine Arts Studio Minor plan we have stipulated that students should take three Art History courses. Considering that students only have to take four units for a Minor and in consultation with the department and VCULT/Art History faculty who teach these courses, it was decided to remove one art history requirement from the Minor and shift that 0.5 units into studio courses. The specific Art History courses listed in Bullet 3 are offered every year and are likely to be most relevant to students pursuing a Studio Minor.

Changes to Plan Requirements:

Fine Arts Studio Minor

Students enrolled in any degree program may pursue a minor designation in Fine Arts Studio.

The Fine Arts Studio Minor requires successful completion of a minimum of four academic course units (eight courses) in Fine Arts, with a minimum cumulative average of 65%, including:

- ~~FINE 100, FINE 112~~
- ~~FINE 101/VCULT 101~~
- ~~one additional FINE art history course~~
- ~~four additional FINE studio courses~~
- **one additional FINE Art History or VCULT course from: FINE 112, FINE 209, FINE 216/INDG 216, FINE 257, FINE 293, VCULT 100/FINE 102, VCULT 200**
- **At least five FINE studio courses from: FINE 130, FINE 202, FINE 204, FINE 220, FINE 221, FINE 222, FINE 223, FINE 224, FINE 225, FINE 226, FINE 227, FINE 228, FINE 230, FINE 231, FINE 232, FINE 246, FINE 247, FINE 271, FINE 272, FINE 293**

Faculty of Arts Fine Arts

- 7. Motion:** That Senate approve the following changes to the Digital Art Specialization, effective 1 September 2021.

Rationale and Background:

This is a Specialization that is taught between Faculty of Math, Computer Science and our Department. This change enables students from both faculties more flexibility, while ensuring that students are adequately prepared for the Capstone (FINE 383: Computational Digital Arts Studio). This is following consultation with Computer

Science, who suggested these changes.

Changes to Plan Requirements:

Digital Art Specialization

The Digital Art Specialization is open to all students majoring in Fine Arts - Studio.

The Digital Art Specialization requires successful completion of six courses:

- CS 105, CS 106
- one of CS 100, CS 200, CS 230
- ~~FINE 229, FINE 257, FINE 383~~
- **FINE 228 or FINE 247**
- FINE 257 or VCULT 200
- **FINE 383**

**Faculty of Arts
Political Science**

8. **Motion:** That Senate approve the following changes to the four-year general political science and honours political science plans, effective 1 September 2021.

Rationale and Background:

Up until recently, we were able to substitute courses for ARTS 280 (Statistics for Arts Students) in part because many are in fact antirequisites for ARTS 280. However, at the recommendation of the Academic Regulations committee, a new process has been introduced wherein we would need to prepare a petition to the Arts Examinations and Standings Committee for any and all requests for substitutions for ARTS 280, even if they are antirequisites. In an effort to avoid this, to ensure transparency for students interested in completing a Political Science Plan who had already taken antirequisites to ARTS 280, and because student and advisor confusion can arise when it comes to assessing antirequisites, we would like to add the following courses as options to our plans. The departments offering the antirequisite courses being added (after ARTS 280 in the plan requirements below) were supportive of this change.

To list the Honours Essay (PSCI499A/B or PSCI400) options and requirements as separate categories in the calendar since they are NOT experiential learning courses (i.e., it is not a work-integrated experience)].

For notes - To allow students enrolled in co-op or who have completed at least one work term to complete an experiential learning course if they wish. To date, we have only allowed them to do so with course overrides.

Proposal: Change the word “pathways” to “courses”.

Rationale: To simplify the language used to describe experiential learning, replacing “pathways” with “courses” since “pathways” does not appear anywhere in the calendar and has led to confusion in the past.

Changes to Plan Requirements:

Four-Year General Political Science
Honours Political Science

...

- at least eight academic course units (16 courses), including:
 - 14 PSCI courses at the 200-level or above
 - one of PSCI 225, PSCI 226, PSCI 314, PSCI 315, PSCI 324, ARTS 280, **ECON 221, ENVS 278, GBDA 205, KIN 232, LS 280, PSYCH 292, REC 371, SDS 250R, SMF 230, SOC 280, STAT 202, STAT 206, STAT 211, STAT 221, STAT 231, STAT 241**
 - **one experiential learning course (see Notes) from PSCI 494, PSCI 495, PSCI 496, PSCI 497**
 - one of the following **sets of courses experiential learning pathways** (see Note):
 1. ~~PSCI 497A, PSCI 497B, and two additional PSCI courses at the 400 level~~
 2. ~~one of PSCI 498A, PSCI 498B, PSCI 498C, and two additional PSCI courses at the 400 level~~
 1. **two PSCI seminar or field courses at the 400-level**
 2. **PSCI 400 and one additional PSCI seminar or field course at the 400-level**
 3. PSCI 499A, PSCI 499B, and one additional PSCI **seminar or field** course at the 400-level

Notes

1. ~~Students enrolled in a co-op program are excluded from completing the experiential learning pathway requirement and are instead required to complete two PSCI courses at the 400 level. They may complete PSCI 499A and PSCI 499B but these courses will not satisfy the 400 level requirement.~~
2. ~~Students completing either of the first two pathways may not utilize PSCI 499A and PSCI 499B to fulfil the 400 level requirement, and students completing the third pathway may not use a PSCI 497 or PSCI 498 course to fulfil the 400 level requirement.~~

1. Co-op students who have successfully completed at least one work term are exempt from the mandatory requirement of an experiential learning course. Co-op students may opt to complete an experiential learning course.

Faculty of Arts Religious Studies

9. **Motion:** That Senate approve the following changes to the Jewish Studies Minor, effective 1 September 2021.

Rationale: The proposed changes make the Jewish Studies Minor plan more flexible, which will benefit students. These changes allow students to: pursue the minor more easily; customize the minor to complement a diversity of majors; and tailor their JS program to their interests, all while studying a variety of specific topics in depth (300 or 400 level courses). Three courses were added to the list of the four required JS courses that should have been added to the minor when they were created. These courses have a clear connection with Jewish Studies and two of them are often taken by students. Additionally, two courses were moved from the “remaining courses” list to the four required JS courses list for consistency since they are JS courses. The courses that are removed from the choice of courses were submitted to UGAG for inactivation in fall 2019 and winter 2020. These would need to be removed if the inactivations are approved. The wording of the “remaining courses” list was adjusted to remove the need to consult with the JS advisor since it is no longer necessary as all the options for electives are listed.

Changes to Plan Requirements:

Jewish Studies Minor

...

- at least four of JS ~~114209~~/RS ~~114209~~, JS ~~120218~~/RS ~~111218~~, JS ~~125212~~/RS 212, JS ~~130234~~/RS ~~112234~~, JS ~~131228~~/RS ~~130228~~, JS 203/RS 211, ~~JS 205/RS 232~~, JS 210/RS 214, JS ~~211314~~/RS

~~213314~~, JS 215/RS 230, JS 217/RS 210, JS 233/RS 272, ~~JS 250/RS 215~~, JS 350, JS 450, **JS 235/RS 235, JS 236/RS 236, JS 237/RS 237, JS 301, JS 364/RS 364**

- the remaining courses chosen, ~~in consultation with the Jewish Studies advisor~~, from:
 - CLAS 210/HIST 210/LS 235, CLAS 325/RS 315
 - ENGL 202A
 - HIST 223, HIST 263, HIST 341, HIST 237/CLAS 237
 - ~~JS 105A/RS 131, JS 105B/RS 132, JS 237/RS 237, JS 301, JS 338/RS 338~~
 - PHIL 230J, ~~PHIL 237/RS 261~~, PHIL 380/CLAS 361
 - RS 110, RS 121, RS 258, RS 260, RS 284/GSJ 261, ~~RS 337~~

Faculty of Arts Spanish and Latin American Studies

10. **Motion:** That Senate approve the following changes to the three-year general Spanish, four-year general Spanish and honours Spanish plans, effective 1 September 2021.

Rationale and Background:

As a result of extensive consultation within the program, consideration of similar programs in Canada and the US, recent developments in the discipline, and evolving student demand, as well as feedback provided by evaluators in the latest program review, the Department of Spanish and Latin American Studies has decided to formalize the shift in the focus in our programs from literary to cultural studies. Until now, this shift had happened gradually and organically as existing courses were updated and new courses were developed. The proposed changes acknowledge this transformation and provide a program structure better suited to develop this approach.

In broad terms, our courses will concentrate more explicitly on the analysis of the formation of the social bond and the identities attached to it through the study of Latin American and Iberian cultural production. We understand language plays a central role in this process and have reconfigured the sequence of language courses in order to ensure that students who come into the program with no knowledge of Spanish can achieve an advanced level of proficiency (C1) according to the Common European Framework of Reference for Languages, by end of 3B, and students who come into the program with Grade 12 Spanish can do so by the end of 2B. This is achieved by replacing the remaining fourth-year language course (SPAN 401) with a second-year conversation course and revising the material and learning outcomes of all remaining language courses (SPAN 101, SPAN 102, SPAN 201A, SPAN 201B, SPAN 301A, and SPAN 301B).

At the same time, the Department also recognizes the importance of engaging students in the analysis of issues of ethnicity, gender, and class, as well as national and regional identities earlier in their studies, at a stage where most students have not yet developed the necessary language skills to do it in Spanish.

For this reason, all cultural studies courses (non-language, non-translation offerings) will now be taught in English, and students with sufficient language skills will be allowed and encouraged to complete their coursework in Spanish.

To ensure program cohesion, SPAN 150 will be slightly modified and become a required course providing a critical narrative that frames the content of subsequent courses and allows students to better integrate their learning experiences in the program.

Changes to Plan Requirements:

Three-Year General Spanish

...

- at least six academic course units (12 courses) in Spanish, including:
 - ~~at least five of SPAN 150, SPAN 201A, SPAN 201B, SPAN 210, SPAN 301A, SPAN 301B, SPAN 401~~
 - ~~SPAN 228~~

Notes

1. If any required courses are waived for students with advanced language skills, they must be replaced with SPAN electives.
2. By agreement, students at the University of Waterloo and Wilfrid Laurier University **are allowed to take** ~~can be expected to take~~ courses in Spanish at either university. ~~While most language courses are taught concurrently every year at both universities, most other courses are taught either at one university or the other, and a few courses may rotate from year to year.~~
3. With the permission of the ~~D~~department of Spanish and Latin American Studies, students may **study at a** ~~may spend the third year enrolled in an acceptable~~ university in Spain or Latin America.

Four-Year General Spanish Honours Spanish

...

- at least eight academic course units (16 courses) in Spanish, including:
 - **SPAN 150**, SPAN 201A, SPAN 201B, SPAN 210, ~~SPAN 223W (see Laurier calendar), SPAN 228, SPAN 301A, SPAN 301B, SPAN 401~~
 - ~~one of SPAN 150, SPAN 217, SPAN 218~~
 - ~~one of SPAN 326, SPAN 327W (see Laurier calendar)~~
 - ~~one of SPAN 400, SPAN 410, SPAN 418, SPAN 430/GSJ 430, SPAN 446W (see Laurier calendar), SPAN 465W (see Laurier calendar), SPAN 497~~

Notes

1. If any required courses are waived for students with advanced language skills, they must be replaced with SPAN electives.
2. By agreement, students at the University of Waterloo and Wilfrid Laurier University **are allowed to take** ~~can be expected to take~~ courses in Spanish at either university. ~~While most language courses are taught concurrently every year at both universities, most other courses are taught either at one university or the other, and a few courses may rotate from year to year.~~
3. With the permission of the ~~D~~department of Spanish and Latin American Studies, students may **study at a** ~~spend the third year enrolled in an acceptable~~ university in Spain or Latin America.

Faculty of Arts Spanish and Latin American Studies

11. **Motion:** That Senate approve the following changes to the diploma in Latin American Studies, effective 1 September 2021.

Background and Rationale:

Changes to the Diploma reflect the new emphasis of the Department as described above. SPAN 150 is the only required course as it provides the critical narrative that frames subsequent cultural studies courses.

Changes to Plan Requirements:

Diploma in Latin American Studies

...

The Diploma in Latin American Studies requires successful completion of two academic units (four courses) taught in English with a minimum cumulative average of 70%, selected from the following including:

- ~~• four of SPAN 150, SPAN 217, SPAN 218, SPAN 400, SPAN 410, SPAN 418~~
- three of SPAN 217, SPAN 234, SPAN 329, SPAN 387, SPAN 400, SPAN 410

PLAN INACTIVATIONS

Faculty of Arts Fine Arts

12. **Motion:** That Senate approve the inactivation of the intensive studio specialization, effective 1 September 2021.

Rationale and Background:

See global rationale under Fine Arts major modifications (motion 4) above.

~~In combination with the Honours Fine Arts Studio Practice plan level requirements listed above, students interested in pursuing the Intensive Studio Specialization will be required to fulfil the following requirements:~~

- ~~• A minimum Fine Arts major average of 75%.~~
- ~~• Successful completion of 2.5 additional academic course units, for a total of 10.5 academic course units in Fine Arts:~~
- ~~• FINE 308, FINE 407, FINE 476, FINE 477~~
- ~~• one additional course from FINE 130, FINE 202, FINE 204, FINE 220, FINE 221, FINE 222, FINE 223, FINE 224, FINE 225, FINE 226, FINE 227, FINE 228, FINE 229, FINE 230, FINE 231, FINE 232, FINE 271, FINE 272, FINE 274~~
- ~~• one additional topic of FINE 307 or a combination of FINE 307 and other 300 level studio courses~~

Notes

- ~~1. The Intensive Studio Specialization is only open to students majoring in an Honours Fine Arts Studio Practice academic plan.~~
- ~~2. Students must achieve a cumulative major average of at least 75% in all Fine Arts courses counted towards their Honours Fine Arts major.~~
- ~~3. Students who have completed courses towards this specialization but are not able to sustain the required 75% major average but are still eligible for Honours standing will normally be allowed to continue in the Honours Fine Arts Studio Practice major but without the specialization.~~
- ~~4. Admission to the Honours Intensive Studio Specialization is determined by:~~
 - ~~• a cumulative Fine Arts average of at least 75%;~~
 - ~~• a grade of at least 75% in each 300 level studio course.~~

Faculty of Arts Spanish and Latin American Studies

13. **Motion:** That Senate approve the inactivation of the intensive Spanish specialization and the Spanish/English translation specialization, effective 1 September 2021.

Rationale and Background:

Intensive Spanish Specialization

Rationale: Due to low enrolment numbers the Department is no longer able to offer the Intensive Spanish Specialization.

~~In combination with the Honours Spanish plan level requirements listed above, students interested in pursuing the Intensive Spanish Specialization will be required to fulfil the following requirements:~~

- ~~• A minimum Spanish major average of 75%.~~
- ~~• Successful completion of four additional SPAN courses, for a total of 10 academic course units (20 courses) in Spanish:~~
 - ~~◦ four of SPAN 334, SPAN 350, SPAN 366, SPAN 387, SPAN 400, SPAN 410, SPAN 415, SPAN 418, SPAN 430, SPAN 497~~

Spanish/English Translation Specialization

Rationale: As the Department adopts a new focus for the major and explores new directions, it no longer has the necessary resources to continue to offer the Spanish/English Translation Specialization.

~~The Spanish/English Translation Specialization is open to all students majoring in Spanish and requires:~~

- ~~1. Successful completion of five courses:~~
 - ~~◦ SPAN 290, SPAN 390, SPAN 401, SPAN 490~~
 - ~~◦ one of SPAN 395, SPAN 445~~
- ~~2. Successful completion of a final examination in Spanish/English translation.~~

Notes

- ~~1. The final examination will be administered after successful completion of all required courses. The required passing grade is 70%.~~
- ~~2. Some of the courses are offered in sequence and a minimum of two academic years might be required to complete any of the translation academic plans.~~
- ~~3. Students enrolled in the translation academic plan may choose to spend one semester in a School of Translation in a university in Spain or Latin America.~~

Faculty of Science Geochemistry

14. **Motion:** That Senate approve the inactivation of the honours geochemistry plans (regular and co-op), effective 1 September 2021.

Rationale and Background:

There has been limited student interest for several years in this plan (regular and co-op streams of study), jointly offered by the Department of Earth and Environmental Sciences and the Department of Chemistry. Inactivation is supported by both departments. Honours Geochemistry is not a direct entry program accessible to students applying through the OUAC, thus its inactivation will not impact any 2021 recruitment activity for Science.

/rmw

David DeVidi
Associate Vice-President, Academic

Vice-President, Research & International Report to Senate October 2020

COVID-19 Research Funding

A comprehensive directory of current COVID related research at Waterloo has been developed and can be accessed here: <https://uwaterloo.ca/research/catalogs/covid-19-research/category> . The following are four newly funded projects:

- **Chris Bauch**, Applied Mathematics, received \$148,624 from the **Ontario Research Fund** – Covid-19 Rapid Research Fund for a project titled, “*How to re-open Ontario’s economy without causing a resurgence of Covid-19*”
- **Mark Ferro**, School of Public Health and Health Systems, received \$165,000 from **CIHR** for a project titled “*COVID-19 Effects on Mental Health and Service Provision Effects on Children and Families: The MY LIFE Experience*”
- **Heather Hall**, School of Environment, Enterprise and Development received \$24, 246 from the **SSHRC Partnership Engage Grants** for a project titled “*Rural Canada and COVID-19: Understanding the impacts, responses, and recovery needs for rural resilience*”
- **Rashmee, Singh**, Sociology and Legal Studies, received \$24, 912 from the **SSHRC Partnership Engage Grants** for a project titled, “*A Partnership to Evaluate the Impact of COVID-19 on Criminal Justice and Community Responses to Domestic Violence: The Realities of Victim Safety and Offender Accountability*”

Social Sciences & Humanities Council Funding Update

This year, with results falling into fiscal 20/21, Waterloo researchers submitted 40 applications for **Insight Grants** and were successful on 17, for a total of \$2,595,131. Waterloo’s success rate was 43% compared to the national rate of 40% ranking Waterloo 11th out of the U15, up from 13th place in 17/18. Faculty members who attended the Office of Research’s six-session summer workshop series called START (SSHRC Tools and Resources Training) had a 75% success rate in their Insight Grants and Insight Development Grants this year.

Also falling into fiscal 20/21, Waterloo submitted 22 applications to the **Insight Development Grants** this year and were successful on 12 for a total of \$672,226 and for a success rate of 54.5%, compared to the national rate of 44.8%. Waterloo has maintained approximately 10% above the national average for three years in a row in Insight Development Grants. According to success rates, Waterloo ranked third in the U15 (compared to third in 18/19 and 10th in 17/18).

Waterloo received \$2,496,128 in this year’s **Partnership Grant** application. This marks the third successful Partnership Grant in a row in the last three years for Waterloo. Successful applicants to the Partnership Grants are well established SSHRC scholars.

Waterloo was also successful with two submitted **Partnership Development Grants** for a 100% success rate as compared to the national success rate of 57%. Total funding received was \$376,363.

Partnership Engage Grants are SSHRC's newest grants (with a maximum of \$25,000 each) and while Waterloo faculty are beginning to apply in greater numbers, success rates decreased in 19/20. To date, results for only one round in 20/21 has been reported and Waterloo's success rate was 75% (while national for that round was 71%). These are submitted four times per year.

Connection Grants also have a maximum of \$25,000, and Waterloo secured \$359,106 (up from \$134,208 last year) in funding for a success rate of 67% (up from 54% last year). National success rates have been approximately 45% the last two years.

While total funding has decreased in the last year, success rates for SSHRC grants continue to climb. The lower dollar amount is directly related to fewer applications being submitted under the Insight Grant and Insight Development Grant opportunities, as well as lower amounts being requested.

Innovation & Commercialization

Innovation Ecosystem Restart Working Group

Under the leadership of the Office of Research, a pan-university committee comprised of entrepreneurial ecosystem representatives has been constituted to bring forward recommendations on how Waterloo can best assist the start-up community to weather the challenges and seize opportunities arising from the COVID-19 pandemic. The Working Group is also considering how to integrate with Regional actors to support the Region's ability to more effectively respond to COVID-19 economic challenges. Currently the group is mid-way through its discussions and specific recommendations will be forthcoming.

Research Support Fund – Women in STEM Program

A request to access \$250,000 from the University's RSF allocation has been approved to establish a prototype development and entrepreneurial exposure program targeting women in STEM disciplines. The program adheres to two specific eligible RSF support categories:

1. Intellectual property and knowledge mobilization
 - Support for the creation of spin-off companies
2. Management and administration of an institution's research enterprise
 - Implementing equity, diversity and inclusion objectives

The funding will be used to advance the commercial readiness of intellectual property opportunities in the Waterloo Commercialization Office (WatCo) portfolio involving at least one woman faculty inventor, or projects where the funding will be used to support significant project participation by female grads or undergrad students. The funding will be specifically used for applied development activities, such as prototype development or field demonstrations, in order to advance the commercial readiness of selected IP opportunities that will increase the likelihood of securing investment capital to launch start-up companies or securing licensing opportunities. Finally, it will pay for a limited number of female graduate student placements in the Accelerator Centre's Explore program, which is designed to systematically assist participants to undertake customer discovery activities as a precursor to starting a new company.

International Research Partnerships

The Waterloo Institute for Sustainable Energy (WISE), through the Affordable Energy for Humanity (AE4H) global change initiative, is participating in a global research and international development assistance project titled “*Development of a prototype hybrid minigrid system: Integrating innovative biomass, PV, decentralised lithium battery storage and cloud-based AI monitoring platform to provide 24-hour off-grid, clean electricity*”.

This project is funded by Innovate United Kingdom and is conducted in partnership with Modularity Grid (UK SME), Brill Power (UK SME), and Mandulis Energy (Ugandan SME). The project seeks to develop and implement an innovative system to provide access to renewable electricity in a remote unelectrified community in northern Uganda. WISE will contribute to this project by creating designs, models, and analyses for technical components of the energy system. Dr. Jatin Nathwani is the PI, with Dr. Kankar Bhattacharya, Dr. John Wen, Dr. Bissan Ghaddar, and Dr. Claudio Canizares as co-PIs. The project will run from April 1st, 2020 to March 31st, 2022, and will bring a total of approximately \$410,000 CAD to Waterloo.

Waterloo International

International Week, which is intended to recognize and promote the value of international and intercultural experiences, collaboration abroad and the importance of internationalization on campus occurred at the University of Waterloo from September 21st to the 25th 2020. Waterloo International along with numerous campus stakeholders hosted 46 different events including the keynote event, a Presidential Chat involving President Hamdullahpur and the President of the University of Bordeaux, Manuel Tunon de Lara, reflecting on and celebrating the 10 year-long formal collaboration between our institutions. This year, due to the COVID-19 the majority of events were hosted virtually.