UNIVERSITY OF WATERLOO SENATE GRADUATE & RESEARCH COUNCIL NOTICE OF MEETING

DATE: Monday 6 March 2023 Chair – C. Dean

TIME: 10:30 a.m. – 12:00 noon

PLACE: NH 3318/3308

AGENDA

<u>Item</u> <u>Action</u>

Declarations of Conflict of Interest

a. Excerpt from Bylaw 1, section 8*

Information

CONSENT AGENDA

Motion: To approve or receive for information by consent, items 1-2 below

1. Minutes of 13 February 2023* Decision (SGRC)

2. Graduate Awards*

a. GRADflix Award (operating)

Decision

REGULAR AGENDA

3. Business Arising from the Minutes Information

4. Co-chairs' Remarks Information

5. Academic Program Reviews

a. Final Assessment Report: Business, Entrepreneurship and Technology* (Mark Weber)
 b. Final Assessment Report: Recreation and Leisure Studies* (Troy Glover)
 Decision (SGRC)
 Decision (SGRC)

c. Two-year Progress Report: Chemical Engineering* (Nasser Abukhdeir)

SEN-Regular

6. Graduate Studies Academic Calendar (GSAC) revisions* (Marianne Simm)

Discussion

7. Graduate Studies and Postdoctoral Affairs Visioning Exercise-Continued* (Casello)

Information

8. Other Business

Information

9. Next Meeting: 10 April 2023 from 10:30 a.m. - 12 noon; NH3318

*material attached

** to be distributed separately

"SGRC" to be approved on behalf of Senate

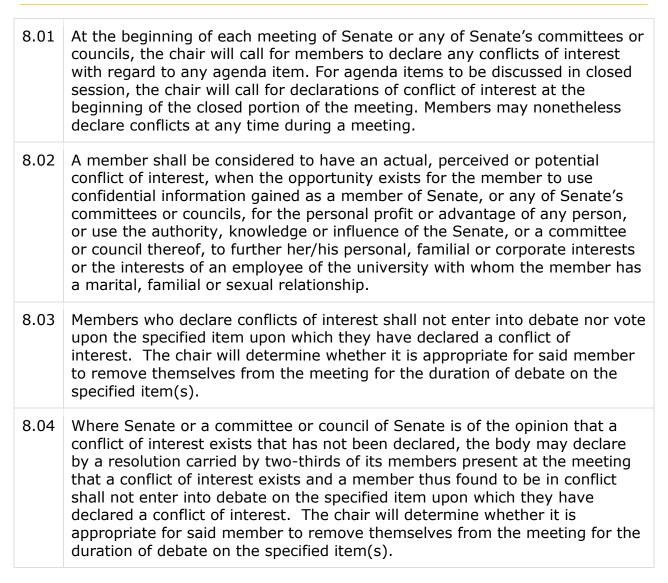
"SEN" to be recommended to Senate for approval

Kathy Winter, PhD, CPsych Assistant University Secretary

27 February 2023

Excerpt from Senate Bylaw 1

8. Declarations of conflict of interest



University of Waterloo SENATE GRADUATE & RESEARCH COUNCIL Minutes of the 13 February2023 Meeting

[in agenda order] Needles Hall 3318/3308

Present: Derek Armitage, Ramona Bobocel, Jeff Casello, Nancy Collins (for Alison Hitchens), Rob de Loe, Maureen Drysdale, Bernie Duncker, Anna Esselment, Bertrand Guenin, Julie Joza, Ian Milligan, Liz Nilsen, Jennifer Reid, Martin Ross, Marianne Simm, Siva Sivoththaman, Mike Szarka, Shawn Wettig, Kathy Winter (secretary).

Resources: Trevor Clews, Angela Christelis, Carrie MacKinnon-Molson

Guests: Richard Wikkerink, Clarence Woudsma, Leia Minaker

Regrets: Charmaine Dean*, Aiman Fatima, Ryan Johnson*, Zerihun Kinate, Brian Laird*, Anita Layton, William McIlroy, Manoj Sachdev, Julian Surdi*, Shirley Tang

Organization of Meeting: Jeff Casello, co-chair of the council, took the chair, and Kathy Winter acted as secretary. The secretary advised that due notice of the meeting had been given, a quorum was present, and the meeting was properly constituted.

DECLARATIONS OF CONFLICT OF INTEREST

No conflicts of interest were declared.

CONSENT AGENDA

Council heard a motion to approve or receive for information the items of the consent agenda. Milligan and Guenin. Carried.

1. MINUTES OF 9 JANUARY 2023

Council approved the minutes of the meeting as distributed.

2. CURRICULAR SUBMISSIONS

Council approved items a and b as presented.

3. GRADUATE AWARDS

Council approved item a, as presented.

REGULAR AGENDA

4. BUSINESS ARISING FROM THE MINUTES

There was no business arising.

5. CO-CHAIRS' REMARKS

In light of fulsome agenda, Casello remarked only briefly upon: (a) <u>funding competitions</u> - 120 applications; (b) graduate student financial support, including new Research Assistant and Teaching Assistant rates.

6. GRADUATE STUDIES - ACADEMIC CALENDAR CHANGES 2023/24

Council heard a motion to recommend to Senate the approval and adoption of new: (a) class components definitions and (b) class delivery mode definitions, for the Graduate Studies Academic Calendar in alignment with the same additions to the Undergraduate Academic Calendar, effective 1 September 2023. Item (a) moved forward to a vote following minor discussion of "field study" terminology where it was subsequently clarified that this applied to both teaching and research—whether indoors or outdoors. In contrast, as a result of more extensive discussion regarding "blended" and "online" terminology, council tabled item (b) pending further clarification and consideration of class delivery modes at the graduate level. Simm and Nilsen. Carried.

7. NEW PROGRAM: MASTER OF FUTURE CITIE (MFC)

Council heard a motion to recommend to Senate to approve a new interdisciplinary course-based Master of Future Cities (MFC), offered by the Faculty of Environment, as presented. Leia Minaker (incoming program director) and Clarence Woudsma from the School of Planning, provided an overview of the new program and council discussed: feasibility of a fall 2023 program start date (Simm confirmed viability even taking into consideration Senate and Quality Council pending approvals); program review date (2-year mark); degree type naming convention (MFC was chosen because the tuition and per-course tuition structure differ from other Master of Environmental Studies (MES) programs). Armitage and de Loe. Carried.

8. POTENTIAL AMENDEMNTS TO ANNUAL MEETING SCHEDULE OF SENATE

Council considered the proposed amendments to the annual meeting schedule of Senate, as distributed. In discussion: possible implications for certain council business (e.g., curricular submissions, new programs, centres and institutes) where it was concluded that the reduced number of Senate meeting dates would be viable.

9. CURRICULAR SUBMISSIONS

Faculty of Engineering.

Council heard a motion to recommend to Senate two major program revisions to the Master of Engineering (MEng) in Chemical Engineering: (a) adding a direct entry Co-operative program/option (enrollment targets set and to be evaluated with assistance of Co-operative Education) and (b) adding one new graduate specialization in entrepreneurship, effective 1 May 2023, as presented. Sivoththaman and Esselment. Carried.

Faculty of Health.

Council heard a motion to recommend to Senate one major program revision to the Master of Kinesiology (MKin) degree: (a) adding two new graduate specializations in Human Factors and Ergonomics (HFE) and Movement and Exercise Sciences (MES), effective 1 May 2023, as presented. Esselment and Ross. Carried.

10. GRADUATE STUDIES AND POSTDOCTORAL AFFAIRS VISIONING EXCERISE-CONTINUED

Casello continued his presentation, *Towards a proposed vision: Graduate studies at Waterloo*, as circulated. Some central questions included: What are our differentiating features? How to re-align branding so as to attract graduate students? How to re-imagine currency (i.e., research as currency or engagement with graduate students as currency)? Visioning to be continued with a view to receive Council's endorsement thereon.

11. RESEARCH DATA MANAGEMENT INSTITUTIOANL STRATEGY

Milligan spoke to the <u>RDM Institutional Strategy Project</u> and his PowerPoint presentation, *Research Data Management (RDM) Institutional Strategy and Implementation Plan*, as distributed. He reminded council that by 1 March 2023, Waterloo is required to articulate and publish this strategy to our website. In discussion: continued emphasis on the essential role of principal investigators in this endeavor; value as opposed to compliance exercise; concrete guidance and support through data management assistance program; increased library resources and community of practices.

12. OTHER BUSINESS

There was no other business.

13. NEXT MEETING

The next meeting will be held Monday 6 March 2023 from 10:30 a.m. to 12 noon in NH3318.

26 February 2023

Kathy Winter, PhD, CPsych, Assistant University Secretary February 21, 2023

TO: Kathy Winter, Assistant University Secretary and Privacy Officer, Senate Graduate

and Research Council

FROM: Heidi Mussar, Associate Director, Graduate Financial Aid & Awards

RE: Agenda items for Senate Graduate & Research Council – March 2023

Items for Approval

a) GRADflix Award - operating

Several GRADflix awards will be awarded annually to graduate students who presented their research in the GRADflix competition. Selection of the first, second, third and fourth place winners will be made by an adjudication panel. The people's choice winner will be selected by the audience. Winners will be selected by the adjudication panel based on a combination of communication, creativity and visual impact, and technical quality. Historically, five awards have been given with values ranging from \$250 - \$750; however values may be revisited and determined on an annual basis, as appropriate.



Final Assessment Report

Business, Entrepreneurship & Technology (MBET), Business & Entrepreneurship (GDip), Undergraduate Option & Minor

August 2022

Secretary Note: please see updates to accompany this FAR

Executive Summary

External reviewers found that the Business, Entrepreneurship & Technology (MBET), Business & Entrepreneurship (GDip), Undergraduate Option & Minor programs delivered by the Conrad School of Entrepreneurship and Business were in good standing.

The Conrad School of Entrepreneurship and Business provides an innovative and value-added offering at the graduate level (primarily in its flagship MBET program) and at the undergraduate level (primarily in its experiential opportunities and electives). It is delivered in a high-quality way with intense faculty student interaction. Faculty and student cohort relationships, networking, and mentoring begin early in the program and continue far beyond the close of the MBET program.

A total of 11 recommendations were provided by the reviewers, regarding evaluating the curriculum to optimizing two different student pathways, adding resources for research support, and adding a year of incubation or acceleration support for graduating students. 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.

Enrollment over the past three years

	MBET	GDip	Minor	Option
2021-2022	93	0	26	9
2020-2021	77	1	21	14
2019-2020	107	1	15	6

Based on Active Students Extract accessed on November 10, 2021

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 Business, Entrepreneurship & Technology (MBET), Business & Entrepreneurship (GDip), Undergraduate Option & Minor delivered by the Conrad School of Entrepreneurship and Business. A self-study (Volume I, II, III) was submitted to the Associate Vice-President, Academic and Associate Vice-President, Graduate

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Studies and Postdoctoral Affairs on August 27, 2020. The self-study (Volume I) presented the program descriptions and learning outcomes, an analytical assessment of the programs, including the data collected from the Canadian Graduate and Professional Student Survey (CGPSS), 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 and Associate Vice-President, Graduate Studies and Postdoctoral Affairs: Dr. Ted Zoller, T.W. Lewis Clinical Professor of Strategy and Entrepreneurship, University of North Carolina, and Dr. Francine Schlosser, Professor, Executive Director, Entrepreneurship, Practice and Innovation Centre, University of Windsor.

Reviewers appraised the self-study documentation and conducted a virtual site visit to the University from November 2, 2020, to November 5, 2020. An internal reviewer from the University of Waterloo, Dr. Suzan Ilcan, Professor of Sociology and Legal Studies, 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 the Faculty of Engineering; Faculty of Engineering Associate Dean of Graduate Studies; Director of the School, as well as faculty members, staff, current undergraduate and graduate students, and alumni. The review team also had an opportunity to meet with representatives from the library, and Cooperative Education.

Following the site visit, the external reviewers submitted a report on their findings, with recommendations. Subsequently, the program responded to each recommendation and outlined a plan for implementation of the recommendations. Finally, the Dean responded to the external reviewers' recommendations, and endorsed the plans outlined by the program.

This Final Assessment Report (FAR) is based on information extracted, in many cases verbatim, from the self-study, the external reviewers' report, the program response and the Dean's response. There was a substantial delay in the completion of this FAR due to the impact of the COVID pandemic.

Program Characteristics Graduate programs

Master of Business, Entrepreneurship and Technology (Full-time and Part-time option): The Master of Business, Entrepreneurship and Technology program, draws on the technological, innovative and entrepreneurial energies that are the foundation of the University of Waterloo's reputation to distinguish itself from other universities. Degree Requirements for the MBET program include ten graduate-level (.50 unit weight courses), including a commercialization practicum.

Non-credit Graduate certificates: Conrad offers MBET students co-curricular opportunities to complete two optional certifications – a Technical Sales certificate and the academic content required for the Certified Management Consultant (CMC) designation. While these certifications are not required for the MBET degree, almost all students choose to complete them and they often later display these

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accomplishments publicly in their LinkedIn profiles alongside their MBET degrees.

Graduate Diploma in Business and Entrepreneurship: The Graduate Diploma in Business and Entrepreneurship was designed for ambitious students who want to enhance their degree with practical business skills needed to attract potential employers in the fields of business and entrepreneurship.

Undergraduate programs

Enterprise Co-op: A signature program at Waterloo, Enterprise Co-op (E Co-op) allows students to pursue an entrepreneurial co-op work term in which students start their own business while earning a co-op credit. A successful E Co-op term is one where the student has built the foundation of a successful business; understands their market, their customers and competitors. They have developed a value proposition which is clear and can articulate their product/service to any stakeholder.

Bridging Entrepreneurs to Students: The Bridging Entrepreneurs to Students (BETS) program is a specialized co-op program established to support two key groups: first year engineering co-op students, and early-stage start-up companies that are often associated with UW but who would not otherwise have the resources to hire full-time staff or co-op students for 16 weeks. The BETS program brings these groups together by pairing teams of two entrepreneurial co-op students with companies for project-based micro placements of 5 weeks each.

The Minor in Entrepreneurship (core courses BET 100, 320, 310/340): The minor is designed for students who wish to enhance their academic and technical background with the business skills required to move ideas from concept to commercial, organizational, or social success. It is open to all students in Arts, Environment, Math, Science, and Applied Health Sciences. Engineering students are eligible to pursue the Entrepreneurship Option. The eight courses in the minor are designed to equip students with the skills and domain-specific knowledge they need to pursue their entrepreneurial ambitions, while the entrepreneurial experience presents an opportunity to apply classroom learning in real-time.

Entrepreneurship Option in Engineering (core courses BET 100, 320, 310/340): The entrepreneurship option is designed for students who want to explore entrepreneurship by taking courses to enhance their technical background with business skills. The option consists of six academic courses in business and entrepreneurship and an entrepreneurial experience.

Any undergraduate student currently enrolled in an engineering discipline in the Faculty of Engineering can pursue the entrepreneurship option (students in other faculties are eligible to pursue the Minor in Entrepreneurship).

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

Strengths:

Conrad's teaching and classroom experience is highly valued by its students and alumni. Student experience surveys over the last eight years and an alumni survey in 2018 confirm this. The majority August 2022

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of Conrad's teaching activity is now in elective courses at both the undergraduate and graduate levels. Where Conrad engaged with a total of approximately 70 students through its programming in 2010, that number will be well over 2,500 in 2020. No student has to take these courses; they take them because of Conrad's reputation for outstanding teaching and educational experiences.

Unencumbered by many of the traditional constraints on programming, Conrad is able to deliver a highly flexible, integrated experience in the MBET program. This is facilitated by control over their own classroom space and flexibility and commitment on the part of program faculty.

Conrad strives very deliberately to create and nurture a positive, entrepreneurial culture – a community valued by students, staff and faculty. It has made structural choices – like a balance between tenure and teaching stream faculty, and the design of its new physical space around a hub – that enable enhanced community by most university department standards. Asked in the Fall of 2019 about "why they choose to be at Conrad", 100% of staff and faculty reported the community and culture were key. Recent staff and faculty engagement surveys conducted by the University revealed results that support Conrad "standing out" where the engagement of its staff and faculty are concerned.

Though Conrad has only relatively recently begun to build its research capacity, its tenure stream faculty are highly productive and widely cited. Conrad has further invested discretionary resources in initiatives to enhance the research community at Conrad with high profile guest speakers, support for visitors, small grants for emerging projects, and an internally funded research excellence chair. Moreover, every SSHRC application made by Conrad faculty in the last five years has been successful.

Although *not* being a traditional business school has its challenges, one of its great advantages is that Conrad recruits people based on being unique, and the people who join them for that reason. This results in an uncommonly robust sense of shared purpose and collegiality.

Challenges/Weaknesses:

Most of Conrad's weaknesses are connected in some meaningful way to matters of scale. Visibility of programs inside and outside of UW is related to scale. The ability to support and maintain a robust, world-class research enterprise and culture are also in part about scale. Conrad's greatest weakness, therefore, is that it is small. The solution to that problem is straightforward; it needs to grow.

More than 15 years of experience has confirmed that MBET is a niche program. Though Conrad remains hopeful that they can grow from approximately 45 students to 60 in the full-time program, and from intakes of 18 students to 25 in the part-time program, it seems unlikely that they can grow it further. Even their current steady-state enrolments defy the market forces that have prompted top-tier US universities to shutter in-person MBA programs (e.g., Illinois, Purdue).

There is room for growth to meet internal demands at UW. This is demonstrated in part by growing undergraduate elective and graduate elective programming.

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Most robust and healthy departments are financially sustained by at least one anchoring undergraduate program. Even major business schools like Ivey at Western University, have increasingly come to rely on growing undergraduate programs to carry their operations financially. Conrad's lack of such a program is a liability at this point. Conrad believes there is room for a unique, Waterloo-branded undergraduate offering in business, entrepreneurship and technology, and they have taken early steps to explore this. Indeed, one of their potential strategic advantages is that they do not have a program at this time, and therefore have few legacy systems to overcome.

The reliable income from an undergraduate program of this type can support faculty hiring, and a larger faculty will better support a new doctoral program (under early review), which in turn can address the size of Conrad's research output. This can further support institution-level objectives for greater intensification of scholarly output in the entrepreneurship and innovation fields.

Summary of Key Findings from the External Reviewers

A total of 11 recommendations were provided by the reviewers, regarding evaluating the curriculum to optimizing two different student pathways, adding resources for research support, and adding a year of incubation or acceleration support for graduating students.

Program Response to External Reviewers' Recommendations

1. The reviewers both consider that Conrad's path in building a distinctive and differentiated School of Entrepreneurship and Business is the highest and best path forward as opposed to a traditional business school. While the conventional form of a business program that most universities follow the accredited business school form, Waterloo is among a unique set of institutions that can pioneer a new model for entrepreneurship programs fused with leading engineering and science training.

Program response

Conrad is gratified by the reviewer's assessment in this respect. As recommended, it is committed to a differentiated approach in its own programs, to supporting differentiated entrepreneurial business programming across campus, and to resisting the isomorphic pressures in business education except where they clearly determine they are in the interests of students or the institution.

Dean's response

Having the Conrad School of Entrepreneurship and Business as part of the Faculty of Engineering allows for many unique opportunities for both the faculty and the School, creating a relationship which is mutually beneficial. The blending of tech and entrepreneurship is a hallmark of Waterloo Engineering and is embodied by the Conrad School of Entrepreneurship and Business.

2. The reviewers remain concerned about the resources available to support a tenurable record among assistant professors. Heavy teaching loads and the Conrad school's commitment to high quality teaching is commendable but needs to be carefully considered when recruiting research active junior faculty. Because of the lack of availability of PhD students to serve as graduate assistants working with the junior faculty, assistant professors are at an increased disadvantage relative to those at other research universities. In lieu of the Ph.D. program partnership, the Conrad School

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should consider additional resources for research support and perhaps a postdoctoral program to support junior faculty.

Program response

The reviewers identify a legitimate and important concern when they highlight the importance of supporting success for Conrad's junior research faculty, and they make some interesting suggestions worthy of consideration.

The reviewers are correct that Conrad places a high level of importance on excellent teaching. That is part of the differentiation strategy alluded to in point one above, and indeed encouraged by the reviewers more generally. Conrad is mindful that its existence and growth is contingent upon the resources generated by differentiated and excellent academic programs that offer world class education experiences to its students. Delivering on Conrad's brand promise does not allow for compromises in classroom expectations. It is important that all faculty, at all career stages, understand the very high expectations and standards attached to teaching at Conrad. However, they are correct that, given this, Conrad must ensure robust success pathways for junior faculty who can meet tenure standards. Conrad is committed to this.

The reviewers refer to Conrad having heavy teaching loads. Conrad's tenure-stream faculty teach 4 courses a year, which is quite standard for business schools, and for many units across campus at UW. New Conrad faculty are given a teaching release in their first year, and the Director seeks to reduce administrative burdens associated with teaching in a number of ways. These currently include scheduling flexibility, finding ways to minimize course preps, the provision of extra TA time, RA support, research funding, etc. Further, Conrad's leadership is particularly mindful that not all courses make equal demands on instructors. MBET courses, for example, by virtue of programmatic structure and student expectations, often demand a different kind and length of engagement with students than some undergraduate electives. Course sizes also matter, obviously. These matters are all weighed by the Director with junior faculty success in mind.

But the absence of research graduate programs is a real, material challenge to scholarly productivity compared to peer institutions, as the reviewers note. That is true for junior faculty as noted, but also for establishing the kind of track record that supports promotion. That is why Conrad is planning to launch a doctoral program in the next 18 months. It has a proposal currently well under review.

However, for current junior faculty, that program will not be able to support their track records pretenure decision. That will necessitate consideration of unique Conrad challenges when evaluating their records and comparing their records to those at institutions without such challenges. The Director is committed to ensuring these factors are not missed at critical moments in evaluation.

The Conrad school has also implemented a set of research excellence initiatives, some of which offer special assistance to junior faculty. These include internal grant funds, travel grants and a visiting scholar and speaker program that privileges the support of junior faculty research interests. At this time, all research support requests from junior faculty have been granted utilizing Conrad's financial

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trust resources. The idea of a post-doctoral fellow program is an interesting one to consider, but the resources required may be prohibitive.

Dean's response

The Faculty of Engineering is fully committed to supporting the launch of a PhD program in the Conrad School of Entrepreneurship and Business. A PhD program will also facilitate greater opportunity for all faculty members to engage in scholarship and research activities.

3. The reviewers also believe that resources in building the undergraduate program would be best placed in building both Plus Business and Minor relationships with established departments throughout the University prior to tackling and entrepreneurship concentration. This would provide a natural funnel to the MBET and Diploma programs for supplemental credentialing, especially given the likelihood of a concentration competing with other academic programs at the University.

Program response

Conrad agrees with the reviewers that the Entrepreneurship minor and related activities across campus create natural connections with Conrad's graduate programs. Indeed, every year Conrad accepts a handful of MBET students who were first exposed to its courses through undergraduate electives. Conrad continues to nurture supporting relationships and to invest in information sharing across campus. Robust annual growth in undergraduate elective registrations year over year since they were introduced is evidence of considerable success in that respect.

Examples of Conrad's relationship building across campus include course work supporting the Recreation and Sports Business degree students in the Faculty of Health and the recently launched Entrepreneurial Mindset Career Specialization that is available to students in the Applied Financial Management degree program in Arts. Conrad continues to explore connections with partners across campus and look for opportunities to do even more.

However, none of those activities preclude pursuit of a new undergraduate degree program in Conrad's view. Though Conrad appreciates the concern noted regarding potential competition with other academic programs at the University, the planned focus for that program is unique and they do not, therefore, perceive this risk in the way the reviewers do. The focus of the planned program is to explicitly combine engineering technology with business and entrepreneurship in a distinctive fashion. Students with these interests are not likely to be candidates for the programs offered in other faculties. This program should no more be a direct competitor for other programs on campus than Science + Business is to Arts + Business, for example. Further, the program would not be an accredited Engineering program, and is therefore not a likely direct competitor to existing Engineering programs. This is a natural extension of Waterloo's model of "+business" at the undergraduate level. Conrad is also convinced the uniqueness of the program being considered will position Waterloo, once again, to lead globally in rethinking traditional education approaches, as it did at its founding with co-op.

The energies Conrad faculty and leadership have for a new undergraduate program are significant. At time of writing, a dozen faculty members from inside Conrad and elsewhere in Engineering are

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actively working on curriculum development with plans to propose the program formally in the 2022/23 academic year.

Dean's response

No additional comment from the Dean.

4. The reviewers would suggest that the Conrad leadership consider the development of a partnership with an elite research university in building their PhD program as opposed to implementing it independently. An international partnership would complement university-level strategy. This would yield advantages such as the ability to recruit highly qualified students as a combination with the partner university and provide ample supervisory capacity for PhD students by sharing responsibilities with the partner university faculty for doctoral advising and committee membership. This PhD program would be distinctive among its peers as opposed to just attempting to position as an undifferentiated offering with existing programs at scale.

Program response

Along with the whole University of Waterloo, Conrad remains open to any collaborations that are a clear net gain for Conrad, the university, its faculty and students. Conrad's proposed program is not, in fact, "undifferentiated"; it would be the only doctoral program specifically in Entrepreneurship and Organization in Canada. Since the reviewers visited, Conrad has added two additional tenured research faculty with impressive records and clear domains of strength. The school is mindful of the challenges of building up a strong doctoral program, but they are confident in their ability to do so with highly motivated world-class researchers, requisite financial resources, and the power of the Waterloo brand to aid them.

Making the doctoral program collaborative in its essence was considered at length at the outset, and it was rejected as an organizing strategy for many reasons. These reasons include a lack of evidence that such programs are successful elsewhere (i.e., attract additional student interest, attract stronger students, yield better outcomes for the students participating, etc.), the significant coordination costs involved and the governance challenges of joint degrees. Conrad did not perceive the potential gain to be worth the additional complexity and costs. The school is not interested in revisiting that strategic decision at this time.

Dean's response

The Faculty of Engineering at the University of Waterloo is one of Canada's largest engineering schools with ample experience in successfully creating new graduate programs. As such, the Conrad School of Entrepreneurship and Business will have all the resources and support structure needed to be successful in the development and launching its own doctoral program.

5. The reviewers also would recommend moving the current undergraduate courses in social innovation into the core curriculum to complement the existing strategy course and recast this course to focus on problem-solving skills leveraging design and systems thinking. This would strengthen the offering and be reinforcing of the training path of the students in the Waterloo's engineering programs.

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Program response

The core interest expressed by the reviewers – the desire to see social innovation and social enterprise as an integrating opportunity for students that is central to students' learning, particularly with respect to design – is one well-aligned with Conrad's own judgment and plans, particularly in our planned undergraduate program. In that program, early curricular plans are aligning very well with the reviewers' suggestion.

In Conrad's existing undergraduate programs, including the minor and option, the specific recommendation does not work as well in our judgment. Relatively few of the students who take Conrad electives pursue the minor or option. The minor and option are designed for maximum flexibility based on student interests given that they serve students from every discipline on campus. Consequently, by design, there is a minimal 3 course *requirement*, and moving the social enterprise into the required category would mean adding a requirement. Although many students naturally gravitate to that content and course, a much larger number of students who *could* take these courses opt not to do so. Therefore forcing students to do so may further reduce minor and option students, or require students to pursue courses of lesser interest or utility to them than the ones they prefer.

Dean's response

No additional comment from the Dean.

6. The reviewers received considerable feedback that there was interest in an additional year of incubation or acceleration support among graduating and that students. This would also be of great interest to international students who are seeking to bolster their visa case. The Conrad administration should consider developing formal linkages to (1) existing accelerator programs in the area, (2) formalizing their incubation program as an add-on practicum and (3) developing significant post-graduation supports for those building and launching ventures. This could likely be built as a hybrid offering with a combination of outside partners and internal faculty and staff resources.

Program response

Conrad is not surprised by this domain of feedback. It is a topic that arises annually, and has been considered formally and informally by the faculty of the Conrad School for at least a decade.

Existing accelerator programs. There is no question that the majority of MBET student ventures worthy of continued pursuit after the program benefit from further participation in accelerator programs. Conrad is fortunate that their students have access to Velocity, to the Accelerator Centre programming, to Communitech programming, and even to programs in Toronto. It is not precisely clear what a "formal" linkage would be, or what additional linkages such programs would entertain. However, Conrad actively supports and encourages accelerator participation for students who are ready and interested. Conrad does not believe new formal arrangements are required, but continuing to strengthen their relationships and connections with all these programs is worthwhile.

Formalizing incubation support as an add-on. MBET students and graduates are a diverse group, and whether or not they have ventures worthy of incubation is not something that is generally clear until August 2022

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well into the program, by which time they have supported access to apply for incubation. In establishing clear boundaries between "what Conrad does" and "what Velocity does", Conrad has agreed not to act as an incubator, and Velocity in turn does not engage in academic program delivery or curriculum. Any formal "Conrad incubation program" would run afoul of that very important delineation of activities and responsibilities at UW.

Post graduation supports. Conrad has decided that formal incubation supports are best provided by others, and the School and its faculty frequently act as match-makers in helping students with those connections. Informally, however, Conrad often provides office space and the supports of colocation to alumni in their first year after graduation.

International Students and a lengthened program. On the one hand (as noted in the reviewers' report elsewhere), Conrad's students – both international and domestic – are often drawn to the high-intensity one-year format of MBET. Indeed, every year a significant number of incoming students will explicitly indicate that format was key to their decision-making. However, as international students near the end of their program, they frequently ask for co-op work terms and program extensions. This is typically not motivated by academic interests, but rather by the specifics of the Canadian immigration system and work visa program. The interests are understandable – International students could guarantee a longer work permit if MBET was even a few months longer than a year, and various aspects of immigration law in Canada make the need to find work, and quickly, paramount in the consciousness of an international student who has decided they would like to stay in Canada. Over the years, Conrad has concluded repeatedly that it is not practical to offer "two kinds" of MBET, and that the 12-month nature of the MBET program is part of its appeal – especially to domestic students. Informal engagement with domestic students suggest that if MBET were longer than twelve months, Conrad would lose almost all domestic students. That is clearly not a strategy Conrad can, or will pursue.

However, as the reviewers note, for a certain kind of international student, a longer program with more Canadian employment training (e.g., co-op) might be highly appealing. Conrad would go further and suggest it might be a huge benefit to Canada as it seeks entrepreneurially oriented, technically skilled immigrants ready to participate fully in the Canadian economy. There, Conrad is in the early stages of considering a new Master's program, built on a spine of existing graduate course elective offerings and possible co-op experiences. That program would serve a different fundamental purpose than MBET, and would have to be designed differently. It might look like a more intrapreneurially focused "Master of Management" style degree. This is a project being led by the Director, with a feasibility analysis currently under way and planned program design in the 2022/23 academic year.

Dean's response

No additional comment from the Dean.

7. The reviewers acknowledge the tremendous success of Conrad's successful co-op programs. With a very thoughtful track for those interested in launching a new venture and those pursuing entry-level opportunities in existing ventures, we would suggest that the curriculum could be optimized along those two tracks throughout the student journey at Conrad. The faculty should also consider ways

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to scale these programs to offer co-ops to a wider number of students graduating from Waterloo. The MBET team should also evaluate whether a similar practicum structure could be built for graduate students that parallels the undergraduate design.

Program response

As noted by the reviewers, Conrad offers highly differentiated programs in the entrepreneurship space. Conrad has learned "on the job" over time is that some of the most intuitive and obvious things they "should do" in principle, do not work in practice. The idea of multiple tracks in their existing programs fall into this category. The undergraduate minor and option used to be organized this way, in fact, precisely because it felt so intuitive to them, as it did to the reviewers. However, experience taught Conrad this was less effective for students, and led the faculty to abandon that structure, focusing instead on an integrated but adaptable approach.¹

Conrad most often talks about "entrepreneurs" vs. "intrapreneurs". There are three significant challenges in streaming in this way that they have learned because they have engaged in the curriculum design ideation process multiple times. The first challenge is developmental and all about the learner: budding entrepreneurs rarely know which stream is the right one for them until they have engaged meaningfully in our programming over time. For a university that prides itself on work-integrated learning, this, of course, should not surprise us. The second challenge is that it quickly becomes unclear how the two relevant curricula would differ. To be an effective early-stage employee, it is not clear what different skills or frameworks you should have than to be a founder, for example. You still need to know how to lead, how to talk business, how to frame and engage in robust strategic analysis, etc. The difference between good entrepreneurs and good intrapreneurs is rarely about the requisite skills and habits of thought (i.e., curriculum) and more about mindset and individual differences, and perhaps even more often about random situational variables (e.g., did you happen to be working in the lab of a faculty member with a ripe technology ready to commercialize). Finally, students who start their own ventures often end up exiting through sale of their business, and becoming intrapreneurs in a bigger organization. Similarly, intrapreneurs often find challenges in their own firm which they decide to leverage into independent new ventures. Students need to have skills related to both.

Where Conrad agrees whole-heartedly with the reviewers is with the sentiment that these two paths are both valid, real, and have some unique challenges. Conrad will continue to work to ensure that both paths get attention in the examples offered, and how they validate different paths for students at both the undergraduate and graduate levels.

Scaling Enterprise Co-op. As suggested by the reviewers, Conrad is ready to scale enterprise co-op. There are two challenges. One challenge is that demand from students does not currently merit adding capacity. This might be addressed by scholarship and funding support to students, but it is not clear where that money would come from. The second challenge is the ongoing tenuous nature of funding for enterprise co-op. Currently, the program is funded as a partnership between the Provost and the faculties, and funding agreements of two to three years at most have been the

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¹ It is worth noting that there is research in the entrepreneurship and careers literature that would suggest Conrad's current, less streamed but still adaptable, approach is what makes most sense for young people.

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norm. Given the centrality of this program to Waterloo's positioning as Canada's leading innovation and entrepreneurial university, Conrad thinks a case can quite easily be made that this funding be an on-going base budget program. Indeed, that case has now been presented and is awaiting decision.

Dean's response

The University of Waterloo and the Faculty of Engineering have identified Work Integrated Learning (WIL) as a key area of growth in their strategic plans. Implementing WIL at the graduate level is of special interest to the Faculty, with the view that the development and implementation of any WIL initiative must be in the best interest of the program and the students.

8. The faculty of Conrad should carefully evaluate their curriculum to identify potential sequences that would more clearly define the course offerings supporting two different student product profiles, namely intrapreneurship (those seeking employment in high-growth ventures after graduation) and a founder track (those pursuing start-ups immediately after graduation). Moreover, there may be a potential for an ongoing continuing education mentoring program for graduates of Conrad who decide later in their careers to pursue founding a new venture, which might represent a new revenue stream for the program.

Program response

See prior discussion of the intrapreneurship vs entrepreneurship curriculum streaming idea.

To that earlier discussion, Conrad would add that, in the school's experience, there is a meaningful overlap between international students who want a longer degree to facilitate immigration considerations and ultimate intrapreneurship (vs. entrepreneurship). Therefore, it may be that the best way to address both needs is with a purpose-built "intrapreneurship" degree as opposed to streaming within MBET.

Conrad provides a great deal of informal mentoring of alumni. However, Conrad has concluded that it does not make business sense to be in the "post grad mentorship" business. That is better done by organizations purpose built for that end, specifically the incubators and accelerators with which Conrad has relationships.

Dean's response

No additional comment from the Dean.

9. The reviewers see an opportunity to expand considerably cross-curricular partnerships with Engineering Departments and to offer distinctive training in advanced technologies fused with market awareness of innovation trends. The Conrad school could offer a revolving set of elective courses in core technology and innovation areas that correspond to the specializations in the engineering departments with which they partner.

Program response

Developing and nurturing cross-curricular partnerships inside of Engineering is a priority for Conrad in several ways. Conrad is working to establish and support graduate specializations in MEng

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programs across the faculty. At the undergraduate level, they anticipate their new degree programming having a dynamic, integrated technology core that is designed in partnership with our Engineering colleagues.

In MBET, this is more difficult. Given the intensity of the 12-month program, there is no room for "curricular technology training" per se. Instead, the focus is on technology awareness and its potential entrepreneurial applications. Continued evolution of this facet of their programming is of course merited. Conrad might also consider curating a list of resources that are more tailored to the individual interests of particular students.

Dean's response

There is already a substantial amount of engagement across Departments in the Faculty of Engineering with the Conrad School of Entrepreneurship and Business. Many undergraduate and graduate students avail of Conrad's suite of courses to augment their studies in the form of electives. As Conrad prepares to move forward with their doctoral program, there will also be further opportunity to develop partnerships over interdisciplinary research.

10. The Conrad school administration should carefully consider the implications of admitting international students interested in pursuing a new venture given Canada's current policies toward workpieces. Expectations should be set at the beginning that courses should focus primarily on gaining employment with Canadian companies following graduation or leading to the international students return to their home country if not employed in Canada.

Program response

This has been a challenging area for Conrad over time. Through the interview process and facilitated contact with international student alumni, significant amounts of information about launching new ventures in Canada are shared. They are also discussed early in the program. Our experience is that the problem is not with international students knowing, or not knowing, this information, but rather that they come to view the information and its implications differently as the year progresses. Further, a significant proportion of international applicants profess an intention to return to their countries of origin at the time of application, but change their mind as the year progresses. As their intentions change, the attention they pay to important challenges also changes.

Having said all of that, Conrad takes the reviewers' comments to heart, and will formally revisit the question of how best to ensure understanding by all, which is clearly different from the sharing of information that currently happens.

Because MBET is not an MBA, Conrad does not engage in extensive career service supports. All the students who come to the program profess to want to start their own ventures. However, in practice, students take many different paths and most traverse employment with someone else's venture or a large corporation along the way. To support this, personalized career coaching is made available to students, along with resume review and the like.

Dean's response

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The University of Waterloo has a well-established Center for Career Action (CCA) which supports graduate and undergraduate students from across campus. Specifically, CCA offers resources to international students looking to find employment in Canada, and 2 full-time career advisors dedicated to supporting graduate students and their unique needs.

11. The reviewers acknowledge that active and engaged culture that has been built at the Conrad school since its inception. We recognize that there exists a considerable opportunity to develop a formalized alumni network to take advantage of the goodwill that exists among graduates of the program and to systematically involve them in the support and development of currency at Waterloo. While program actively engages alumni to course activities, additional programmatic supports could be put in place to create a lifelong learning model to support Conrad graduates. This would also serve to make the Conrad curricular offerings relevant to graduates when they transition later in their careers as entrepreneurship and found new ventures.

Program response

There are two dimensions to the reviewers' comments that point to worthwhile future work. The first is the general, continued investment in Conrad's alumni community. Conrad is grateful for the many ways their alumni support one another, their students and their program. Yet Conrad is also mindful that there remain exciting ways to further engage with and support them, and also ways alumni might more effectively engage with current students who are charting entrepreneurial paths. Work on alumni relations – possibly with some staff support – is an important consideration going forward.

The second dimension is the possibility of Conrad engaging with its alumni (and likely others) as lifelong learners. Here, Conrad will investigate partnerships with Waterloo's recently launched WatSPEED initiative in the lifelong learning space – looking for opportunities to profitably meet needs of those pursuing entrepreneurial business outside our regular degree program offerings.

Dean's response

The University of Waterloo is committed to "[leveraging] diverse learning experiences by creating more flexible learning pathways." In this spirit, there is an invested interest in developing and expanding micro and stackable credentials across graduate studies. In partnership with the faculties and support units like WatSPEED, the University seeks to reach out to alumni and other professionals to build new and existing competences in an increasingly demanding and competitive workplace.

Recommendations Not Selected for Implementation

We are not acting on reviewer recommendation #1. It was a comment more than recommendation.

Conrad is also not pursuing reviewer recommendation #4. Rationale is presented in the section devoted to recommendation #4 above.

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Implementation Plan

-	Recommendations	Proposed Actions	Responsibility for Leading and Resourcing (if applicable) the Actions	Timeline for addressing Recommendations
1.	The reviewers both consider that Conrad's path in building a distinctive and differentiated School of Entrepreneurship and Innovation is the highest and best path forward as opposed to a traditional business school.	This is a comment rather than a recommendation from the reviewers. This is the path the Conrad School is on. No specific new actions are required.		N/A
2.	The reviewers remain concerned about the resources available to support a tenurable record among assistant professors. In lieu of the Ph.D. program partnership, the Conrad schools should consider additional resources for research support and perhaps a postdoctoral program to support junior faculty.	 Move forward with the proposed doctoral program. Make special funds available to support research Continue to exercise flexibility in junior faculty's other responsibilities to ensure success is possible Ensure that all junior faculty tenure cases are contextualized in relation to peer institutions where there are disadvantages 	Eyton Director	Doctoral Program launch 2023. Special funds already available, along with flexibility. First junior tenure case will be managed in this context in 2022.
3.	The reviewers also believe that resources in building the undergraduate program would be best placed in building both Plus Business and Minor relationships with established departments throughout the University prior to tackling and entrepreneurship concentration.	 Continue internal marketing efforts and relationship building across campus. Continued effort of a kind already that have proven successful and are ongoing (e.g., targeted advertising, social media engagement, guest speakers, events, faculty presentations in classes across 	Eyton Director	2021-2023 Undergraduate degree proposal submission anticipated 2022. Likely first intake in Fall 2024.

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4.	The reviewers would suggest that the Conrad leadership consider the development of a partnership with an elite research university in building their PhD program as opposed to implementing it independently.	campus, etc.), rather than new activities, are required here. Conrad is committed to moving forward with an undergraduate degree proposal. Although always open to collaborations with others, as a central strategy, the suggested approach is not being pursued by the Conrad School	N/A
5.	The reviewers also would recommend moving the current undergraduate courses in social innovation into the core curriculum to complement the existing strategy course and recast this course to focus on problem-solving skills leveraging design and systems thinking.	 For reasons identified, Conrad will not make this course a required course for the minor. However, addressing the curricular considerations identified and ensuring access to all students are a priority. They are present in existing courses and are central to new courses in the design phase. In new programming, as in MBET, these skills and these topics will be central to core curriculum. 	2021-2023
6.	The reviewers received considerable feedback that there was interest in an additional year of incubation or acceleration support among graduating and that students. The Conrad administration should consider developing formal linkages to (1) existing accelerator programs in the area, (2) formalizing their incubation	 Conrad will continue to build relationships and referrals to the rich web of incubation supports at UW and in Waterloo Region Lifelong learning initiatives will be considered with viability, available resources, and profitability as criteria. We will be opportunistic in this space. It is not our primary near-term strategic focus, and will therefore be considered only as it 	Discussions in 2022- 2023

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	program as an add-on practicum and (3) developing significant post-graduation supports for those building and launching ventures. This could likely be built as a hybrid offering with a combination of outside partners and internal faculty and staff resources.	 makes sense in relation to other strategic commitments and objectives. Consideration is being given to a new Masters program that might be appealing to a subset of international MBET students and others. 		
7.	The reviewers acknowledge the tremendous success of Conrad's successful co-op programs. With a very thoughtful track for those interested in launching a new venture and those pursuing entry-level opportunities in existing ventures, we would suggest that the curriculum could be optimized along those two tracks throughout the student journey at Conrad.	 Promotion of both tracks as viable and worthy options in all programming For reasons outlined above (pp. 8-9), Conrad will not pursue formal streaming in its existing programs, but may instead consider new programs to address intrapreneurship, specifically a new Masters program. 	Eyton Director and Faculty	 2021- ongoing New Masters program consideration in 2022/23
8.	The faculty of Conrad should carefully evaluate their curriculum to identify potential sequences that would more clearly define the course offerings supporting two different student product profiles, namely intrapreneurship (those seeking employment in high-growth ventures after graduation) and a founder track (those pursuing start-ups immediately after graduation.	 For the reasons identified above (pp, 9-10), Conrad will not pursue two formal tracks in existing programming However, sensitivity to two emergent student profiles will inform ongoing course and curricular refinement 	Eyton Director and Faculty	2022/23 as part of larger portfolio of programs evaluation

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9.	The reviewers see an opportunity to expand considerably cross-curricular partnerships with Engineering Departments and to offer distinctive training in advanced technologies fused with market awareness of innovation trends. The Conrad school could offer a revolving set of elective courses in core technology and innovation areas that correspond to the specializations in the engineering departments with which they partner.	 Continue to pursue specializations with Engineering Departments Revisit and refine treatment of technology in technology focused courses Engage Engineering colleagues in the design of the "technology core" for a new undergraduate program (Fall 2022) Consider curating resources (e.g., Linda.com and other similar online learning resources) students might take advantage of that are aligned with their specific ventures and interests 	Eyton Director and Associate Directors	2021-2023
10.	The Conrad school administration should carefully consider the implications of admitting international students interested in pursuing a new venture given Canada's current policies toward workpieces.	 Revisit and formalize a system to support better understanding among international students. (Information is already shared. See notes) Consider the merits of a new Master's degree to better meet needs of international students seeking immigration who are not <i>really</i> interested in founding a venture 	Eyton Director, Associate Director MBET, Marketing Manager	2021-2022
11.	The reviewers acknowledge that active and engaged culture that has been built at the Conrad school since its inception. We recognize that there exists a considerable opportunity to develop a formalized alumni network to take advantage of the goodwill that exists among graduates of the program and to systematically involve	 Develop and implement new alumni engagement strategies Consider the development of lifelong learning program offerings, potentially in partnership with WatSPEED 	Eyton Director, Associate Directors & Marketing Manager	2022-2024

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them in the support and development		
of currency at Waterloo.		

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

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Date of next program review	2025-2026		
	Date		
Signatures of Approval			
I Mal Wer	11/21/22		
Chair/Director	Date /		
Mary Wells Digitally signed by Mary Wells Date: 2023.01.04 10:35:22 -05'00'			
Faculty Dean	Date		
AFIW Administrative Dean/Head (For AFIW programs only) Note: AFIW programs fall under the Faculty of ARTS; however, the Dean does not over staffing and administration of the program.	t have fiscal control nor authority		
Dan De Vidi	January 31, 2022		
Associate Vice-President, Academic	Date		
(For undergraduate and augmented programs)			
John M. Caell	January 31, 2022		
Associate Vice-President, Graduate Studies and Postdoctoral Affairs (For graduate and augmented programs)	Date		



CONRAD SCHOOL OF ENTREPRENEURSHIP AND BUSINESS 519-888-4567, ext. 48381

519-888-4567, ext. 4838 uwaterloo.ca/conrad

UPDATE AND PROGRESS REPORT - FEBRUARY 2023

It is my pleasure to provide an update and progress report on the Implementation plan laid out in the Conrad School's latest Final Assessment Report (FAR). Alongside each heading is reference to the item number form the FAR Implementation plan.

Supporting tenurable record for Assistant Professors (#2)

Ensuring reasonable potential for the tenure success of Conrad's Assistant Professors is a very high priority. As noted in the FAR, the Director provides special resources and flexibility in support of junior faculty success. We have our first data point: our very first Assistant Professor to go up for tenure passed both departmental and faculty tenure and promotion committees with unanimous support in Fall 2022.

Undergraduate Degree Proposal (#3)

The letter of intent for Conrad's planned undergraduate degree program has been approved by the Associate Dean Undergrad and Dean of Engineering. Conrad will continue along the path laid out by UW's Quality process for new programs. A multi-disciplinary committee representing 3 departments inside Engineering has been working on program design for over a year and is making steady progress. Although Fall 2024 for first intake is not off the table, we are mindful that Fall 2025 may be more realistic.

New Professional Masters Program (#6, #7, #8 & #10)

Conrad is making modest progress on the idea of a new master's program that might better address the interests of some students than MBET. The student profile that would align well with the new program concept is one the reviewers noted might be less well served by MBET. Conversations with other players inside Engineering continue. A letter of intent is expected before summer.

Access and Awareness for Undergraduate Electives / Minor / Option Across Campus (#3)

Word-of-mouth among students along with our formal efforts at raising awareness have yielded positive results. In 2013/2014 Conrad had approximately 100 total elective enrolments at the undergraduate level. In the current academic year that is on-target for closer to 2,800 total enrolments. Many current course offerings are operating at maximum enrolment. Instructors and their courses are very positively perceived by students in formal assessments, which we believe contributes to this success.

Social Enterprise and Social Innovation as Central (#5)

Conrad has expanded undergraduate offerings in this space, embedded key elements in MBET, and seeks to work collaboratively with partners across campus in supporting these interests for UW students. The Faculty of Environment, United College, Conrad Grebel University College and others have been key collaborators and conversation partners.

Specializations (#9)

Two graduate specializations have been launched with Engineering Departments and two more are at early stages. Enrolment patterns suggest Masters of Engineering students are eagerly pursuing these specializations.



Alumni Engagement (#11)

Conrad is actively working to engage its alumni more deliberately and effectively. Good will and receptivity seem abundant, which is a great sign. One piece of evidence of this was the 200+ alumni and friends of Conrad who came to its full-day 20th Anniversary celebrations in Fall 2022. A senior staff role has been redefined to focus more energy and resources on engaging with alumni, and capitalizing on the positive contributions they can make to our programs.

PhD in Entrepreneurship and Organization (#4)

In Fall 2022, Senate approved the new PhD in Entrepreneurship and Organization program. It is currently under review by the Quality Council and Ministry. We hope to admit our first students in Fall 2023. We have had encouraging early signs of interest in the program.

I am, of course, happy to answer any questions regarding the Conrad School, its direction, and its progress towards the objectives and opportunities laid out in its most recent FAR.

Respectfully submitted,

J. <u>Mark Weber</u>

Eyton Director and Professor



Final Assessment Report

Recreation & Leisure Studies (BA/MA/PhD)

Recreation & Sport Business (BA); Therapeutic Recreation (BA);

Tourism Development (BA); Tourism (Option)

Recreation & Leisure Studies – Aging, Health and Well-being (PhD); Recreation & Leisure Studies – Work and Health (PhD)

December 2022

Secretary Note: please see updates to accompany this FAR

Executive Summary

External reviewers found that the Recreation and Leisure Studies (BA, MA, PhD, Option) delivered by the Department of Recreation and Leisure Studies were in good standing.

"The University of Waterloo's Recreation and Leisure Studies Program is a highquality program with dedicated and experienced faculty members. The research achievements of the faculty are internationally respected and, as a result, the quality of the graduate program is strong. In addition, program innovation efforts and willingness to adapt the curriculum to industry and to students' needs, represent strong points."

A total of 13 recommendations were provided by the reviewers, including improving the co-op program, increasing the involvement of alumni and professionals to provide better access to internships and placements for students, limiting the number of graduate students, and increasing faculty diversity. 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 2026-2027.

Undergraduate enrollment over the past three years

	Recrea	ation and Le	eisure	Recreati Sports B		Therap Recrea		Tour Develo	_	Tourism
	General	Honours	Со-ор	Honours	Со-ор	Honours	Со-ор	Honours	Со-ор	Option
Fall 2021	11	43	36	128	214	108	79	11	21	0
Fall 2020	7	47	34	113	188	106	75	15	21	0
Fall 2019	7	59	51	91	155	90	82	9	15	5

^{*}based on Active Students Extract retrieved from Quest September 17, 2021

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Graduate enrollment over the past three years

	Recreation ar	nd Leisure Studies	Aging, Health and Well- Being
	MA	PhD	PhD
Fall 2021	32	40	7
Fall 2020	29	39	9
Fall 2019	32	30	6

^{*}based on Active Students Extract retrieved from Quest September 17, 2021 Notes: The Recreation and Leisure Studies – Work and Health (PhD) program was discontinued in 2012-2013.

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 Recreation and Leisure Studies (BA/MA/PhD), Recreation and Sport Business (BA), Therapeutic Recreation (BA), Tourism Development (BA, Option), PhD in Recreation and Leisure Studies – Aging, Health and Well-being, PhD in Recreation and Leisure Studies – Work and Health programs delivered by the Department of Recreation and Leisure Studies. 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 June 17, 2020. 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 and Associate Vice-President, Graduate Studies and Postdoctoral Affairs: Dr. Kelly Bricker, Professor of Parks, Recreation and Tourism, University of Utah, and Dr. Frederic Dimanche, Associate Professor of Hospitality and Tourism Management, Ryerson University.

Reviewers appraised the self-study documentation and conducted a virtual site visit to the University between November 9 and November 12, 2020. An internal reviewer from the University of Waterloo, Dr. Ana Ferrer, Professor of Economics, was selected to accompany the external reviewers. The visit included interviews with the Provost and VP, Academic; Associate Vice-President, Academic; Associate Vice-President, Graduate Studies and Postdoctoral Affairs; Dean of the Faculty of Applied Health Sciences; Chair of the Department as well as faculty members, staff, and current undergraduate and graduate students. The Review Team also had an opportunity to meet with representatives from the library, and Co-operative Education.

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Following the site visit, the external reviewers submitted a report on their findings, with recommendations. Subsequently, the program responded to each recommendation and outlined a plan for implementation of the recommendations. Finally, the Dean responded to the external reviewers' recommendations, and endorsed the plans outlined by the program.

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

Program Characteristics

Undergraduate Programs

Recreation and Leisure Studies; Four-Year Honours

The Honours Recreation and Leisure Studies program introduces students to the many aspects of the fields of leisure studies, tourism, events, parks and outdoor recreation, therapeutic recreation, municipal and cultural recreation, and business management. This major allows students the greatest opportunity to tailor their degrees to meet their own career or post-graduate goals using the flexibility of the electives in the program. Students can choose nine or more Recreation electives and up to thirteen non-Recreation electives, allowing room to complete options, minors, or teachable subjects for Teacher's College. Specific degree requirements can be found <a href="https://example.com/here/beauto-students-

Recreation and Sport Business; Four-Year Honours

The Honours Recreation and Sport Business program is designed to equip future leaders with business-related competencies in recreation and sport contexts across public, nonprofit, and commercial sectors. In the Department and across campus, the degree introduces students to the main areas of human resource management, marketing, finance, and communications, and then have the opportunity to further specialize in one or more areas using their elective courses offered through Wilfrid Laurier University's Lazaridis School of Business and Economics in addition to those offered at Waterloo.

The program may be completed either through the co-op or regular stream. Degree requirements can be found <u>here</u>.

Therapeutic Recreation; Four-Year Honours

The Honours Therapeutic Recreation program provides students with the expertise to enhance the overall quality of life for individuals, communities, and specific populations, such as older adults and persons living with differing levels of ability. Students learn to assess the physical, social and emotional needs of clients, as well as models for enhancing their lives through professional practice involving recreation activities and community inclusion.

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The program may be completed either through the co-op or regular stream. Students complete a required practicum placement, and an internship placement designed for students to obtain further hands-on practical experience in a supervised therapeutic recreation setting. Degree requirements can be found here.

Students planning a career in Therapeutic Recreation will also be prepared for certification with the <u>National Council for Therapeutic Recreation Certification (NCTRC)</u> and/or registration with <u>Therapeutic Recreation Ontario (TRO)</u>.

Tourism Development; Four-Year Honours

Tourism represents one of the world's largest industries, creating numerous opportunities for inspired professionals who can develop and deliver rewarding experiences while protecting cultural and natural resources for future generations. Students in the Tourism Development Honours program delve into the social, economic, cultural, and environmental impacts of tourism in communities, in Canada, and around the world. Students learn how to plan, implement, and evaluate tourism experiences in environmentally and culturally sensitive ways. Degree requirements can be found <a href="https://example.com/here-new-representation-new-represen

Recreation and Leisure Studies; Four-Year General Degree

Students may be placed in the general degree program at any time following their first year if deemed ineligible to continue in any of the honours programs. Thereafter, students may continue in the general program to graduation, or meet the requirements to be eligible to return to one of the honours programs.

The Four-Year General Recreation and Leisure Studies program provides an opportunity for students to continue their studies in the recreation and leisure field, even if they have not met the requirements to continue their studies at the Honours level. Students take the same courses as the Honours level program, though the degree requirements are slightly different, and have an opportunity to meet the Honours level requirements and return to the Honours program. Often this success is achieved within one to three academic terms. Nevertheless, students may choose to remain in the four-year General program and complete the lesser requirements to graduate with this degree.

Degree requirements can be found here.

Tourism Option

The Tourism Option provides an opportunity for students to focus their studies in the tourism field, exploring topics such as tourism impacts, tourism planning and marketing, cultural heritage, and outdoor recreation resource management. The Tourism Option is available to students in any honours-level plan at UW. Students interested in working for the Canadian

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Federal Government are encouraged to take French language courses. Requirements for the option can be found <u>here</u>.

Joint Honours Plans

Students in Recreation and Leisure Studies honours plans may choose to complete a Joint Honours degree. A Joint Honours plan allows a student the opportunity to complete two degrees at the same time by completing the degree requirements set out by both Departments. Most joint honours degrees (e.g., REC + PSYCH) consist of a minimum of 20 to 22 units (i.e., 40 to 44 term courses) between the two plans total.

The requirements for a joint honours degree are determined by the two Departments offering the honours degree plans.

The most common Joint Honours Degrees are between Recreation and Leisure Studies and Psychology, Social Development Studies, Geography, and Sociology. Requirements for Joint Honours Degrees can be found here.:

Graduate Programs

The Department of Recreation and Leisure Studies (RLS) currently offers one Master of Arts (MA) degree that students can obtain through two different paths: the MA thesis option or the MA coursework option.

The Department currently supports two doctoral programs: the Doctor of Philosophy (PhD) in Recreation and Leisure Studies and the PhD in Aging, Health, and Well-Being. The PhD in Aging, Health, and Well-Being represents a collaborative doctoral program, operated by the three academic units in the Faculty of Applied Health Sciences: RLS, the Department of Kinesiology, and the School of Public Health and Health Systems.

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

Undergraduate programs

Strengths

The evidence collected for this report suggests undergraduate studies in RLS have many strengths to celebrate:

 Over the review period, the undergraduate program experienced steady growth in enrolment, particularly in Recreation and Sport Business (RSB). The addition of sport to RSB appears to have been a good decision in terms of attracting more qualified applicants to the Department. Overall, Department applications and admissions have

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steadily increased over the program review period, demonstrating a strong demand for the curricula within the Department.

- The curriculum mapping process associated with the program review showed that the
 Department meets the Provincial guidelines for learning outcomes and its
 undergraduate programs progress in a logical sequence from introductory to more
 advanced levels of learning. These findings bode well for students in our program and
 ensure courses contribute to positive learning experiences.
- The review also showed that instructors utilize a diversity of sound assessments and styles, which add variety and value to the curriculum for students.
- At a time when AHS aims to attract students from other faculties on campus, approximately a third of students enrolled in RLS courses originates from outside of the Department.
- Feedback from the student survey indicated students reported achieving learning outcomes very well. Students are generally satisfied with their achievement of learning outcomes consistent with curriculum mapping, with particular strengths in research and development of professional skills. Students are also highly satisfied with their preparedness for employment or future studies.
- In terms of additional strengths, students highlighted undergraduate advising support as a significant strength of the Department. They also mentioned opportunities to take courses across the majors, flexibility of the majors, and opportunities to connect with other students as highly satisfactory.
- In terms of alumni perspectives, alumni overwhelmingly rated their educational experiences as good or excellent. They also reported a good fit between their program of study and their career fit. In other words, training in the program was deemed highly relevant to their career paths.
- Employment rates within two years of graduation at or above the Provincial rate. Given the focus on local impact articulated by the current Provincial Government, this finding reflects well on the Department in terms of career preparation.

Challenges

While few challenges can be gleaned from the assessment, the Department ought to consider the following concern:

A quarter of surveyed RLS students thought co-op placements in RLS were satisfactory only. Our observation of the quality of placements is that the opportunities to secure more desirable work experiences tends to increase with each subsequent work term (i.e., students become more competitive for co-op placements as they get more work experience). Nevertheless, the Department could always do more to make available relevant work experiences for its co-op students by recruiting more employers to post meaningful jobs in the co-op system. The challenge in doing so, however, is that placements/co-op opportunities cannot be restricted to RLS students alone in the job

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search system and are open to competition from any Waterloo student, irrespective of his or her major. Moreover, the centralization of co-op makes it challenging for academic units to do their own recruitment of employers. These challenge makes it difficult to address concerns expressed by students surveyed for this report.

Weaknesses

The program review process enables the Department to identify deficiencies that warrant greater attention. The following "weaknesses" offer guidance in terms of areas the Department should aim to improve:

- Only a third of students surveyed were very or highly satisfied with career planning or future studies. The Department, therefore, could do a better job assisting its undergraduate students with career planning, through advising, events, and in-class direction.
- Even though students felt their training in research was highly satisfactory, only a quarter believed they had good opportunities for research experiences within their undergraduate degree program. The growth of the Department's graduate program has meant undergraduate students have received less active encouragement to complete undergraduate theses. If advising capacity to oversee such projects is too limited, however, then the Department should perhaps consider ways it can incorporate group research projects in selected courses.
- The Tourism Development degree program has had consistently low admissions, despite a concerted effort to rebrand the program, which challenge its sustainability as a degree offering within the Department. Despite laudable efforts on behalf of faculty to bolster the curriculum (e.g., the integrated curriculum), admissions remain consistently low. This matter presents an equity issue in terms of the allocation of teaching resources committed to upper year Tourism Development courses with low enrolments. The Department will need to revisit the viability of the Tourism Development program and make the hard decision to either inactivate the major and keep it as a minor or rebrand the program to attract more undergraduate students. The latter option would require a better understanding of market trends and a sincere desire to meet the career preparation needs of potential students.

Graduate programs

Strengths

In our most recent graduate student feedback, obtained through our Graduate Student Experience Questionnaire (administered in January 2019) and focus groups (administered in Spring 2018 and Fall 2018), students identified a number of strengths of our graduate program. These include:

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- Diversity (of faculty and student expertise, courses offered, programs offered, teaching styles used, student population including domestic and international students) – students indicate that this diversity provides opportunities for interdisciplinary discussion, to develop diverse skills, to explore complexity of issues across a breadth of areas, and provide choice in the ways students can complete their MA.
- Theoretical and methodological sophistication 'Heavy focus of the philosophical underpinnings of leisure research and the importance of methodology set this program apart' as a number of students highlights. Students appreciate how diverse ways of knowing and representing research are respected, taught and encouraged in our graduate program. Some also mention appreciating the critical and social justice orientation within our graduate programs.
- Innovative nature of the program graduate students are particularly proud of the innovative nature of our program, calling it 'cutting edge', 'pushing boundaries', 'encourages creativity', and 'radical'.
- Culture within the Department students highlight the welcoming and supportive
 culture cultivated within the Department repeatedly. This culture fosters collegial
 support and mentorship, inclusivity, a strong sense of community, and a genuine sense
 of teamwork and exchange of ideas. The culture is most often linked to the people
 within the Department, including approachable, accessible, friendly, engaged, highly
 supportive, and inspiring faculty/mentors; staff who 'genuinely care about the success
 of every student'; and other students who respect and support each other.
- Courses/facilitation styles that prepare students for their own independent research —As mentioned earlier in section 5.6, students often identify their courses as a strength of the program. More specifically, students describe how the quantitative and qualitative methods courses in first year for MA students, and the foundational courses like 700 and 772/773 for PhD students, prepare thesis-based students for their independent research and the coursework students for their capstone program evaluation course. Students describe the practical teaching styles used in the graduate courses as a particular strength of the program. These teaching styles allow for interactive, dialogical, collaborative, and experiential/service learning opportunities and make the courses more engaging for students.
- Graduate student opportunities provided/learning environment Our graduate students
 also identify a number of other graduate student experiences and learning opportunities
 that further enrich their graduate experiences in our program. They especially note the
 GARLS symposium, which often provides students with their first opportunity to share
 their research with others. Some students also identify opportunities for career
 development as a strength as well as research and teaching assistantship opportunities
 and opportunities for PhD students to teach a course.

Challenges

Students and faculty members have also identified a number of challenges going forward.

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These challenges are primarily associated with recent changes made to our graduate programs that we continue to monitor as well as to staff support for the graduate program. These include:

- Ensuring the MA coursework option is relevant to students Our MA degree (thesis and coursework options) is a research-intensive program. Although MA coursework students have appreciated the opportunity to take the research methods courses, they have also expressed the need for courses that also prepare them for diverse jobs in the profession (e.g., therapeutic recreation content and examples, a business/leadership type course).
- Balancing work-life balance with course expectations Information from both our focus
 groups and questionnaires has highlighted that students are finding it challenging
 balancing all course expectations, especially in the fall term when students take most of
 their core courses.
- Meeting needs of diverse students in our courses Although the interdisciplinary nature
 of our program is viewed as a real strength of the program by both students and faculty
 members, it can also pose a challenge when there are students with a diversity of
 backgrounds and preparation levels in some of our courses. For example, all of our
 graduate students (MA and PhD) are required to take REC 600. This means that students
 with one or two previous degrees in leisure studies are engaging with students who
 have no background in recreation and leisure studies, making it challenging for
 instructors to meet the diverse student learning needs.
- Lack of adequate staff support for graduate program Despite the significant growth in our graduate program over the past 7 years, RLS continues to struggle with the lack of staff support for the program. The lack of support has become a significant issue most recently as our program reached the highest number of graduate students in the Department's history. The graduate program is currently supported by a 0.6 staff position shared with the Dean's Office in the Faculty of Applied Health Sciences. This staff position is supported by 0.3 of the Department Administrator position. The inequities within the Faculty in relation to support staff for graduate programs are most apparent considering that the student/staff ratios are similar or higher in RLS compared with the thesis graduate programs in the other Departments in the Faculty. Inadequate staff support has made it challenging to respond to student requests and needs in a timely manner. It is also making it extremely challenging to implement new initiatives to support the graduate program.

Weaknesses

• Funding inequities – Current funding policies within the Department create inequities among students, which can cause tensions between students in different types of programs. For example, our MA thesis students are guaranteed two terms of funding and our MA coursework students have no guaranteed funding, although the

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Department tries its best to provide some funding to the MA coursework students when it can. In addition, international PhD students are provided with an International Doctoral Student Award each term for four years, which significantly reduces the tuition fees paid by these students. Our international MA students are eligible for an international student award, which can cover approximately half of their tuition fees. However, this award is dependent on the number of awards allocated to the Faculty annually, and is not guaranteed for all international MA students. These inequities can make it extremely challenging for some of our students and can impact times to completion when they are forced to work to cover their tuition and living expenses.

Summary of Key Findings from the External Reviewers

The reviewers felt that the Recreation and Leisure Studies program is of high-quality with dedicated and experienced faculty members. The research achievements of the faculty are internationally respected and, as a result, the quality of the graduate program is strong. In addition, program innovation efforts and willingness to adapt the curriculum to industry and to students' needs, represent strong points.

Program Response to External Reviewers' Recommendations

1. Support the co-op program (a Waterloo trademark) with a dedicated person identifying relatable options for students, building greater capacity in RLS co-op placements.

Response

RLS identifies three primary goals related to co-op, which require significant investment of time and resources: (1) improve the relevance of co-op to future careers in RLS-related fields; (2) enhance co-op experiences and retention; (3) improve student success and hireability in co-op. To achieve these goals, RLS has initiated the following steps:

- It is working together with the Dean's Office in the Faculty of Health and Co-operative Education on campus to explore the potential for greater capacity to increase the connectivity between RLS and business development;
- It is developing a co-op strategy and specific tactics to achieve its goals, including:
 - o conducting focus groups with students and alumni;
 - o working closely with co-op business developers
 - attending events in recreation, sport, tourism, and event settings to build relationships with potential employers;
 - chairing working groups to explore changes to work term sequencing;
 - implementing preparedness training for 1B students;
 - o organizing training for faculty related to academic integration; and
 - o partnering with advancement to pursue new opportunities for student jobs in the not-for-profit sector.

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Through these efforts, RLS is making significant progress toward meeting its goals related to coop.

Dean's Response

The Faculty of Health has established a "Student Experiential Learning Fund" as one of its priorities in the faculty's five-year strategic plan. This fund is established to create and facilitate experiential learning in not-for-profit organizations. We believe that most of these types of opportunities will be co-op positions that are attractive to students in the RLS co-op stream. Currently, we have a prospect who is interested in funding this initiative through our advancement office.

2. Increase graduate support, perhaps by decreasing graduate acceptance to a more manageable number of students, as they relate to class sizes, mentoring, advising and support.

Response

RLS has taken actions to review and improve its graduate studies curriculum, consistent with its Strategic Plan for 2020-2005, with a particular emphasis on re-designing its MA coursework program, likely into a separate degree offering, to ensure greater demand and improved student experience. Once finalized, MA coursework and thesis admission targets will be adjusted accordingly, with the former increasing and the latter decreasing. The department has also implemented overall reductions in MA and PhD thesis international student admissions.

Dean's Response

I support this recommendation to increase graduate support in the context of capacity of mentorship, funding and class sizes. The program's plan to reduce targets in the thesis routes while increasing targets in the course-based routes would reduce the commitment for guaranteed funding which is not required for course-based graduate students. If the program receives adequate domestic applicants who are highly competitive, RLS may consider reducing international intakes which cost more and do not bring provincial funding to the program. The University is examining ways for faculties to provide interdisciplinary experiences. This could open opportunities for RLS graduate students to take courses outside of the program, and in turn, RLS could offer courses to students outside of RLS, thereby creating economies of scale. For example, faculties could instruct larger classes and help the department be more efficient.

Targeted hiring will begin in fall 2021 for the Black and Indigenous excellence cluster hires in the University, for 4-5 CRCs allocated to the Faculty of Health, and for 1-2 Schlegel-UW Research Chairs within the faculty. These are opportunities for RLS to build capacity for new

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faculty hires that will generate funding support for graduate students who choose to study under their supervision.

3. Deactivate the Tourism Development emphasis area, with such low enrollment, faculty resources should be utilized elsewhere.

Response

RLS inactivated the Tourism Development major in March 2021 effective September 1, 2022. In conjunction with the inactivation, RLS inactivated REC 380, which will enable it to use faculty resources elsewhere. Enrolment for REC 480 will be monitored to ensure it meets sufficient demand to justify its continued offering.

Dean's Response

While deactivation of the Tourism Development major will be effective in Fall 2022, it is still a possibility for students to pursue this area as a minor.

4. Keep some tourism courses as part of other programs, or embed content with other courses, maybe with a focus on health / wellness tourism / tourism quality of life and communities?

Response

REC 280 and REC 480 remain part of a Tourism minor students can still pursue. The Department is currently reviewing and in some cases redesigning its undergraduate majors (Recreation and Leisure Studies, Recreation and Sport Business, Therapeutic Recreation). Through this process, RLS is considering how, if at all, tourism-related content can be included. The suggestion to align tourism with health/wellness tourism, as well as related to other recreation and sport settings, will ultimately depend on the direction the degree offerings take.

Dean's Response

RLS has a well-planned strategy to incorporate tourism development topics throughout its curriculum, as well as align these with the strategic plans of the department, faculty and university, particularly as they relate to health.

5. Evaluate the TR program to ensure a balance between clinical and community professional placement requirements.

Response

RLS plans to take the following steps to enhance its TR curriculum:

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- a. Continue to develop connections with TRO and support its work through faculty liaisons and committees.
- b. Survey TR alumni about the relevance of certification to the employment they secured after graduation to determine how many of our students pursue TR jobs that actually require certification.
- c. Based on survey results, discuss as a Department the possibility of broadening the TR program and reconsider certification requirements. Pending the outcome of the discussion, if relevant, explore how RLS can enhance the capacity of its instructors to ensure students are eligible and prepared to write the CTRS exam and/or be ready to apply for TRO registration.
- d. Partner with the Faculty of Health marketing and undergraduate recruitment team to strengthen how RLS articulates the importance of TR within individual and community health and wellness. The Department and Faculty will work together to identify marketing strategies and outreach opportunities that resonate with high school populations and pathways for college transfers and practitioners interested in lifelong learning.
- e. Continue to coordinate TR curriculum group meetings each term with TR course instructors as an on-going way of updating and sharing ideas, as well as reviewing/mapping current curriculum and identifying gaps and overlap.
- f. Provide additional administrative support for REC 253 and REC 450 to support the facilitation of meaningful practical placements and internships in diverse settings.
- g. Identify what financial resources and/or other supports are needed to continue to expand the TR video simulations and practice labs to ensure these remain current and engaging for our students.

Dean's Response

The proposed plan to evaluate the TR program will help ensure that students obtain a balance between experiences in clinical and community professional placements. A community consultation panel helps ground the program in current and emerging practices. The expansion of TR video simulations will add to the repertoire of learning opportunities and enhance accessibility to online learning objects.

6. Develop alumni networks and an advisory council.

Response

Strengthening the Department's relationship with its alumni remains a strategic priority for RLS, as indicated in its 2020-2025 strategic plan. With this in mind, RLS has:

 hosted a session led by the Centre for Career Action to offer faculty training in launching personal LinkedIn sites;

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- created its own LinkedIn page to be leveraged as a platform to facilitate alumni communication and expand the RLS alumni network;
- encouraged first year students to create their own LinkedIn accounts and link with the department page;
- offered in-person events, such as "REC the Grad House," an event for on-campus alumni (there are over 100 RLS alumni working on campus) to strengthen department ties with alumni;
- participated actively in the Faculty of Health's 10,000 Coffees initiative, a so-called "talent experience platform" for inclusive mentoring, alumni connectivity with students, and skills development;
- consulted with a panel of alumni (as opposed to an advisory council) about the Department's name; and
- Distributed and collected data from an alumni survey to solicit alumni feedback on the undergraduate and graduate curricula in RLS.

Dean's Response

During the pandemic, the Department of RLS, and the rest of the Faculty, successfully hosted public lectures and panel discussions online which attracted large audiences on and off campus, across the country. We will likely incorporate a hybrid approach to future public lectures which will be in-person events with an option for audiences in any geographic region to attend. This will facilitate and increase our reach to alumni who may not be able to travel to campus to network.

The Department's plan to help students learn networking skills along with faculty is an effective way to ensure that they stay connected when they graduate and transition to become alumni.

7. Increase advising support for graduate students, especially concerning administrative level support.

Response

RLS has hired a contract staff position in 2022 to provide increased administrative support for the graduate program in addition to other responsibilities with the goal of making this a regular ongoing position.

In terms of advising support, RLS assigned Grad Committee members to serve as advisors to coursework students to share the advising load and has continued this practice annually since. In addition, RLS will remind individual faculty supervisors of Graduate Studies and Postdoctoral Affairs (GSPA) guidelines on the roles and responsibilities of supervisors and, more generally, the GSPA's Guide for Graduate Research and Supervision. Overall, RLS has

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always had conscientious and dedicated faculty who have provided generous advising support to their students, so the Department is confident supervisor support warrants little more than a reminder of best practices.

Dean's Response

The Dean's office is committed to reviewing the workload, roles, and responsibilities associated with the graduate coordinator role.

8. Increase communication and clarity surrounding funding support for graduate students, as well as teaching mentoring to ensure PhD students have teaching experience to build their CVs as well as research experience before graduating.

Response

The Associate Chair of Graduate Studies and Graduate Studies Administrator conducted a review of all communications surrounding funding support for graduate students to identify potential gaps or inconsistencies in the funding information and funding support opportunities communicated to graduate students. In doing so, they took into account the diversity of student status (full-time/part-time; domestic/international) and program options (MA coursework, MA thesis, PhD). The comprehensive review included communications from the Department, Faculty, and GSPA associated with recruitment and admission, internal and external scholarship opportunities and awards, teaching assistantships and research assistantships, and sessional instructor opportunities. The review was completed by July 2021. In addition, the following actions were taken:

- a document was prepared and shared with students in Fall 2021 on the impacts of tri-council and other major scholarships on graduate funding commitments to dispel myths and misunderstandings about the funding implications and encouraging students to apply for these awards which ultimately benefit the students and the department; and
- a student panel was established each fall semester to share tips on creating successful tri-council scholarship applications led by previous recipients.

RLS will continue to do its best to provide teaching opportunities for Ph.D. students where possible during their degree experiences. However, it cannot guarantee an experience for all students. Practically, an insufficient number of formal teaching opportunities exists for all PhD students. Moreover, legitimate concerns do arise about some PhD students' level of preparedness or ability to lead an undergraduate course by themselves. Ultimately, RLS is responsible, first and foremost, to ensuring its undergraduate students are exposed to only high-quality instructors. As a result, Ph.D. student's teaching skillset and potential determines whether a formal opportunity is available to them. Those Ph.D. students who fail to receive an opportunity to teach are encouraged to complete the Centre for Teaching Excellence (CTE) Fundamentals of University Teaching certificate. Completion of this

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certificate is already required of all Ph.D. students who wish to be considered for a sessional position. Ph.D. students who fail to be hired as sessional instructors are encouraged to deliver guest lectures in courses taught by full-time faculty. For those who do receive formal teaching opportunities, mentoring support is provided by the Department's Teaching Mentor, a position established specifically to provide such mentorship. All told, then, the recommendation that RLS ensure all PhD students gain teaching experience is not something to which the Department can commit.

Dean's Response

In addition to communication about funding support for graduate students, I would encourage mentorship for supervisors to work with students to apply for external awards starting in the students' first year which serves as practice for subsequent years when chances of success increase. In terms of teaching experience, the Department of RLS presents a comprehensive plan ranging from opportunities to teach a full course, to serving as guest lecturer and obtaining training in Centre for Teaching Excellence. In Fall 2021, the Faculty of Health and Graduate Studies and Post-Doctoral Affairs (GSPA) jointly provided \$200K to support graduate students in Health whose research were delayed beyond their program limit due to COVID-19.

9. Increase administrative support for research grants and external funding.

Response

Administrative level staff support requires approval from the Dean's Office. Any administrative support for research grants and external funding will likely be provided at the Faculty level, so the Chair will initiate a discussion with the Associate Dean of Research and the Dean of the Faculty of Health to discuss this recommendation and how the Faculty can support it. Currently, RLS staff provide information about research accounts and information relevant to building budgets. In addition, the Office of Research on campus provides extensive support in terms of reviewing applications prior to submission, as well as helpful workshops to assist faculty in applying for specific grant opportunities, including the Social Sciences and Humanities Research Council (SSHRC) of Canada, the primary source from which RLS faculty apply for external funds.

Evidently, an implementation subgroup of the Faculty of Health's Strategic Plan has discussed support for researchers applying for external grants. It included related questions in its survey to faculty members scheduled to be administered in March 2021 as part of its consultations. While the subgroup cannot articulate the specific action that results from its consultation process, strategies to increase support for faculty who apply for external grants are under serious consideration as part of the Faculty of Health's Strategic Plan implementation.

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Dean's Response

The Faculty's strategic plan implementation committee has a subcommittee that has surveyed faculty researchers and will make recommendations for objectives and tactics to pursue in the next five years. Administrative support for research grants will be discussed at a faculty level among the three academic units through the Associate Dean Research who is engaged with and aware of research grant support from the Office of Research.

10. Consider a review exam of some type for graduate students, prior to students committing to comprehensive exams, such as candidacy exam or something that reviews work and provides some type of indication of comprehensive exam success. Suggest aligning comprehensive exams with the respective research interests of the PhD students.

Response

RLS believes adding a candidacy exam would be redundant with the aims of the coursework requirements of our Ph.D. program. For Ph.D. students to move on to the comprehensive examination process, they must complete coursework requirements designed to ensure students have sufficient knowledge and understanding of our field, including the different theoretical and methodological approaches used. Additionally, RLS regards this recommendation as redundant with the intentions of the comprehensive examination itself, which are to effectively assess a Ph.D. student's ability and preparedness to meet the demands of dissertation research.

In regard to the second point of the recommendation, the current practice within RLS is for comprehensive examinations to align with the research interests of PhD students. Supervisors meet with their students on several occasions to discuss student research interests prior to the start of comprehensive examinations. Students are also asked to submit a short summary of their substantive, theoretical, and methodological areas of interest and expertise to their faculty supervisor, which is subsequently shared with the student's comprehensive committee and used to inform the examination questions. Our takeaway from this point in the recommendation is to ensure this process is more clearly communicated to, and consistently implemented by, students and supervisors.

In regard to the more general recommendation, the RLS Graduate Studies Committee has initiated and completed a formal review of the comprehensive examination process that involved intensive consultations with current Ph.D. student representatives from different cohorts and stages of their program of study. The following outcomes are already being implemented. Specifically,

a. Establishing a semi-annual comprehensive examination cohort meeting with the Associate Chair of Graduate Studies;

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- b. Enhancing and formalizing a more purposeful, relational, and goal-oriented precomprehensive examination dialogue between students and supervisor/committee members; and
- c. Developing and implementing expectations for student-supervisor check-in meetings throughout the comprehensive examination process.

Dean's Response

I agree with the response that a "review exam" prior to the comprehensive exam is redundant; it can also unnecessarily prolong length to completion for doctoral students. The comprehensive exam is, in essence, a candidacy exam. The subcommittee of the RLS Graduate Studies Committee has carried out a comprehensive review of the comprehensive examination process to enhance the student experience.

11. Identify mental health support processes, and ensure all students have access to these support mechanisms as part of an orientation.

Response

RLS consulted with orientation leaders at the University and Faculty levels to better understand current orientation practices and gaps in mental health support during orientation. To be clear, attendance at orientation is, and always has been, optional. The cost is \$110/student and students may opt-out if they so choose. Recognizing this practice, RLS is pleased it has championed the integration of the mental health resources widget on all LEARN pages across the university to promote mental health resources within the LEARN academic platform. Currently, several initiatives are underway to integrate mental health supports/awareness into orientation including:

- a. Delivery of "Single and Sexy" presentation, now replaced by "TBH: To Be Honest" focused on healthy relationships, safety, homesickness, academic integrity, imposter syndrome, shifting values, university transition. All RLS students who physically attend on-campus orientation have taken part in this presentation.
- Delivery of "Waterloo Ready" virtual orientation program. This optional orientation to university life includes an overview of mental health resources and instructions to make a wellness kit.
- c. Presentation "HYPE (Having Your Program Explained)" for incoming RLS students provides mental health resources, including links to counselling services, peer-to-peer support (MATES), and Warrior recreation programs.

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In addition to these resources already provided during orientation, several actions RLS is planning include:

- a. Embrace and expand a pivot to virtual orientation programming. Given the changed delivery format and the removal of specific presentations previously delivered in person (e.g., Single and Sexy) during COVID-19, RLS will work closely with UW orientation to streamline online orientation through various programs (e.g., Waterloo Ready, residence life, Faculty and Department level), thereby reducing redundancy and promoting greater engagement and connection with the Department before students begin their first year.
- Continue to expand partnerships with Campus Wellness to help students create a toolbox of resources that serve to bridge orientation to well-being in first year and beyond.
- c. Explore the possibility of including HEALTH 105 (Mental Health Literacy) into all RLS program plans as a required first year course.

Dean's Response

While orientation is optional, all first-year students have free access to several resources online and on campus that support students' mental health, including the Mental health Literacy course which is a service course for all students on campus, and has received provincial funding to be developed into a course for all post-secondary institutions in Ontario to adopt.

12. Support international students with orientation topics unique to international students acclimating to a new culture and learning environment.

Response

The RLS Undergraduate Advisor will connect one-on-one with incoming international undergraduate students during the first month of their first term at Waterloo to answer questions and connect them with any resources of value to each individual. At the graduate level, a member of the Graduate Studies Committee will connect in a similar fashion with incoming international students to support their transition to Waterloo.

Dean's Response

The Student Relations Officer is also an excellent resource who can support our international undergraduate students.

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13. Create a plan for diversifying the faculty as new positions become available.

Response

The 2020-2025 RLS strategic plan underscores the Department's commitment to diversity by (1) committing resources to improve representation of diverse identities in speakers and recruitment materials; (2) creating a committee to develop and implement a Department-specific approach to respond to the Truth and Reconciliation Commission recommendations; (3) developing relationships with Indigenous communities on campus and beyond with the intent of Indigenizing the Department. Moving forward, the Department is taking steps to hire Black, Indigenous, and People of Colour (BIPOC) as faculty and staff and coordinate continuing education on matters of equity and inclusion.

To advance these aims, the Department underwent an anti-racism and anti-oppression process in 2020-2021. Dr. Richard Norman, a Ph.D. graduate from RLS, led the process by engaging in extensive consultation with students (undergraduate and graduate), staff, and faculty. RLS established a Faculty Working Group and a Graduate Student Working Group. The Faculty Working Group undertook a consultation process that led to the development of department commitments to consciousness, community, and power (see: https://uwaterloo.ca/recreation-and-leisure-studies/about/commitments-anti-racism). It is fair to say RLS is regarded as a leader in anti-racism and anti-oppression efforts on campus.

To improve its ability to hire BIPOC faculty and staff, RLS commits to utilizing hiring practices outlined by The Tri-agency Institutional Programs Secretariat. See: https://www.chairs-chaires.gc.ca/program-programme/equity-equite/best_practices-pratiques_examplaires-eng.aspx. RLS did make an offer to an Indigenous candidate for one of the University's Indigenous Excellence Hiring initiative, but unfortunately the candidate declined the offer of employment, citing the expense of housing locally as his deciding factor. RLS will continue to prioritize its active pursuit of qualified BIPOC applicants for future positions.

Dean's Response

The University of Waterloo just launched the cluster hiring initiatives with plans to recruit 10 Indigenous and 10 Black tenure-track faculty members across campus, including the Faculty of Health. This is one of several approaches to increase numbers of faculty members from under-represented racial groups. The President's Anti-Racism Taskforce (PART) will complete its mandate in December 2021 and present other recommendations for diversifying the campus. In addition to the cluster hiring initiatives, the Faculty of Health will begin to recruit for four, possibly 5 Canada Research Chairs that will help the University achieve its equity targets in 2019; these include persons who identify as Indigenous, women, visible minority, or have a disability.

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Recommendations Not Selected for Implementation

While each external reviewer recommendation warrants careful consideration, the Department recognizes the small number of students with whom the external reviewers met did not offer a representative sample of the student population in RLS and in some regards may have articulated perspectives not shared by their peers. With this in mind, the responses above attempt to validate the feedback received and take serious and concerted efforts to address any concerns raised, while also offering sufficient room to carefully consider how to move forward productively in ways that benefit students, faculty, and staff and recognize the good things RLS does and will continue to do.

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Implementation Plan Implementation Plan

	Recommendations	Proposed Actions	Responsibility for Leading and Resourcing	Timeline for addressing
			(if applicable) the Actions	Recommendations
1.	Support the co-op program (a Waterloo trademark) with a dedicated person identifying relatable options for students, building greater capacity in RLS co-op placements.	Work with Faculty of Health and Co-operative Education to explore options for greater capacity to increase connectivity between RLS and business development. Develop co-op strategy – focus groups with students and alumni, work with co-op business developers, attend related events to build relationships with potential employers, explore work term sequencing changes, preparedness training for 1B students, faculty training for academic integration, partnering with advancement to pursue new job opportunities in not-for-profit sector.	Associate Chair for Undergraduate Studies; Department Chair	Explore options in 2021 and begin to implement changes over next two years.
2.	Increase graduate support, perhaps by decreasing graduate acceptance to a more manageable number of students, as they relate to class sizes, mentoring, advising and support.	Restrict MA thesis option and PhD admissions while increasing MA coursework admissions. Redesign MA coursework option to better appeal to potential recruits.	Associate Chair for Graduate Studies; Department Chair	Begin with 2021 admissions. Redesign MA coursework option over next year.
3.	Deactivate the Tourism Development emphasis area, with such low enrollment, faculty	Inactivate Tourism Development major. Inactivate REC 380.	Associate Chair for Undergraduate Studies	Approval Winter 2021. Changes effective September 2022.

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	and the labor PP and			
	resources should be utilized			
	elsewhere.			
4.	Keep some tourism courses as part of	Explore curriculum options for tourism	Associate Chair for	During 2021
	other programs, or embed content	courses or content in other majors as part of	Undergraduate Studies;	
	with	review of other majors in Recreation and	Department Chair	
	other courses, maybe with a focus on health / wellness tourism / tourism	Leisure Studies, Recreation and Sport		
	quality of life and communities?	Business, and Therapeutic Recreation.		
5.	Evaluate the TR program to ensure a	Written, video and in-person practice	Associate Chair for	Begin in 2021 and
	balance between clinical and	simulations added 2017-2019, with ongoing	Undergraduate Studies;	ongoing
	community professional placement	expansion and updates.	Department Chair	
	requirements.	Create community consultation panel		
		including a balance of clinical and community		
		partners.		
		Foster connections with TRO.		
		Explore how to enhance instructor capacity		
		to prepare students for CTRS exam/TRO		
		registration requirements.		
		Work with Faculty of Health undergraduate		
		recruitment team to improve strategic		
		marketing and outreach for TR major,		
		including high school recruitment and		
		pathways for college transfers and		
		practitioner lifelong learning.		
		Continue regular TR curriculum group review		
		of course content to identify gaps and		
		overlap.		
		Provide additional administrative support for		
		practicum and internship placements.		

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6.	Develop an alumni networks and an	LinkedIn training for individual use. Graduate	Associate Chair for	Started in 2020-
	advisory council.	student LinkedIn group page established in	Undergraduate Studies;	2021 and ongoing
		2020.	Department Chair	
		Regular virtual and in-person (when possible)		
		events, such as recent Recreation and Sport		
		Business networking event connecting alumni		
		with current students and faculty.		
		Alumni consultation panels and alumni		
		surveys for each major to provide		
		feedback/input on curriculum decisions.		
7.	Increase advising support for graduate	Discuss options for increased staff support for	Associate Chair for	2021 and ongoing
	students, especially concerning	graduate administration with the Dean and	Graduate Studies;	
	administrative level support.	Associate Dean Graduate Studies in Faculty of	Department Chair	
		Health.		
		Remind faculty of GSPA guidelines on the		
		roles and responsibilities of supervisors, and		
		guide for graduate research and supervision.		
		Graduate Studies Committee members		
		assigned as faculty supervisors for MA		
		coursework option students beginning in		
		2019. Consider required once per term		
		minimum meetings between supervisors and		
		students.		
8.	Increase communication and clarity	Review of all current funding	Associate Chair for	July 2021 for
	surrounding funding support for	communications.	Graduate Studies	review of funding
	graduate students, as well as teaching	Develop and implement plan for improving		communications.
	mentoring to ensure PhD students	communication and clarity of funding support		Communication
	have teaching experience to build their	for graduate students.		plans to be

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	CVs as well as research experience before graduating.	Increase communication of PhD teaching experience training and mentoring opportunities to students.		developed and implemented over next year throughout academic cycle.
9.	Increase administrative support for research grants and external funding.	Faculty of Health Strategic Plan implementation committee identifying needs and strategies for increasing support.	Dean of Faculty of Health Associate Dean Research	Survey March 2021 Strategies over next year
10.	Consider a review exam of some type for graduate students, prior to students committing to comprehensive exams, such as candidacy exam or something that reviews work and provides some type of indication of comprehensive exam success. Suggest aligning comprehensive exams with the respective research interests of the PhD students.	Clear, concise communications to students and supervisors about the process for incorporating student research interests in comprehensive exam questions. Formal review of comprehensive exam process with student focus groups, environmental scan of other comprehensive exam processes across campus, and consultations with PhD students in redesigning the department's process and requirements to include regular dialogue and check-in meetings.	Associate Chair for Graduate Studies	May 31, 2021 for environmental scan of other PhD comprehensive exam processes and requirements. Redesign process over next year.
11.	Identify mental health support processes, and ensure all students have access to these support mechanisms as part of an orientation.	Work with UW Orientation to streamline online orientation to reduce redundancy and promote greater engagement and connection with the Department, Faculty, residence life, and other academic support services. Expand partnerships with Campus Wellness to create a toolbox of resources to bridge	Associate Chair for Undergraduate Studies	Over next year starting with Fall 2021 orientation

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		well-being from orientation into first year and beyond. Explore the possibility of including AHS 105, Mental Health Literacy, as a required first- year course for all RLS students.		
12.	Support international students with orientation topics unique to international students acclimating to a new culture and learning environment.	Undergraduate Advisor will connect one-on-one with incoming undergraduate students during the first month of their first term at Waterloo to answer questions and connection them with resources. A member of the Graduate Studies Committee will connect with incoming graduate students to support their transition to Waterloo.	Associate Chair for Undergraduate Studies; Associate Chair for Graduate Studies	Fall 2021 and continuing
13.	Create a plan for diversifying the faculty as new positions become available.	Anti-racism Faculty Working Group creating a position statement to guide actions related to anti-violence/anti-oppression/anti-racism and develop recommendations for an eventual action plan. The Graduate Student Working Group is identifying how it can support anti-racism initiatives in RLS. Develop and implement a Department-specific approach to respond to the TRC recommendations. Develop relationships with Indigenous communities to Indigenize the Department. Utilize hiring practices outlined by The Triagency Institutional Programs Secretariat for	Department Chair	Currently in progress, with specific action plans and implementation beginning over the next year.

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	recruiting and assessing applications for	
	BIPOC faculty and staff hiring.	

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

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Date of next program review	2026-2027
	Date
Signatures of Approval	
nor Ion	
	December 20, 2022
Chair/Director	Date
AFIW Administrative Dean/Head (For AFIW programs only)	Date
41 5	
Lilietui	January 4, 2023
Faculty Dean	Date
Note: AFIW programs fall under the Faculty of ARTS; however, the Dean does not over staffing and administration of the program.	have fiscal control nor authority
Dan De Vidi.	
	December 3, 2021
Associate Vice-President, Academic	Date
(For undergraduate and augmented programs)	
John m. caell	
0 V V	January 17, 2022
Associate Vice-President, Graduate Studies and Postdoctoral Affairs	Date



(For graduate and augmented programs)



Final Assessment Report – Department of Recreation & Leisure Studies

February 2023 - Implementation Plan Update

	Recommendations	Timeline for
		addressing
		Recommendations
1.	Support the co-op program (a Waterloo trademark) with a dedicated	Completed
	person identifying relatable options for students, building greater	
	capacity in RLS co-op placements.	
2.	Increase graduate support, perhaps by decreasing graduate acceptance to	Redesign MA -
	a more manageable number of students, as they relate to class sizes,	Ongoing
	mentoring, advising and support.	
3.	Deactivate the Tourism Development emphasis area, with such low	Completed
	enrollment, faculty resources should be utilized elsewhere.	
4.	Keep some tourism courses as part of other programs, or embed content	Completed
	with other courses, maybe with a focus on health / wellness tourism /	
	tourism quality of life and communities?	
5.	Evaluate the TR program to ensure a balance between clinical and	Ongoing
	community professional placement requirements.	
6.	Develop an alumni networks and an advisory council.	Ongoing
7.	Increase advising support for graduate students, especially concerning	Completed
	administrative level support.	
8.	Increase communication and clarity surrounding funding support for	Ongoing
	graduate students, as well as teaching mentoring to ensure PhD students	
	have teaching experience to build their CVs as well as research experience	
	before graduating.	
9.	Increase administrative support for research grants and external funding.	Ongoing
10.	Consider a review exam of some type for graduate students, prior to	Completed
	students committing to comprehensive exams, such as candidacy exam or	
	something that reviews work and provides some type of indication of	
	comprehensive exam success. Suggest aligning comprehensive exams	
	with the respective research interests of the PhD students.	
11.	Identify mental health support processes, and ensure all students have	Completed
<u></u>	access to these support mechanisms as part of an orientation.	
12.	Support international students with orientation topics unique to	Ongoing
	international students acclimating to a new culture and learning	
4.=	environment.	
13.	Create a plan for diversifying the faculty as new positions become	Ongoing
	available.	



Two-Year Progress Report Chemical Engineering (MEng, MASc, PhD) December 2022

Background

In accordance with the University's Institutional Quality Assurance Process (IQAP), a self-study of the Chemical Engineering programs (MEng, MASc, PhD) was completed and submitted to the Associate Vice-President, Graduate Studies and Postdoctoral Affairs (GSPA) on March 31, 2017. The arm's-length external reviewers that were selected by the Associate Vice-President, GSPA were 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. The internal reviewer that was selected was Dr. Daniel O'Connor from the Department of Sociology and Legal Studies. A site visit took place on April 24-25, 2017.

A total of 11 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 final assessment report, which was submitted by the department in December 2019, provided detailed responses to each of the 11 recommendations along with an action or set of actions which were to be taken in response to the recommendations.

In this progress report, we describe our progress in implementing these actions along with circumstances which have altered or postponed the original plan of action. The next cyclical review for this program is scheduled for 2024-2025.

Enrollment over the past two years

	Meng	MASc	PhD
2021-2022 (CURRENT YR)	24	77	103
2020-2021 (LAST YR)	39	76	112

Based on fiscal year (spring, fall, winter)



Progress on Implementation Plan

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.

Status: completed

Details:

Starting in Fall 2019, the graduate curriculum was significantly enhanced through changes including 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. These actions were taken after departmental discussion and identification of high-level outcomes of the graduate curriculum:

- a) To teach advanced foundational concepts in Chemical Engineering beyond that of an undergraduate curriculum.
- b) To teach scientific and engineering research methods including experimental design, critical analysis, research ethics, scholarly communication.
- c) To teach graduate-level introductory concepts in specific research areas strategic to the department faculty.

Additionally, the MEng curriculum was refined and optional specializations added in research areas of strength for the Department to provide advanced training relevant to the chemical engineering industry. These specializations are in the areas of process systems engineering, polymer science and engineering, and biochemical engineering.

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.

Status: completed

Details:

In line with the high-level graduate learning outcomes identified in Fall 2019 (see above), a course was created *CHE 600 – Engineering and Research Methods, Ethics, Practice, and Law* which is mandatory for all graduate students (PhD, MASc and MEng). Additionally, the previous curriculum core course list was replaced with two prescribed courses foundational to chemical engineering:

April 2022June 2022



- CHE 601 Theory and Application of Transport Phenomena
- CHE 602 Chemical Reactor Analysis

Degree requirements for PhD, MASc and MEng programs were revised to remove so-called "held-with" courses (courses with both undergraduate and graduate course identifiers) from the graduate program so that only 500-level course offerings include a majority of undergraduate students.

Finally, the department recently approved the addition of a new foundational course, CHE 603 Chemical Engineering Thermodynamics, which could be offered as early as Spring 2023.

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.

Status: completed

Details:

The department continues to follow current faculty hiring practices, including the on-going effort to hire more qualified women to join the department. Five positions at the rank of Assistant Professor were recently hired in the areas of Bioengineering, Electrochemical Engineering and Soft Matter Engineering.

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.

Status: completed

Details:

The department has recently hired a Communications & Outreach Officer, who is dedicated to communication and marketing duties, including the promotion of research and graduate studies. This is being achieved through enhancing the Department's website, including the research and graduate studies information articulating each faculty member's expertise. We have also provided assistance to individual faculty members without a personal research website to create one and have put procedures in place to help maintain all faculty members' research websites to be current.

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.

Status: in progress

Details:

The department recently approved the introduction of an admission-only MEng Co-op degree program which could be offered as early as Fall 2023, pending faculty and university approval. The department is eager to explore additional offerings with guidance from the Faculty and the GSPA.

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.

Status: completed

Details:

The department continues to facilitate the transfer of MASc students to the PhD program through formalized graduate studies recruitment sessions and one-on-one graduate student advising. Additionally, processes at the faculty level have been created which facilitate and promote direct admission into PhD.

Previously, direct admission to the PhD program special justification and was handled on a case-by-case basis. It was also not clearly advertised on the department and faculty websites. Since 2019 this has changed, where direct-admission is clearly indicated as available to students without a Masters and the admissions processes for direct-admit PhD students are consistent throughout the Faculty.

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.

Status: in progress

Details:

The optimization of the research enterprise, for which adequate funding is an essential condition, is an ongoing task for the department's Executive Committee. The committee has analyzed the patterns of research activity to understand the effect of external (pandemic) and internal (faculty demographics) factors and other constraints (faculty workload and space distribution) on the total level, distribution and utilization of research funding. The Chair provides regular updates of this work to the faculty assembly for discussion and collective action.

8. The Department should develop a space policy that provides flexibility to allow the space allotted April 2022June 2022



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.

Status: in progress

Details:

The department has established an Analytical Lab Committee to oversee and establish rules and fees for the operation of the centralized facilities in September 2021. The department is presently (Winter 2023) hiring a second analytical technician to handle the increased workload associated with expanded centralized facilities. The department has also expanded the footprint of shared facilities with the addition of physical space and equipment.

The formation of a Space Committee was significantly delayed due to the prolonged department chair search from early 2020 to mid-2021 and due to the ongoing COVID-19 pandemic. Now that a new department chair has been identified and taken-up the role, progress has been made on these action items since September 2021 including the creation of a new Associate Chair of Operations position, which includes the responsibility of managing space within the department.

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.

Status: completed

Details:

A research-focused retreat was completed in December 2018 and, following this, department policy regarding CRC chair allocation and renewal was updated to formally include expectations for CRC chairs to lead major grant applications. The department has recently (Fall 2022) approved a change in the annual performance review (APR), whereby large grant applications are explicitly considered when evaluating research, regardless of whether they are successful or not.

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.



Status: **completed**

Details:

The Graduate Review Committee (GRC) has investigated the formalization of increased interaction between PhD students and other faculty members. Two different potential improvements were identified: (i) adopting an enhanced PhD advising committee model similar to that used in the Faculty of Science and (ii) the addition of a PhD milestone research seminar.

The department has recently approved the addition of a PhD advising committee model, similar to that used in the Faculty of Science, which would be effective for PhD students starting in and after Fall 2023.

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.

Status: complete

Details:

The Manager of Graduate Studies within the department has focused on collecting and reporting best practices through a graduate studies update sent monthly to faculty in advance of departmental meetings. Furthermore, the creation of a seminar course (CHE 600), which all graduate students must take during their first semester, provides students with a direct resource for best practices relevant to their studies, research, and future professional practice.

Participation and consultation with graduate students through CEGSA has improved significantly during the second half of 2022. CEGSA recently held elections and has a refreshed executive. Monthly socialization gatherings have been scheduled since September 2022 and it is expected that continued departmental support of a reinvigorated CEGSA will maintain this momentum.

Explain any circumstances that have altered the original implementation plan

The main alternations from the original implementation of the plan have been extending the timeframe for its implementation. Three significant circumstances have caused this: (i) the ongoing COVID-19 pandemic, (ii) the prolonged department chair search from early 2020 to mid-2021 and, (iii) an ongoing shortage of teaching resources. Now that a new department chair has been found and taken-up the role (September 2021), progress has been made on many of the action items that could not be adequately addressed prior to this.



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

None.

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

None.



Updated Implementation Plan

	Recommendations	Proposed Actions	Responsibility for Leading and Resourcing (if applicable) the Actions	Timeline for addressing Recommendations
1.	Consider learning outcomes	Unchanged from last report (see previous section)	Graduate Review Committee	Completed
2.	Review course requirements, including core courses and held-with courses	Unchanged from last report (see previous section)	Graduate Review Committee	Completed
3.	Hire excellent faculty, with effort to attract women	Unchanged from last report (see previous section)	Department Advisory Committee on Appointments	Completed
4.	Clearly indicate faculty expertise	Unchanged from last report (see previous section)	Chair and CHE Communicates Specialist	Completed
5.	Consider grad-level co-op	Unchanged from last report (see previous section)	Graduate Review Committee	In progress
6.	Facilitate direct-admit to PhD	Unchanged from last report (see previous section)	Graduate Review Committee	Completed



7.	Maximize research funding	Unchanged from last report (see previous section)	Department Chair and Executive Committee	In progress
8.	Accommodate changing research space and laboratory requirements	Unchanged from last report (see previous section)	Department Chair and Department Assoc. Chair Operations	In progress
9.	Encourage large-scale research	Unchanged from last report (see previous section)	Department Chair	Completed
10.	Support PhD students	Unchanged from last report (see previous section)	Graduate Review Committee	Completed
11.	Share best practices	Unchanged from last report (see previous section)	Graduate Studies Manager, Instructors	Completed

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



Date of next program review:	2024-2025	
	Date	
Signatures of Approval:		
Marridis	1-Jan-2023	
Chair/Director	Date	
Mary Wells Date: 2023.01.11 15:25:59 -05'00'		
Faculty Dean	Date	
AFIW Administrative Dean/Head (For AFIW programs only)	Date	
Note: AFIW programs fall under the Faculty of ARTS; however, the Dean does not over staffing and administration of the program.	ot have fiscal control nor authority	
Associate Vice-President, Academic (For undergraduate and augmented programs)	Date	
Joffer m. Caell	17-Aug-2022	
Associate Vice-President, Graduate Studies and Postdoctoral Affairs (For graduate and augmented programs)	Date	

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February 17, 2023

TO: Kathy Winter, Privacy Officer and Assistant University Secretary,

Senate Graduate and Research Council

FROM: Jeff Casello, Associate Vice-President, Graduate Studies and Postdoctoral Affairs and

Marianne Simm, Director, Graduate Studies and Postdoctoral Affairs

RE: Graduate Studies Academic Calendar (GSAC) revisions

Items for approval:

1) Revisions to "Grading scheme" text in the "Grades and grading" section.

2) Revisions to the inactive status definition to include information about medical leave and the inactive status process for the Mathematics for Teachers (MMT) program.

1) Revisions to "Grading scheme" text in the "Grades and grading" section.

Description and rationale for proposed changes:

The grading scheme text in the GSAC is being revised to provide greater clarity on what is considered a failed grade at the graduate level. The current language only speaks to the grading scale prior to 2001 and this revision clarifies current practice. There is no change to the grading scale as a result of this revision. This revision is being made in response to requests for clarification from departments/schools and in reviewing the language it was clear that there was ambiguity in the text.

Proposed effective date: Term: Spring Year: 2023

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

https://uwaterloo.ca/graduate-studies-academic-calendar/general-information-and-regulations/grades-and-grading

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:	
Grading scheme	Grading scheme	
The grading system of the University changed in Fall 2001. Grades for all courses taken prior to Fall 2001 appear on grade reports and transcripts either as one of 15 letter grades from A+ through F, or as numeric marks on a percentage scale depending upon the Faculty of enrolment.	The grading system of the University changed in Fall 2001. Grades for all courses taken prior to Fall 2001 appear on grade reports and transcripts either as one of 15 letter grades from A+ through F, or as numeric marks on a percentage scale depending upon the Faculty of enrolment.	
Effective Fall 2001, numeric grades on a scale from 0 - 100 are used by all Faculties.	Effective Fall 2001, numeric grades on a scale from 0 - 100 are used by all Faculties.	

Current Graduate Studies Academic Calendar content:

Averages are reported in all Faculties as percentages. Average calculation values are used for overall averages for students with letter grades on their records.

The following conversion scale applies to courses taken prior to Fall 2001.

	Table of grading scheme		
Letter grade	Percentage ranges	Weighting factors for letter grades	
A+	90-100	95	
A	85-89	89	
A-	80-84	83	
B+	77-79	78	
В	73-76	75	
B-	70-72	72	
C+	67-69	68	
С	63-66	65	
C-	60-62	62	
F	0-59	0	

Proposed Graduate Studies Academic Calendar content:

Averages are reported in all Faculties as percentages. Average calculation values are used for overall averages for students with letter grades on their records.

The following conversion scale applies to courses taken prior to Fall 2001. In alignment with this conversion scale, effective Fall 2001, numeric grades on a scale from 0 - 100 are used by all Faculties. Any course with a numeric grade below 60% will not be counted for credit and is considered a failure. In some programs a higher than 60% grade is required for the course to count towards degree completion.

	Table of grading scheme		
Letter grade	Percentage ranges	Weighting factors for letter grades	
A+	90-100	95	
A	85-89	89	
A-	80-84	83	
B+	77-79	78	
В	73-76	75	
B-	70-72	72	
C+	67-69	68	
С	63-66	65	
C-	60-62	62	
F	0-59	0	

2) Revisions to the inactive status definition to include information about medical leave and the inactive status process for the Mathematics for Teachers (MMT) program.

Description and rationale for proposed changes:

The inclusion of medical leave as a possible reason to go inactive is being added to the GSAC to ensure greater clarity for students and to align with other types of leaves permitted for graduate



students as noted in the GSAC. The information reflects current practice but only currently appears on the AccessAbility Services website and as an inactive reason on the Change of enrolment of status form.

The MMT inactive process information is being added to support current practice within the department and to support the different needs of the MMT cohorts of students.

Proposed effective date: Term: Spring Year: 2023

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

https://uwaterloo.ca/graduate-studies-academic-calendar/general-information-and-regulations/enrolment-and-time-limits#Inactive%20status

Current Graduate Studies Academic Calendar content:

Inactive status

Students may request up to two consecutive terms of Inactive status by completing a Change of enrolment status form, which must be approved by the Associate Dean (Graduate Studies) of their Faculty.

Valid reasons for Canadian citizens or permanent residents to request Inactive status include illness, limited external research or work opportunity which is not related to their University of Waterloo program, personal or family obligations, lack of suitable courses (for students in coursework-only programs), or temporary financial difficulties for which the University cannot provide funds.

Valid reasons for international graduate students to request Inactive status include illness, personal or family obligations, lack of suitable courses (for students in coursework-only programs), or temporary financial difficulties for which the University cannot provide funds.

International students must consider the immigration regulations/conditions (R220.1 (1)) pertaining to their Study Permit and eligibility for the Post Graduation Work Permit Program when requesting Inactive status. Individual circumstances may vary. International students

Proposed Graduate Studies Academic Calendar content:

Inactive status

Students may request up to two consecutive terms of Inactive status by completing a <u>Change of enrolment status form</u>, which must be approved by the Associate Dean (Graduate Studies) of their Faculty. <u>Inactive status for Parental leave or Medical leave is not restricted to two consecutive terms.</u>

Valid reasons for Canadian citizens or permanent residents to request Inactive status include illness, limited external research or work opportunity which is not related to their University of Waterloo program, personal or family obligations, lack of suitable courses (for students in coursework-only programs), or temporary financial difficulties for which the University cannot provide funds.

Valid reasons for international graduate students to request Inactive status include illness, personal or family obligations, lack of suitable courses (for students in coursework-only programs), or temporary financial difficulties for which the University cannot provide funds.

International students must consider the immigration regulations/conditions (R220.1 (1)) pertaining to their Study Permit and eligibility for the Post Graduation Work Permit Program when requesting Inactive status. Individual circumstances may vary. International students

Current Graduate Studies Academic Calendar content:

should meet with an Immigration Consultant in the Student Success Office for advice.

Students should not request Inactive status to work on their thesis or any other activity related to their graduate program. Normally, Inactive status is approved for a maximum of two consecutive terms. Students who request more than two consecutive terms of leave because they have other commitments such as a full-time job or travel plans, should voluntarily withdraw from their program and may reapply when they are prepared to resume their studies. Normally, students who have incomplete courses on their record are not eligible for Inactive status.

Students who have been granted Inactive status for a term are not expected to study or conduct research while on leave, and thus should not expect access to their supervisor.

Proposed Graduate Studies Academic Calendar content:

should meet with an Immigration Consultant in the Student Success Office for advice.

Students should not request Inactive status to work on their thesis or any other activity related to their graduate program. Normally, Inactive status is approved for a maximum of two consecutive terms (Parental leave and Medical leave are not restricted to two consecutive terms). Students who request more than two consecutive terms of leave because they have other commitments such as a full-time job or travel plans, should voluntarily withdraw from their program and may reapply when they are prepared to resume their studies. Normally, students who have incomplete courses on their record are not eligible for Inactive status.

Students who have been granted Inactive status for a term are not expected to study or conduct research while on leave, and thus should not expect access to their supervisor.

Exceptions to inactive status process

Students in the Mathematics for Teachers
(MMT) program who do not enroll in a course by
the end of the third week of classes will be
considered to be taking an inactive term and will
automatically be changed to inactive status for a
maximum of two consecutive terms. Students
who have not enrolled in at least one course for
three or more consecutive academic terms will
be discontinued from their program and must
apply for readmission to continue studies in their
academic program. Note: students who need to
take a third inactive term for one of the permitted
reasons (e.g. medical leave or parental leave)
must complete a Change of enrolment status
form prior to the third week of classes.

Medical leave

Students who require a medical leave (as a result of their physical or mental health) must follow the process outlined on the Graduate Student Medical Leave web page. The process will involve:

Current Graduate Studies Academic Calendar content:	Proposed Graduate Studies Academic Calendar content:
	a) requesting a change of enrolment status to Inactive by completing the Change of enrolment status form, and b) submitting a Graduate Student Medical Leave Verification Form.
	Students should discuss any possible effects to funding, TA/RA appointments and academic progress with their supervisor(s) and/or department/school/program.
	Eligible research-based master's and doctoral students who go inactive for medical reasons will be automatically considered for the Graduate Student Medical Leave Award.

GradOps review date (mm/dd/yy): 09/20/22



Towards a Proposed Vision: Graduate Studies at Waterloo

Jeff Casello, Associate Vice-President, Graduate Studies and Postdoctoral Affairs Senate Graduate and Research Council Winter 2023



VISION FOR GRADUATE STUDIES AT WATERLOO

Discussion Questions for SGRC

- 1. Do the vision and the pathways articulated resonate with you in your administrative role?
- 2. The vision document asks our colleagues in the Faculties to consider changes (increases) to enrollments in graduate programs. How can the graduate and research communities work collaboratively to address the challenges identified to achieving this goal?
- 3. If the University realizes its vision to have interdisciplinarity as an academic differentiator, what roles will your unit play in supporting interdisciplinarity academically, professionally and in the development of community of scholars on campus?
- 4. Noting that our graduate students play various roles on campus as learners, researchers, and employees in which capacities does your unit interact with graduate students? Are there "customer service" like standards that your unit has adopted to ensure high quality, positive interactions with graduate students?



VISION FOR GRADUATE STUDIES AT WATERLOO

Discussion Questions for SGRC

- 5. The graduate community recognizes the contributions of our graduate students to the University's research mission. The vision document identifies a gap in the University's ability measure, document, and celebrate these contributions. The vision seeks to record the impact our graduate students' work which will differ across disciplines and units. Is there a role for your unit to play in quantifying and communicating graduate students' contributions and impacts in research?
- 6. The vision document suggests that pre-professional training and support for our graduates cabe a strong student attractor, and a way in which our alumni remain more connected to the University. In your unit, are there efforts to support graduate students' preparation for and transition to their post-graduation activities? How strong is your unit's connection to our alumni and do these connections contribute to the strength and attraction of Waterloo's graduate programs?

