

Final Assessment Report

Chemical Engineering (MEng, MAsC, PhD)

December 2019

Executive Summary

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

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

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

Student Complement over the past three years

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

Background

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

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

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

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

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

Program Characteristics

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

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

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

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

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

Strengths

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

Challenges

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

Weaknesses

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

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

Summary of key findings from the external reviewers

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

Program response to external reviewers' recommendations

Recommendations

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

Response

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

Actions

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

Status

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

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

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

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

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

Response

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

Actions

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

Status

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

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

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

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

Response

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

Actions

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

Status

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

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

Response

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

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

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

Actions

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

Status

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

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

Response

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

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

they need to graduate.

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

Actions

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

Status

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

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

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

Response

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

Actions

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

Status

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

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

Response

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

Actions

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

Status

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

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

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

Response

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

Actions

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

Status

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

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

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

Response

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

Actions

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

Status

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

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

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

Response

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

Actions

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

Status

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

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

Actions

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

Status

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

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

Implementation Plan

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

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

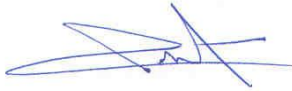
9.	Encourage large-scale research	<ul style="list-style-type: none"> • Heighten the expectation for CRC Chairs to lead major grant applications. This is now one of the renewal criteria for CRC Chairs. • Organize a retreat to address research within the Department. 	<p>Chair</p> <p>Research Committee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

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

2024-2025

Date of next program review _____

Date

Signatures of Approval

May 19, 2020

Chair/Director _____

Date

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

Date



May 20, 2020

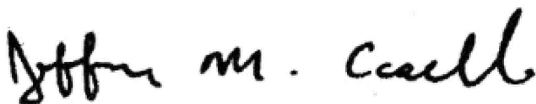
Faculty Dean _____

Date

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

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

Date



December 10, 2018

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

Date