

**Program Progress Report
Institutional Quality Assurance Program (IQAP) Review
Civil Engineering – Graduate Programs**

Date of Site Visit: April 23-24, 2024

Progress Report Prepared by: Dr. Lydell Wiebe (Department Chair), Dr. Mike Tait (Associate Chair, Graduate), Dr. Saiedeh Razavi (Associate Chair, Research) Melissa Furtney (Academic Department Manager – Acting)

Please outline below how recommendations from the initial program review have been addressed. [Please fill in one table for each recommendation from the original Final Assessment Report]

Summary of Previous Review's Recommendations

Recommendation	Response to Recommendation
ADL space and equipment needs to be modernized, and equity issues related to washroom and change room access for women-identifying students needs to be improved.	The Department, Vice-President Research, and Deanery have invested significantly in improving the Applied Dynamics Lab, with more \$2.6 million in new equipment procured in the last ten years. In order to make the Applied Dynamics Laboratory more inclusive, ADL 202 was renovated in 2017 to provide a women's change-room. This room can only be accessed by key card and includes lockers that are available to woman-identified users of the ADL. The possibility of providing showers for woman-identified users of the ADL was also investigated, but the tight space restrictions of the ADL do not allow for additional showers. In 2019 we provided a single-person accessible non-gendered washroom, which is in addition to the woman-identified washroom. With support from the University and Faculty of Engineering, an elevator was installed in Fall 2021 so that the building is now accessible on all four floors. The cost of the elevator exceeded \$1.6 million.
Concerns with the transportation theme lacking critical mass	We have put a high emphasis on creating critical mass in our "Smarter Mobility" theme, to enable mobility in all its forms in a safe, clean, efficient, accessible, and inclusive way. The "Smarter Mobility" theme of the Department has grown considerably since the last IQAP review and is now supported by 1 Assistant Professor, 2 Associate Professors, and 1 Full Professor. The Department has also built stronger ties with the McMaster Institute for Transportation and Logistics (MITL) with the appointment of Dr. Razavi as the Director of the institute from 2017-2023, and now the appointment of Dr. Moataz Mohamed as of July 2023. MITL conducts evidence-based interdisciplinary, cross-sectoral and collaborative research projects and is supported by the public and private sectors. All four previously mentioned faculty members are affiliated with MITL and actively involved in its projects, proposals, and events in Transportation and Logistics. Combined, the above changes now make our transportation group among the most competitive nationwide.

Concerns with the water and environmental curriculum	With three recent hires in the water and environmental stream (Drs. Sonia Hassini, Zoe Li, and Robin Zhao), the graduate curriculum in this area has been growing considerably with the addition of new graduate courses to better reflect the expertise and research directions of the recent hires. Four new courses have been added in the areas of Environmental Systems Engineering, Computational Methods for FLOW in Porous Media, Social Hydrology and Applied Probability Models in Water Resources Engineering.
Concerns with the Geotechnical Theme requiring renewal	Two new faculty members in the area of geotechnical and environmental engineering were hired in recent years. Dr. Robin Zhao is an Assistant Professor who came to our department from MIT in September 2018. His expertise is in the area of multiphase transport in porous media, which bridges the areas of geotechnical and water resources. In addition, Dr. Tingting Xu who comes from Georgia Tech (Ph.D.) and John Hopkins (PDF) is expected to join our Department in Fall 2024. Dr. Xu brings experience in topology optimization, microporomechanics and upscaling models, numerical modelling of fracture propagation and constitutive models in relation to plasticity, viscoplasticity and fabric-based model. The addition of these two faculty members enables the department to move forward and grow within this area. Furthermore, research active faculty members (Peijun Guo - Full Professor) and Stanislaw Pietruszczak (Professor Emeritus) provide additional necessary critical mass for the doctoral program in the area of geotechnical engineering.
Lack of Professional Development opportunities for graduate students	Graduate students are now provided with ample professional development opportunities through the School of Graduate Studies, MacPherson Institute, and the Engineering Co-op and Career Services office. The School of Graduate Studies offers professional development opportunities related to writing literature reviews, dissertation bootcamps, writing research abstracts, as well as the 'drawing conclusions' program which teaches graduate students how to overcome biases that can limit observations and impact their research. The MacPherson Institute offers Teaching and Learning Certificates of Completion in the areas of theory and inquiry, and in practice and application, as well as intensive workshops aimed at improving instructional skills, courses design and assessment development. Engineering Co-op and Career Services supports student learning and skill development outside the classroom through co-curricular programming in the form of facilitated, hands-on community experiences. They support this process via workshops and one-on-one career planning. All graduate students in the Faculty of Engineering are required to attend career planning workshops hosted by Engineering Co-op and Career Services in

	the Faculty of Engineering and submit a CARP-Career Planning Report, which should identify the long-term career plan, short-term career goals and skills required to achieve those goals. The reports are reviewed by the Graduate Affairs Committee.
Concerns with the M.A.Sc. program being limited to 20 months of funding	The department has recognized this issue regarding thesis expectations and time to completion. We converted the M.A.Sc. to a 24-month program beginning in the Fall 2020.
Distinction between M.A.Sc. and M.Eng. programs is unclear	Our current M.Eng. program requires students to complete six graduate half courses (or equivalent) and then conduct a project under the supervision of a faculty member. These students will need to complete and submit a project report, which will be reviewed and approved by a committee. This committee is comprised of the student's supervisor and another faculty member. The course requirements ensure that M.Eng. graduates are well trained to acquire expertise covering key learning areas. The expectations in terms of originality and scope of research and their time devoted to research are significantly reduced compared to M.A.Sc. students to ensure that they can graduate on time (within 24 months). These M.Eng. students do not receive any funding support from the department. Conversely, M.A.Sc. students are required to take fewer graduate courses, with most of their time dedicated to research towards developing a research thesis that far exceeds in terms of scope and originality the expectations for the M.Eng. project. Those M.A.Sc. students also received funding and gain additional experience as teaching assistants for our undergraduate courses. The Department is in the early stages of exploring the possibility of converting the existing M.Eng. program to a course-based option. Discussions amongst the Department, and with the Faculty of Engineering, are expected to continue in the coming months.
Graduate office space challenges	Since the last IQAP visit all graduate spaces in JHE have been renovated, resulting in brighter, modernized spaces for our students to utilize. Details of these renovations may be found in section 7.1.9 of the IQAP report. These spaces are being revisited again and will be converted to a hotelling style with ergonomically friendly sit/stand desks, new chairs, and a small kitchenette.

	We also have planned for ADL graduate student space renovation that will modernize the space with windows and allow for bright office areas. We expect construction to begin in Fall 2024.
Technical support for graduate programs	The current department resources are still limited; however, we strive to maximize the utilization of our resources. With the current fiscal climate in higher education, we are not in a position to hire additional technicians. We have nonetheless created peer-support teams to address the limited availability of the technicians who operate our specialized test equipment. Junior graduate students work with the senior students to learn the test procedure, how to operate the test equipment, and to assist each other with their experiments. Finally, our faculty members have made themselves as available as possible to support our students in the labs, building on our experimental research expertise and the department's focus on experiential learning.

Summary of Program Current Program Review

Strengths

- The Department is in “a growth mode with hiring of a large cohort of new and early career faculty.” The reviewers noted that they “were very impressed with the energy and enthusiasm of newer faculty as well as some exceptional successes in funding and development of state-of-the-art facilities, especially the Applied Dynamics and Environmental labs, along with the highly committed staff.” (p. 7)
- The reviewers noted that there is a strong desire amongst the Department to increase domestic students, and to increase research support funds. (p. 7)
- The Department’s research areas are well-aligned with McMaster’s strategic plan which focuses on planetary health, which the reviewers felt that the Department would be “uniquely poised to address” (p. 7)
- It was noted that the graduate students and their faculty supervisors “expressed a high degree of satisfaction, emphasizing regular meeting and mentoring, encouragement to attend conferences, engagement with industry partners, engagement in research activities” (p. 7)
- The reviewers noted that they were “impressed by the high degree of freedom observed in hands-on laboratory work with the highly engaged, supportive, and enthusiastic lab technicians. This is a superlative example of the department’s commitment to experiential learning and ownership of staff towards student learning and success.” (p.7)

Opportunities for Improvement and Enhancement, including appropriateness of resources

- Focus on growth of the graduate programs. The reviewers noted that the M.Eng. program has the highest potential for growth, but that this would require additional administrative and faculty support. (p. 8)
- Graduate student spaces should be improved.(p. 8)
- Encouragement to set key performance indicators as aspirational goals to help increase research activities and productivity. (p. 8)
- Enhance engagement with alumni to improve advancement opportunities. (p. 8)
- Encourage graduate students to take additional courses to improve their skills and empower faculty to assign additional courses outside of the Department. (p. 8)
- Encourage senior faculty to provide recruitment mentorship to early career colleagues. (p. 8)
- Promote newly developed research themes as a research tool. (p. 8)
- Review the outcome and impact of the recent changes to the Ph.D. comprehensive examination process, particularly with the reduced graduate course requirements. (p. 8)
- The Geotechnical theme is at risk as it is below critical mass. The reviewers noted that this area will require additional hires as well as improved and enlarged lab space. (p. 8)
- Recommendation to consider retreats to focus on strategic planning, particularly in the areas of the M.Eng. program, geotechnical theme, domestic student recruitment, and increasing funding. (p. 8)
- Increase interaction with industry via consortia, MITACS or other alliances.
- Promote full engagement with the leadership team and continue to follow a consultative style. (p. 8)

Recommendation #1:

There is room for growth across the three graduate degree programs.

Department's Response and Actions to be Taken:

We agree that there is room for growth within our three graduate programs and our faculty members have made an active effort to increase enrollment. In particular, we have had a strong focus on growth within our Ph.D. program. Between 2019 and 2023 we accepted an average of 6.5 Ph.D. students each September. This number has increased substantially with 20 Ph.D. students expected to begin their studies in September 2024. Including this, our enrolment in research-based graduate programs (M.A.Sc. and Ph.D.) has increased by 52% from 2019 to 2024.

We aim to increase recruitment efforts at the Masters level with the implementation of our Accelerated M.A.Sc. option and improved recruitment event strategies. We also plan to review our M.Eng. program with consideration for opportunities for growth (see Recommendation #2).

Progress (check one)

☒ Completed

☐ In Progress

☐ Other (please explain)

18-Month Update: The new international cap limiting the number of international students introduced in 2024 along with increased wait times for international student visa approvals impacted the department's overall growth potential. Despite these challenges, over the past 4 years (2022-2025) a total of 122 new graduate students joined the department. This is an average of over 30 new graduate students/year, with 76 new students joining since 2024. If the department can maintain this recruitment level, a steady-state graduate student size of approximately 150 (approximately 25% growth) is expected.

We continue to focus on our recruitment efforts at the Master's level with the promotion of our Accelerated M.A.Sc. option. Furthermore, increased recruitment of domestic graduate students is currently the primary focus of the department's Graduate Affairs committee.

Dean's Comments: We are in support of the Department's interest in recruitment at the Master's level. Our Faculty recruitment team is available to support the Department in focused recruitment efforts.

QAC Comments: (to be filled in by Quality Assurance Committee): QAC reviewed this report and had no further comments or concerns.

Recommendation #2:

M. Eng is the smallest program thus with highest potential for growth, but this will require additional administrative and faculty support (e.g., Associate director M. Eng program).

Department's Response and Actions to be Taken:

We agree with the reviewers that the M.Eng. program currently has the smallest cohort within our graduate offerings, indicating potential for growth. Presently, the M.Eng. program mandates each student to undertake a research project under faculty supervision, which constrains the number of admissions. The Department may consider transitioning the M.Eng. program to a purely course-based format. However, this adjustment could impact the quality and rigor of our graduate course offerings, given that M.Eng. students often have different academic backgrounds and interests compared to our M.A.Sc. and Ph.D. students. Additionally, expanding the M.Eng. program would necessitate increased administrative and faculty support, as noted by the reviewers. We will continue to solicit feedback from faculty and staff regarding the Department's strategy for the M.Eng. program in the forthcoming year.

Progress (check one)

☒ Completed

☐ In Progress

☐ Other (please explain)

18-Month Update: We have had extensive discussions about the potential of expanding our MEng program over the last 18 months, with several focused conversations in the Graduate Affairs committee that were complemented by Department-wide discussions. Particularly in light of changes to policies related to international students during this time, it became clear that the fiscal and operational resources will not be available to support a significant growth in the MEng program. We also considered closing the program or shifting to a part-time-only MEng program, but the clear feedback was that the current program has a meaningful benefit for students each year, and that there are faculty for whom it is an essential part of their research program. For these reasons, we have decided to maintain the current MEng program for now, recognizing that we are well-positioned to grow this program if circumstances change.

Dean's Comments: We are supportive of the Department further reviewing application numbers for this program and discussing opportunities to increase enrollment. The Faculty is in a position to support the expansion of the M.Eng. program and supportive of exploring options with the Department.

QAC Comments: See above

Recommendation #3:

To enable overall growth in graduate enrollment, improved space for graduate students will be essential. This concern was raised in multiple settings.

Department's Response and Actions to be Taken:

The Department agrees that improved space is necessary to improve the graduate student experience and is currently finalizing a plan that will involve renovating all existing graduate student space in JHE and in the ADL to better suit a hotelling model of space utilization. As noted in the report, the ADL renovations also include the installation of a windowed curtain wall to allow for natural light in a currently windowless space, and to replace HVAC systems servicing the graduate student offices. We expect that these renovations will greatly improve the student experience. We also continue to advocate for additional student space to accommodate our significantly increased enrollment.

Progress (check one)

Completed

☒ In Progress

Other (Please explain)

18-Month Update:

Over the summer of 2025, the Department undertook a comprehensive renovation of all PhD workspaces in JHE. These improvements were initiated to enhance the overall graduate student experience, and the impact is already evident. The project included significant upgrades to the PhD study areas, such as the installation of new, adjustable desks, spacious storage, and modern computer monitors, resulting in substantially improved functionality, comfort, and productivity within these work environments.

Concurrently, the Department has been finalizing a major renovation of the Applied Dynamics Laboratory (ADL). As outlined in the report, this project—now nearing completion—features the installation of a windowed curtain wall that introduces natural light into a previously enclosed, windowless area. The newly redesigned classroom, and collaborative study space provide our students with the opportunity engage fully with their peers during research meetings and presentations. Additionally, the renovation includes the replacement of the aging HVAC systems that serve the graduate student offices, addressing long-standing climate-control challenges.

Together, these completed and ongoing upgrades represent a major investment in the quality of our graduate student spaces. We anticipate that these enhancements will significantly enrich the working environment and support the continued success and well-being of our graduate students.

Dean's Comments: We agree, the new investments represent a major improvement in the quality of the environment for our graduate students. We continue to explore how capital funds can be best used for the refurbishment of existing graduate student space.

QAC Comments: See above

Recommendation #4:

There is room for growth in research activities and productivity in the department in general. The department is encouraged to set key performance indicators (e.g., funding, graduate student enrollments, scholarly activity) as aspirational goals.

Department's Response and Actions to be Taken:

Our young Department, with 11 faculty hired since our previous IQAP review in 2017, is indeed continuing to ramp up our research activities and productivity. The typical teaching load of faculty was reduced beginning in 2023-2024 in an effort to increase the bandwidth available for growth in research, but the effects of this change are not yet clear.

Since the IQAP reviewer visit in Spring 2024, we have appointed an inaugural Associate Chair, Research: Dr. Wael El-Dakhakhni. He will be leading our efforts in response to this recommendation, including consulting within and beyond our Department to identify our collective research goals, and working to build connections to help us achieve those goals.

To inform this process, the Department Chair will request the data suggested by the reviewers in Section 7.1.3 from the Faculty and from Canadian Heads & Chairs.

Progress (check one)

Completed

☒ In Progress

Other (please explain)

18-Month Update: We are now collecting annual data from faculty members about their records of publications, student supervision, and funding. This information will be shared with faculty in statistical format to allow benchmarking and setting of personal research goals. Some national data (e.g., enrollment numbers) are available through the CSCE Heads and Chairs Committee, but they are currently in the process of updating their data collection systems to address some apparent errors in the data that were shared last year. As this information becomes available, a next step would be to use the historical data to inform a collective setting of aspirational goals.

In addition, as part of our annual strategic planning process during the Department retreat, we will dedicate time to collectively reflect on research-related indicators to support ongoing improvement. These discussions aim at setting shared, aspirational goals that advance national and international excellence and ensure strong alignment with the Faculty's broader strategic priorities.

Dean's Comments: This is a reasonable plan for building research capacity and goal setting, we are prepared to support where needed.

QAC Comments: See above

Recommendation #5:

The department is encouraged to enhance engagement with alumni in pursuit of advancement opportunities.

Department's Response and Actions to be Taken:

As a first step, the Department Chair will meet with Joel Cote (Director of Development, Faculty of Engineering) to discuss how the Department can partner with the Faculty in pursuit of advancement opportunities.

Progress (check one)

☒ Completed

☐ In Progress

☐ Other (please explain)

18-Month Update: Major strides have been made in this area over the last 18 months, with numerous meetings of the Chair with alumni. Key results so far include a \$100,000 gift to establish the JNE Experiential Learning Fund (launched September 2025), and \$10,000 annually from WSP to support our capstone student experience. The Chair continues to engage with alumni and work with the Engineering Advancement team to pursue advancement opportunities.

Dean's Comments: We will continue to support the Department in advancement pursuits to improve funding for students to enhance the quality of the program through our Faculty and central UA partners. The gifts to date represent significant new support that will go to graduate students in the Department.

QAC Comments: See above

Recommendation #6:

For areas of civil engineering that may not be well addressed at the undergraduate level, graduate students may be encouraged to take additional courses at the advisement of the supervising faculty members. To that end Supervisors should be empowered to assign additional courses, especially outside of the unit, without impediments.

Department's Response and Actions to be Taken:

We agree that supervisors should be empowered to assign additional courses as needed. We also note that the Ministry of Colleges and Universities requires that at least 50% of courses used towards completing degree requirements must be completed within the Department granting the degree. As such, the School of Graduate Studies rightfully reviews requests to complete courses outside of the Faculty and rejects requests that would breach Ministry requirements. At the Department level, we must continue to require that students complete at least 50% of their minimum course requirements

within the Department, but we will also continue to empower our faculty members to assign additional courses outside of the Department or Faculty, provided the minimum requirement is met.

Progress (check one)

☒ Completed

☐ In Progress

☐ Other (please explain)

18-Month Update: As described in the initial response, supervisors continue to be empowered to assign additional courses where necessary, in alignment with our Graduate Handbook and the requirements of the School of Graduate Studies. We are not aware of any concerns related to this since the IQAP report was received.

Dean's Comments: We are supportive of the programs continuous approach to improvement in this matter and will support when needed with curricular processes and approvals.

QAC Comments: See above

Recommendation #7:

Senior faculty members could provide recruitment mentoring to early career faculty and help with networking to enhance recruitment.

Department's Response and Actions to be Taken:

Referring also to Recommendation #4, our new Associate Chair, Research, will be consulting with early career faculty members about how the Department can support the launch of their careers, including how to strengthen the quality and quantity of graduate student recruitment.

Progress (check one)

☒ Completed

☐ In Progress

☐ Other (please explain)

18-Month Update: As indicated in the initial response, we now have a robust program in place to mentor early career faculty. This program also includes a designated Research Mentor for every tenure-track Assistant Professor. Establishment of this program is complete, and implementation will be ongoing.

Dean's Comments: In addition to quality of student recruitment, we will engage with the Department to facilitate resources for the improvement of the quality of graduate student mentorship as well. Including, recommending new courses coming to the School of Graduate Studies around supervisorship and mentorship for new faculty.

QAC Comments: See above

Recommendation #8:

The department should continue to promote newly developed research themes (i.e. the four areas of specialization) as a recruitment tool.

Department's Response and Actions to be Taken:

We will continue to promote our research themes as part of our recruitment strategy. During our recruitment events these themes are discussed, and we provide direct links between faculty research and the themes in order to assist prospective students in identifying where their interests may fit, and with which supervisors. We have also created a new accelerated M.A.Sc. option which will enable us to introduce these themes at the undergraduate level through our 400-600 courses which are offered at both the undergraduate and graduate level. Students who choose to apply for the accelerated option will enroll in a 400-level course but will complete the 600-level coursework, granting them an opportunity to better connect their undergraduate studies with future research opportunities.

Progress (check one)

Completed

☒ In Progress

Other (please explain)

18-Month Update: The Department will continue to actively promote its research themes as a core component of its graduate recruitment strategy. In addition, the Department has been undertaking an iterative and collaborative review and refinement of its research areas to ensure they are clearly articulated and current. This process is intended to strengthen communication of the Department's research strengths to prospective graduate students, funding agencies, and potential collaborators, and to enhance the effectiveness of these themes as a recruitment and partnership tool. As a result of this process, the Research Themes have been updated to:

1. Sustainable and Resilient Infrastructure
2. Water and Environmental Systems
3. Smart Transportation and Logistics
4. Low-Carbon Energy Systems
5. Climate Adaptation and Risk-Informed Systems
6. Digital and AI-Enabled Civil Systems

Our next step is to roll out these updated research themes, including to our website.

Dean's Comments: The Faculty's Engineering Communications team is available to support in the launching and advertisement of these new themes.

QAC Comments: See above

Recommendation #9:

The department should keep a close eye on the outcome and impact of the recent change to the comprehensive exam, particularly with the reduced graduate course requirements for Ph.D.s, to gauge the desired positive impact on students while at the same time ensuring that foundational knowledge-based learning outcomes are not negatively impacted.

Department's Response and Actions to be Taken:

The Department has streamlined the comprehensive examination process and reduced the number of required courses for Ph.D. students who commenced their studies after September 2023. Specifically, the comprehensive exam format has been modified to exclude the assessment of a Ph.D. candidate's knowledge of undergraduate material in their major field of study, focusing exclusively on the candidate's research proposal. Additionally, the course requirement for graduation has been decreased from four half courses to two half courses. These measures aim to provide Ph.D. students with additional time to dedicate to their research endeavors. We will develop a survey to be distributed to all Ph.D. supervisors at the end of each academic year, soliciting their evaluations of student research productivity and fundamental knowledge acquisition as a result of implementing these changes.

Progress (check one)

☒ Completed

☐ In Progress

☐ Other (please explain)

Over the past two years 30 students have successfully completed their comprehensive exam under the new format. Overall, the new format appears to have achieved the goals defined by the department. The department will continue to seek faculty and student feedback as well as monitor student performance.

Dean's Comments: This approach is reasonable and in line with graduate comprehensive exams and course work at competitor institutions globally. We support the department in continuing to monitor the impact carefully.

QAC Comments: See above

Recommendation #10:

The Geotechnical program is currently at high risk of fading. It is below critical mass and likely will need additional hires and improved and enlarged lab space to nurture and rebuild this program.

Department's Response and Actions to be Taken:

We agree that our geotechnical program is critical. We expect an additional faculty member, Dr. Tingting Xu, to join our geotechnical group as soon as her visa application is approved. Beyond Dr. Xu's hiring, the geotechnical area will be a priority for requests for future hires after the current faculty hiring freeze is lifted. After our faculty complement in this area is confirmed, we will then work with them to identify specific lab space needs and potential opportunities to meet those needs.

Progress (check one)

☒ Completed

☒ In Progress

Other (please explain)

18-Month Update: At the time of writing, we are in the middle of the campus interview stage of a faculty recruitment in geotechnical engineering, and Dr. Xu has just received her visa approval in January 2026. We expect both Dr. Xu and an additional faculty hire to join our department in July 2026 or shortly thereafter, bringing us to a critical mass of 3 faculty in geotechnical engineering. Dr. Xu has identified that her immediate needs are computational rather than experimental, and we will work with the other new faculty member to ensure that lab space needs are addressed as appropriate.

Dean's Comment:

The Faculty is pleased to have these new hires underway, they will bolster the geotechnical theme in the department.

Recommendation #11: We recommend retreats and/or town halls to focus on strategic planning, to prioritize areas of growth such as the M.Eng., geotechnical program, increase of domestic students, and ways to increase funding levels and other areas that will allow a greater proportion of grad students.

Department's Response and Actions to be Taken:

These are all good suggestions for Department discussions. The Chair will initiate some of these discussions within our monthly Department Meetings and will also integrate them into the planning of our next Annual Department Retreat. This is to complement the more immediate discussions among the Department leadership team (see Recommendation #13).

Progress (check one)

X Completed

X In Progress

Other (please explain)

18-Month Update: Many of these topics were the focus of our Department Retreat in May 2025 and are reflected in our responses to Recommendations 2 and 10 above. Plans are underway for further discussion of these topics at our 2026 Department Retreat, complementing ongoing discussions through the Graduate Affairs Committee and department meetings.

Dean's Comments:

This approach is reasonable and we are happy to support these ongoing discussions in the Department.

QAC Comments: See above

Recommendation #12:

We would encourage increased interaction with industry via consortia, MITACS and other alliances. The MITACS program is seriously underutilized. The Faculty and Department are encouraged to take advantage of this program, not only for funding but also for experiential learning.

Department's Response and Actions to be Taken:

We appreciate the reviewers' recommendation to further leverage MITACS. However, since the IQAP visit, MITACS has announced significant funding reductions in Ontario for at least the 2024-2025 academic year, potentially extending beyond this period due to changes in the federal funding landscape. In response, the Department will continue to monitor updates to the MITACS program and

actively seek alternative sources of funding and experiential learning opportunities, including the NSERC Collaborative Research and Training Experience (CREATE) program.

Progress (check one)
Completed
☒ In Progress
Other (please explain)

18-Month Update: Since the previous review, the Department has seen considerable success in strengthening collaborative and international research activities, reflected in increased participation in externally funded partnership programs. Faculty members have secured a growing number of collaborative grants through mechanisms such as NSERC Alliance and Mitacs, often in partnership with industry, government agencies, and international academic collaborators. McMaster University, Faculty of Engineering and the Department of Civil place a strong and explicit emphasis on research partnerships, and these collaborative efforts will continue to be actively encouraged and fostered as the Department moves forward.

Dean's Comments:

The Faculty also supports the program in connecting further with our Office of Research, Innovation and Partnerships for support in strategic grant initiatives.

QAC Comments: See above

Recommendation #13:

We recommend that the department continues to promote full engagement with the leadership team (i.e., Associate Chairs), and continues to follow a consultative style with upper administration.

Department's Response and Actions to be Taken:

The new Department Chair is initiating a monthly leadership team meeting with the Associate Chairs and Academic Department Manager to promote communication among this group, and will continue to promote full engagement with all faculty and staff in the department by initiating discussions at Department Meetings and with key individuals. In addition, the new Chair and Associate Chairs are already having meetings with the Deans and Associate Deans to discuss their portfolios, and will continue to consult about any critical issues affecting the Department.

Progress (check one)

☒ Completed

☐ In Progress

☐ Other (please explain)

18-Month Update: As described in the initial response, we now have a consistent system for engagement among the Chairs, Associate Chairs, and upper administration. This system will continue to ensure numerous avenues for communication about critical issues as they arise.

Dean's Comments:

The Department's approach appears reasonable and constructive; we are available to support where needed.

QAC Comments: See above

Implementation Plan

Recommendation	Action(s) to be Taken	Responsibility for Leading Action	Timeline for Completing Action
1. There is room for growth across the three graduate degree programs.	Continue to focus recruitment efforts on improving the quality and number of applications, and to increase recruitment efforts at the Masters level with the implementation of our Accelerated M.A.Sc. option and improved recruitment event strategies.	Associate Chair, Graduate, in consultation with Associate Chair, Research	Completed, with ongoing efforts to increase domestic growth
2. M.Eng. is the smallest program thus with highest potential for growth, but this will require additional administrative and faculty support (e.g., Associate director M. Eng program).	Solicit feedback from faculty and staff regarding the Department's strategy for the M.Eng. program.	Associate Chair, Graduate	Completed
3. To enable overall growth in graduate enrollment, improved space for graduate students will be essential. This concern was raised in multiple settings.	The Department is transitioning to a hoteling model for graduate student office space. However, additional office space will still be needed to enable further growth in graduate enrollment in the coming year(s).	Department Chair and Academic Department Manager, in consultation with Associate Chair, Graduate and Faculty of Engineering Director of Finance and Administration	In Progress (renovations nearing completion)
4. There is room for growth in research activities and productivity in the department in general. The department is encouraged to set key performance indicators (e.g., funding, graduate	Develop and implement a consultation plan to identify our collective research goals and steps needed to achieve those goals.	Associate Chair, Research, in consultation with Department Chair	In Progress (data collection and distribution initiated;

student enrollments, scholarly activity) as aspirational goals.			further discussion and goal-setting planned)
5. The department is encouraged to enhance engagement with alumni in pursuit of advancement opportunities.	Meet with Director of Development, Faculty of Engineering	Department Chair	Completed (and ongoing)
6. For areas of civil engineering that may not be well addressed at the undergraduate level, graduate students may be encouraged to take additional courses at the advisement of the supervising faculty members. To that end Supervisors should be empowered to assign additional courses, especially outside of the unit, without impediments.	We will continue to empower our faculty members to assign additional courses outside of the Department or Faculty, provided the Ministerial minimum requirement of completing 50% of degree requirements within the Department is met.	Associate Chair, Graduate	Completed
7. Senior faculty members could provide recruitment mentoring to early career faculty and help with networking to enhance recruitment.	Consult with early career faculty members about how the Department can support the launch of their careers, including how to strengthen the quality and quantity of graduate student recruitment.	Associate Chair, Research	Completed (plan developed with ongoing implementation)
8. The department should continue to promote newly developed research themes (i.e. the four areas of specialization) as a recruitment tool.	During our recruitment events these themes will continue to be discussed and we will provide direct links between faculty research and the themes in order to assist prospective students in identifying where their interests may fit, and with which supervisors. We have also created a new accelerated M.A.Sc. option will enable us to introduce these themes at the undergraduate level through our 400-600 courses.	Associate Chair, Graduate	In Progress

9. The department should keep a close eye on the outcome and impact of the recent change to the comprehensive exam, particularly with the reduced graduate course requirements for Ph.D.s, to gauge the desired positive impact on students while at the same time insuring that foundational knowledge-based learning outcomes are not negatively impacted.	The Department will develop a survey to be distributed to all Ph.D. supervisors at the end of each academic year, soliciting their evaluations of student research productivity and fundamental knowledge acquisition as a result of implementing these changes.	Associate Chair, Graduate, in consultation with Department Chair and Department Graduate Administrative Assistant	Completed with ongoing monitoring
10. The Geotechnical program is currently at high risk of fading. It is below critical mass and likely will need additional hires and improved and enlarged lab space to nurture and rebuild this program.	1. Support onboarding of new faculty member in geotechnics. 2. Advocate for new hires and/or lab space for geotechnical engineering, based on discussions with current and incoming faculty.	Department Chair	In Progress
11. We recommend retreats and/or town halls to focus on strategic planning, to prioritize areas of growth such as the M.Eng., geotechnical program, increase of domestic students, and ways to increase funding levels and other areas that will allow a greater proportion of grad students.	Initiate discussions on these and other topics at Department Meetings and Retreats	Department Chair	In Progress (ongoing)
12. We would encourage increased interaction with industry via consortia, MITACS and other alliances. The MITACS program is seriously underutilized. The Faculty and Department are encouraged to take advantage of this program, not only for funding but also for experiential learning.	The Department will continue to monitor updates to the MITACS program and actively seek alternative sources of funding and experiential learning opportunities, including the NSERC Collaborative Research and Training Experience (CREATE) program.	Associate Chair, Research	In Progress (ongoing)

13. We recommend that the department continues to promote full engagement with the leadership team (i.e., Associate Chairs), and continues to follow a consultative style with upper administration.	Initiate discussions within Department and with upper administration.	Department Chair	Completed (and ongoing)
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