

To : Members of Graduate Council

From : Christina Bryce
Assistant Graduate Secretary

The next meeting of Graduate Council will be held on **Tuesday May 13th at 9:00 am in GH-111**

Listed below are the agenda items for discussion.

Please email cbryce@mcmaster.ca if you are unable to attend the meeting.

A G E N D A

- I. Opening Remarks
- II. Minutes of the meeting of April 15th, 2025
Approval
- III. Business arising
- IV. Report from the Associate Deans, Graduate Studies
- V. Report from the Senior Associate Registrar and Graduate Secretary
- VI. Report from Certificate, Diplomas and Microcredentials Committee
 - Graduate Academic Certificate in Data Science, Applied AI, & Organizational Leadership
Approval
- VII. Faculty of Health Sciences Graduate Curriculum and Policy Committee Report
Approval
- VIII. Faculty of Social Sciences Graduate Curriculum and Policy Committee Report
Information
- IX. Spring 2025 Graduands (to be circulated)
Approval
- X. Final Assessment Reports
Information

Tuesday April 15th at 9:00 am in GH-111

Present: S. Hranilovic, B. Newbold, K. McCallum, L. Parker, F. Homid, M. Verma, J. Antwi-Boasiako, T. Ruebottom, K. Mattison, M. Cino, D. Emslie, F. Ma, M. Heath, M. Gough, B. Milliken, T. Davidson, I. Jahan, C. Chakraborty, VP GSA, Y.K. Shin, K. Grandfield, E. Grodek, C. Biruk, L. Side C. Bryce (Assistant Graduate Secretary), S. Baschiera (Senior Associate Registrar and Graduate Secretary)

Regrets: A. Shakib, A. Prasad, K. Graham, N. Wagner, D. Trigatti, A. Gadsden, N. Carter

I. Opening Remarks

Dr. Hranilovic reported on the following item:

- The harmonized tri agency scholarship program, noting information available on their website: https://www.nserc-crsng.gc.ca/NewsDetail-DetailNouvelles_eng.asp?ID=1518

Members discussed the timing for scholarship allocations.

II. Minutes of the meeting of March 11th, 2025

It was duly moved and seconded, 'that the Graduate Council approve the minutes of the March 11th, 2025 meeting, as circulated.'

The motion was **carried**.

III. Business arising

Dr. Hranilovic noted at the previous meeting Graduate Council had approved changes to the Graduate Calendar administrative sections. Included there was a change to section 2.2a which contains information about what constitutes a complete application. The change proposed was an update to language about translated documents being required to note that French documents would also need to be translated.

He noted that at Senate a Senator put forward a friendly amendment proposing to reverse the section to the status quo. The reasoning was that there is additional information that Graduate Council didn't have: Hamilton has a distinct status as a communauté francophone accueillante (CFA), meaning Hamilton is a welcoming community to the francophone and has an obligation therein. The Calendar administrative sections were approved with this change at Senate.

Dr. Hranilovic acknowledged that Graduate Studies doesn't have the ability to translate the documents in French and noted that the calendar text in question would be taken back for further discussion with the Dean's Council and Graduate Council Executive to see if a change is needed in the future.

IV. Report from the Associate Deans, Graduate Studies

Dr. Heath (Faculty of Social Sciences) reported on the following item:

- An upcoming professionalization event with alumni from the Faculty coming on May 6th to talk about jobs outside of academia.

Dr. Grandfield (Faculty of Engineering) reported on the following item:

- McMaster would be hosting the Engineering graduate associate deans from across Ontario.

There were no updates from Drs Chakraborty, Newbold, and Verma.

V. Report from the Senior Associate Registrar and Graduate Secretary

Ms. Baschiera reported on the following items:

- Moving steadily toward June 30th PAL allocation, noting that they're working closely with departments and associate deans in the case of applicants who had not completed the entire process.
- The course outline portal project is moving forward.

VI. New Program Proposals

- Master of Management in AI and Analytics

Dr. Verma presented the proposals, noting that the first program was a full-time program with a number of courses for students to specialize in a particular area.

Members discussed the Vector Institute providing funding for students and other supports for students in the program.

In response to a question Dr. Verma clarified that the program would be two academic terms, followed by a 4-month work term, and then finish the program with academic terms.

It was duly moved and seconded, **that Graduate Council approve, for recommendation to the University Planning Committee and the Senate, the establishment of the Master of Management in AI and Analytics, as circulated.**

The motion was **carried**.

- Master of Management in Applied AI and Data-Driven Decision-Making

Dr. Verma presented the second program, noting that it was a blend learning part-time program and aimed at professionals with at least 4 years of work experience. Students will learn to use AI to help with decision making and the program is 20 months with 2 courses each term.

The audience, delivery, and content of the courses are distinct from the other program proposed. Each course will have three residency weekends with 70% of instructional hours and the rest will come from asynchronous learning. The program is geared towards leadership, communication, and team building.

The full-time program is much more technical, including programming and models.

Dr. Hranilovic noted that the learner base is fundamentally different.

It was duly moved and seconded, **that Graduate Council approve, for recommendation to the University Planning Committee and the Senate, the establishment of the Master of Management in Applied AI and Data-Driven Decision-Making as circulated.**

The motion was **carried**.

VII. Report from Certificate, Diplomas and Microcredentials Committee

Dr. Hranilovic explained there were three graduate academic certificates for approval and that these graduate academic certificates were the biggest microcredential available in the policy.

- Graduate Academic Certificate in Medical Health Physics & Internal Dosimetry

Dr. Newbold gave an overview for each of the three certificates.

A member noted a typo in the date field.

Dr. Parker explained that there were three distinct certificates, each involving a pair of existing courses. The audience is for people working in nuclear industry or students in another program. The idea is to pair relevant courses to people working in this industry where there is a demand to upgrade.

For the courses themselves, they're committed to offering them in a hybrid mode. The third certificate involves some lab work but that will be offered in a condensed on-campus experience.

Members discussed a potential new program in nuclear leadership and the intersection with these certificates.

It was duly moved and seconded, **'that Graduate Council approve that the Graduate Council approve, for recommendation to the University Planning Committee and the Senate, the establishment of the graduate academic certificate in Medical Health Physics & Internal Dosimetry, for inclusion in the 2025-2026 Graduate Calendar, as circulated.'**

The motion was **carried**.

- Graduate Academic Certificate in Nuclear Detection, Instrumentation & Methods

It was duly moved and seconded, **‘that the Graduate Council approve, for recommendation to the University Planning Committee and the Senate, the establishment of the graduate academic certificate in Nuclear Detection, Instrumentation & Methods, for inclusion in the 2025-2026 Graduate Calendar, as circulated.’**

The motion was **carried**.

- Graduate Academic Certificate in Radioactivity and Radiation Interactions

Dr. Parker highlighted that these certificates were an effort jointly between the department and nuclear reactor colleagues who understand the industry needs.

It was duly moved and seconded, **‘that the Graduate Council approve, for recommendation to the University Planning Committee and the Senate, the establishment of the graduate academic certificate in Radioactivity and Radiation Interactions, for inclusion in the 2025-2026 Graduate Calendar, as circulated.’**

The motion was **carried**

- Science Leadership Certificate of Completion

Dr. Newbold explained that this was a non-academic Certificate of Completion and it comes from a generous gift from McMaster alumnus.

Dr. Hranilovic noted that there are plans to develop a framework for stacking smaller graduate microcredentials into a bigger credential. He noted that drafts and discussions were ongoing and would be brought to Graduate Council going forward. The framework will not be required or mandatory but would allow programs to avail themselves of it.

VIII. Faculty of Engineering Graduate Curriculum and Policy Committee Report

Dr. Grandfield reported on the following items:

- Biomedical Engineering (an interdisciplinary program between Engineering and Health Sciences) proposed a change to program requirements to remove the requirement for Engineering students to take a Health Sciences course, noting an overburden on a particular Health Sciences course and that there is a core course that already covers both disciplines;

- A change to the comprehensive examination procedure for the Computer Science and Software Engineering Ph.D. programs to allow students to redo only one part of the exam;
- For Materials Science and Engineering, the changes proposed included a change to calendar copy to clarify the 600-level course language and to introduce an advanced credit option;
- For the MTEL/MEEI programs in the School of Engineering Practice and Technology, the introduction of an advance credit option for both programs was proposed as well as a change to course requirements.

It was duly moved and seconded, **‘that the Graduate Council approve, for recommendation to Senate as appropriate, the changes proposed by the Faculty of Engineering, as described in the documents.’**

The motion was **carried**.

IX. Faculty of Health Sciences Graduate Curriculum and Policy Committee Report

Ms. Baschiera reported on the following items:

- Biomedical Discovery and Commercialization proposed converting an existing milestone to a graduate level course;
- The Master of Biomedical Innovation program proposed the addition of a part-time option to be completed over two years rather than one;
- The Child Life and Pediatric Psychosocial Care M.Sc. program moved two courses to a virtual format and updated their calendar copy accordingly;
- A change to course requirements for the Global Health M.Sc., to update the list of electives;
- New program calendar copy for the Global Surgery Graduate Diploma;
- A change to course requirements for the Health Policy program involving the creation of an additional seminar course, rather than having students take the existing course multiple times;
- For Medical Sciences M.Sc., a change to calendar copy to note that students must complete their required courses at the 700 level;
- For the Master of Public Health program, a change to admission requirements and calendar copy to expand the fields applicants can come from and changing the length of time a student needs to be out of school before a professional reference can be utilized (5 years to 3)

Members discussed a typo in the original title in one of the for-information items.

It was duly moved and seconded,

that the Graduate Council approve, for recommendation to Senate as appropriate, the changes proposed by the Faculty of Health Sciences, as described in the documents.

The motion was **carried**.

X. Faculty of Humanities Graduate Curriculum and Policy Committee Report

Dr. Chakraborty presented the following items for approval (noting a minor correction to the memo to note that February 25th was a meeting, not e-ballot), highlighting that many are related to the initiative related to Reimagining the Ph.D.:

- Cognitive Science of Language proposed shortening the required paper for the comprehensive examination and including more options to allow students to complete the comprehensive;
- For English and Cultural Studies MA, a change to the calendar copy describing the mandatory core course and for the Ph.D. a reduction in course requirements;
- French proposed a change to calendar copy for their M.A. program related to the name change of an existing requirement. For the Ph.D. program the following changes were proposed
 - i. A change to comprehensive requirements reducing the number from 2 to 1;
 - ii. A change to course work, reducing the overall number of required courses and adding a new required course;
 - iii. A change to calendar copy to allow students to complete a sandwich style thesis;
 - iv. The removal of a requirement for a third language;
 - v. The introduction of *Éléments de formation professionnelle* to replacing the current list of milestones with three pass/fail requirements;
 - vi. A change to calendar copy to reflect the new timing for submission of the thesis proposal;
 - vii. A change to calendar copy related to the timeline for completing program requirements.
- An update to the electives lists for the Gender and Social Justice M.A. program;
- A reduction in the number of required comprehensive examinations (from 2 to 1) for the Greek and Roman Studies Ph.D.;
- A change to admission requirements for the Philosophy M.A. program.

Members discussed the deliverables for the additional options for the comprehensive examination, the variety of options that already existing and the potential to collect more information and share best practices broadly.

It was duly moved and seconded, **'that the Graduate Council approve, for recommendation to Senate as appropriate, the changes proposed by the Faculty of Humanities, as described in the documents.'**

The motion was **carried**.



XI. Faculty of Science Graduate Curriculum and Policy Committee Report

Dr. Newbold reported on the following item:

- A new dual degree stream for the Computational Science and Engineering Masters programs, noting approval at the last meeting of an equivalent option for the Mathematics and Statistics Masters programs.

It was duly moved and seconded, **‘that the Graduate Council approve, for recommendation to Senate as appropriate, the change proposed by the Faculty of Science, as described in the documents.’**

The motion was **carried**.

XII. Faculty of Social Sciences Graduate Curriculum and Policy Committee Report

Dr. Heath presented the items for information, noting one typo in the evaluation for 6IM3 – the book review should be 15%.

XIII. Spring 2025 Faculty of Health Sciences Graduands (to be circulated)

It was duly moved and seconded, **‘that Graduate Council approve the list of the 2025 Spring Faculty of Health Science Graduands, with amendments/corrections to be made as necessary by the Associate Graduate Registrar.’**

The motion was **carried**.

XIV. New Scholarship

It was duly moved and seconded, **‘that Graduate Council approve the new award as set out in the document.’**

The motion was **carried**.

Report to the Graduate Council *from the* **Joint Committee on Certificates, Diplomas and Microcredentials**

FOR APPROVAL

1. New Graduate Academic Certificate

At its meeting on May 6, 2025 and via electronic vote on May 7, 2025, the Joint Committee on Certificates, Diplomas and Microcredentials reviewed and approved the Graduate Academic Certificate in Data Science, Applied AI, & Organizational Leadership, as circulated.

It is recommended,

that the Graduate Council approve, for recommendation to the University Planning Committee and the Senate, the establishment of the graduate academic certificate in Data Science, Applied AI, & Organizational Leadership, as circulated.

Graduate Council
For Approval
May 13, 2025

Graduate Academic Certificate Form

Department & Program Information (complete all fields)	
Certificate Name:	Graduate Academic Certificate in Data Science, Applied AI, & Organizational Leadership
Department	DeGroote School of Business
Name of Representative:	
Effective Date:	Spring/Summer 2025
Date of Submission:	
Program Information:	
i) Program Overview	<p>This standalone Graduate Academic Certificate enables a learner to leverage data science fluency and applied AI knowledge to influence and shape their organization.</p> <p>The audience includes:</p> <p>Working Professionals: Individuals who are already employed in their careers and seek to enhance their skills and gain specialized knowledge without committing to a full degree program.</p> <p>Potential Graduate Students: People who may be considering a full master's degree but want to test the waters first by completing a graduate academic certificate.</p> <p>Lifelong Learners: Professionals or individuals with a passion for continuous education who seek to stay updated with the latest trends and innovations in their field or explore new topics for personal growth.</p> <p>This sequence of courses was chosen to achieve the learning objectives of the program.</p>
ii) Learning Outcomes	<p>Strategic Insights and Roadmaps</p> <ul style="list-style-type: none"> • Develop strategic roadmaps for the adoption of Data and AI technologies. • Redesign organizational workflows and culture to integrate AI effectively. • Identify opportunities to leverage Data and AI strategically in business contexts. <p>Technical and Ethical Foundations</p> <ul style="list-style-type: none"> • Understand the fundamental concepts of AI, including generative AI.

	<ul style="list-style-type: none"> Evaluate the ethical considerations and societal impacts of AI. Apply core data concepts and utilize various data and AI services, including advanced automation tools. Set clear and measurable goals for AI and data initiatives. <p>Skill Development and Practical Application</p> <ul style="list-style-type: none"> Complete hands-on projects and case studies applying Data and AI in real-world business scenarios. Develop technical skills in data analysis, data management, and AI tools, as well as project management techniques. Demonstrate proficiency in data and AI concepts. <p>Collaborative and Innovative Culture</p> <ul style="list-style-type: none"> Cultivate a collaborative culture that supports AI and data-driven initiatives. Manage resistance to organizational changes driven by AI adoption.
iii) Demonstrating Student Achievement of Learning Outcomes	<p>Learning outcomes will be assessed via:</p> <p>Quizzes Assignments Labs & Projects</p>
iv) Program Admission Requirements	<p>Students pursuing the graduate academic certificate are required to meet the following requirements:</p> <ul style="list-style-type: none"> Completion of an Honours Bachelor's degree from a recognized university Recommended B+ average (equivalent to a McMaster 8.5 GPA out of 12) in the two most recent years of undergraduate study, or the equivalent of 60 academic credits. A combination may be used and is determined on a case-by-case basis.
v) Program Completion Requirements	<p>Completion of the Graduate Academic Certificate course requirements with a passing grade ($\geq 70\%$) in each course</p> <p>--</p> <p>GC500 Strategic Leadership with Data & AI GC501 Leveraging AI for Organizational Leadership</p>

	1 of: GC502 Business Data Fundamentals on Cloud Computing Services GC503 AI Foundations for Business
vi) Program Delivery Format	This program is delivered in a blended format, consisting of in person delivery, synchronous online delivery, and asynchronous online delivery. Hands-on application is integrated throughout the program.
Listing of Courses (if the courses are new, please complete the Graduate Course Form, if the courses are existing please append the most recent syllabus for course) GC500 Strategic Leadership with Data & AI GC501 Leveraging AI for Organizational Leadership GC502 Business Data Fundamentals on Cloud Computing GC503 AI Foundations for Business	
If you're planning on charging a fee, please note the date of USFC approval of intended fee: May 2025	

**Recommendation for Change in Graduate Curriculum:
For Change(s) Involving Courses**

Please read the following notes before completing this form:

1. This form must be completed for ALL course changes. Sections of this form pertaining to your requested change must be completed.
2. An electronic version of this form (must be MS WORD not PDF) should be emailed to the Assistant Graduate Secretary (cbryce@mcmaster.ca).
3. A representative from the department/program is required to attend the Faculty Curriculum and Policy Committee meeting during which this recommendation for change in graduate curriculum will be discussed.

DEPARTMENT	DeGroote School of Business
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COURSE TITLE	Strategic Leadership with Data & AI
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COURSE NUMBER	GC500	COURSE CREDIT			
		6 Unit Course ()	4 Unit Course ()	3 Unit Course ()	2 Unit Course (X)

REQUISITE(S) (Pre/Co/Anti or program enrollment requirement)	
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Nature of Recommendation (Please Check Appropriate Box)

Is this change a result of an IQAP review? ☐ Yes ☐ No

N E W C	X	DATE TO BE OFFERED (FOR NEW COURSES)	WAS THE PROPOSED COURSE OFFERED ON DEAN'S APPROVAL? If YES, PROVIDE THE DATE:
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Will the Course be Cross-listed (combined sections) with another department? NO If Yes, please note which department:

Attach to this Form Any Relevant Correspondence with the other department(s). Note: Cross-listing of courses requires written approval from each department and faculty concerned. If you would like to remove a cross-listing you must include a written explanation agreed upon by both departments affected.

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Provide the new Course Title:

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**600-LEVEL
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Provide the Reason for Course Cancellation:

Please note: cross-listed (combined sections) courses can only be cancelled by the department who owns the course.

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EXPLAIN:

BRIEF COURSE DESCRIPTION FOR CALENDAR - Provide a brief description (6 lines) to be included in the Graduate Calendar (for changes to the description please include a track changes version of the description or the old and new versions)

With cloud services, the tools to leverage data and artificial intelligence (AI) have become easier to use and more readily available for professionals, managers and leaders to use to drive organizational success. This unique course teaches how to drive digital transformation through the build of a data and AI strategy. Students will learn and apply collaborative planning techniques using whiteboards for ideation, organize and manage using an Objective & Key Results (OKR) framework supported by modern reporting tools, and improve their ability to drive organizational alignment by incorporating data and AI into their leadership approach.

CONTENT/RATIONALE - Provide a brief description, i.e., outline the topics or major sub-topics, and indicate the principal texts to be used.

- Strategic Development & Digital Transformation:
 - Business Use Cases for data and AI
 - Developing a Data and AI Strategy.
 - Change management strategies for data and AI adoption.



- Case studies in data and AI adoption across industry.
- Leading with Data & AI
 - Using Data and Information Strategically.
 - Balanced Scorecard approach to building KPI's
 - Leading to data and KPI's.
 - Effective Data Management to support Data & AI
 - Goal setting methodologies and modern tools

Online modules contains self-paced video and text content that serves as course text, preparing students for the synchronous classes. Students will be supported by a case pack that includes, but is not limited to: "Why a Successful AI Strategy Starts with a Data Strategy" (Pure Storage, 2025); "The Business of Artificial Intelligence" (Harvard Business Review, 2017); "Big AI: Cloud infrastructure dependence and the industrialisation of machine learning" (SAGE Journals, 2024), "Exploring the Effectiveness of OKRs in Enhancing Company Objectives: A Comparative Study," (*IEEE Engineering Management Review*, 2024).

1. STATEMENT OF PURPOSE (How does the course fit into the department's program and/or tie to existing Program Learning Outcomes from the program's IQAP cyclical review (if applicable)?)

This is a graduate level course that contributes to a graduate academic certificate.

2. EXPECTED ENROLMENT:

We expect an enrollment as high as 35 students. This estimate is a result of the industry and community engagement that we leveraged to validate our offering, inform our value proposition, and ensure differentiation from other programs in the market.

3. DESCRIBE IN DETAIL THE METHOD OF PRESENTATION OF COURSE MATERIAL (i.e., lectures, seminars):

This course will be delivered via an intensive residency (40%) ,virtual lectures (30%), and online self-paced content (30%). The synchronous components will be supported by in class discussion, case-based learning,

and experiential (applied) educational opportunities. The asynchronous components will be supported by reflection opportunities, discussion boards and “test your understanding” type quizzes.

This means that the 20 hours of organized activity would be divided into 8 hours of intensive residency, 6 hours of virtual lectures, and 6 hours of online self-paced content.

4. DESCRIBE IN DETAIL THE METHOD OF EVALUATION (percentage breakdown, if possible): (For 600-level course, indicate the Extra Work to be required of graduate students, i.e., exams, essays, etc. Please also note if a lab or tutorial will be included.)

Students will be evaluated on their ability to construct a high-level data and AI strategy.

Participation & Discussions: 30%

Quizzes – 10%

Individual and Group Assignments – 30%

Individual Project – 30%

5. To prevent overlap, is a course in the same or related area offered in another department? If YES please note below and/or attach to this form any relevant correspondence with the other department(s).

No

6. If the course is intended primarily for students outside of your department, do you have the support of the department/program concerned?

This course is intended for students who are pursuing the Graduate Academic Certificate. This is a standalone course specific to the certificate.

PLEASE PROVIDE THE CONTACT INFORMATION FOR THE RECOMMENDED CHANGE:

Name: Email: Date submitted:

If you have any questions regarding this form, please contact the Assistant Graduate Secretary,
School of Graduate Studies, cbryce@mcmaster.ca.

**Recommendation for Change in Graduate Curriculum:
For Change(s) Involving Courses**

Please read the following notes before completing this form:

1. This form must be completed for ALL course changes. Sections of this form pertaining to your requested change must be completed.
2. An electronic version of this form (must be MS WORD not PDF) should be emailed to the Assistant Graduate Secretary (cbryce@mcmaster.ca).
3. A representative from the department/program is required to attend the Faculty Curriculum and Policy Committee meeting during which this recommendation for change in graduate curriculum will be discussed.

DEPARTMENT		DeGroote School of Business				
COURSE TITLE		Leveraging AI for Organizational Leadership				
COURSE NUMBER	GC501	COURSE CREDIT				
		6 Unit Course ()	4 Unit Course ()	3 Unit Course ()	2 Unit Course (X)	1.5 Unit Course ()
REQUISITE(S) (Pre/Co/Anti or program enrollment requirement)		GC 500 is a requirement for this course, students will carry over the high level data and AI strategy build in that course into this course for refinement.				
Nature of Recommendation (Please Check Appropriate Box)						
Is this change a result of an IQAP review? <input type="checkbox"/> Yes <input type="checkbox"/> No						
NEW COURSE	X	DATE TO BE OFFERED (FOR NEW COURSES ONLY): WINTER 2025		WAS THE PROPOSED COURSE OFFERED ON DEAN'S APPROVAL? If YES, PROVIDE THE DATE:		
<p>Will the Course be <u>Cross-listed (combined sections)</u> with another department? NO If Yes, please note which department:</p> <p>Attach to this Form Any Relevant Correspondence with the other department(s). <u>Note</u>: Cross-listing of courses requires written approval from <u>each</u> department and faculty concerned. If you would like to remove a cross-listing you must include a written explanation agreed upon by both departments affected.</p>						
CHANGE IN COURSE TITLE		Provide the new Course Title:				

CHANGE IN COURSE DESCRIPTION		600-LEVEL COURSE (Undergraduate course for graduate credit) Please see #4 on page 2 of this form
COURSE CANCELLATION		<p>Provide the Reason for Course Cancellation:</p> <p>Please note: cross-listed (combined sections) courses can only be cancelled by the department who owns the course.</p>
OTHER CHANGES	EXPLAIN:	
<p>BRIEF COURSE DESCRIPTION FOR CALENDAR - Provide a brief description (6 lines) to be included in the Graduate Calendar (for changes to the description please include a track changes version of the description or the old and new versions)</p> <p>This course provides leaders with the tools to harness artificial intelligence (AI) for strategic decision-making, focusing on practical use cases across industries. Participants will explore generative AI, AI-Driven Business Assistants, and prompt engineering (an artificial intelligence technique that involves crafting precise inputs to guide generative AI models in producing specific, high-quality outputs) to enhance data analysis, management insights, and business strategy development. Students will leverage LLM tools to explore and apply AI agent capabilities to produce business content like summaries, reports, and drafts, enabling them to create initial drafts and refine their content with AI assistance. This will include prompt engineering techniques to enhance management and leadership outcomes.</p>		
<p>CONTENT/RATIONALE - Provide a brief description, i.e., outline the topics or major sub-topics, and indicate the principal texts to be used.</p> <ul style="list-style-type: none"> Leveraging AI for Organizational Leadership <ul style="list-style-type: none"> Use cases and business scenarios: Application of data analysis strategies and AI tools (assistants, prompts) across industries. Leveraging Generative AI, Large Language Models, and AI agents to support decision making Prompt Engineering for Professionals <ul style="list-style-type: none"> Prompt Engineering to improve professional productivity AI For Data Analysis AI for Management Analysis AI Agents for Management 		

- Data and AI Strategy and Roadmap
 - Developing Data and AI implementation plans and project management.
 - Developing and aligning a Data & AI strategy & roadmap
 - Managing Change in Data and AI Adoption

Online modules contains self-paced video and text content that serves as course text. Students will be supported by a case pack that includes, but is not limited to: “AI-Driven Leadership: A Conceptual Framework for Educational Decision-Making in the AI Era”(E-Journal of Humanities Arts and Social Sciences, 2024), Transforming Leadership Practices through Artificial Intelligence (Procedia Computer Science, 2024), , Prompting Science Report 1: Prompt Engineering is Complicated and Contingent (Generative AI Labs, 2025)

1. STATEMENT OF PURPOSE (How does the course fit into the department’s program and/or tie to existing Program Learning Outcomes from the program’s IQAP cyclical review (if applicable)?)

This is a graduate level course that contributes to a graduate academic certificate.

2. EXPECTED ENROLMENT:

We expect an enrollment as high as 35 students. This estimate is a result of the industry and community engagement that we leveraged to validate our offering, inform our value proposition, and ensure differentiation from other programs in the market.

3. DESCRIBE IN DETAIL THE METHOD OF PRESENTATION OF COURSE MATERIAL (i.e., lectures, seminars):

This course will be delivered via virtual lectures (40%), guided experiential education projects (30%), and online self-paced content (30%). The synchronous components will be supported by in class discussion and case-based learning. The asynchronous components will be supported by reflection opportunities, discussion boards and “test your understanding” type quizzes.

This means that the 20 hours of organized activity would be divided into 8 hours of virtual lectures, 6 hours of experiential education projects and 6 hours of online self-paced content.

4. DESCRIBE IN DETAIL THE METHOD OF EVALUATION (percentage breakdown, if possible): (For 600-level course, indicate the Extra Work to be required of graduate students, i.e., exams, essays, etc. Please also note if a lab or tutorial will be included.)

Participation & Discussions: 20%
Quizzes – 10%

Labs – 0%

Individual Projects – 30%

Team Projects – 40%

5. To prevent overlap, is a course in the same or related area offered in another department? If YES please note below and/or attach to this form any relevant correspondence with the other department(s).

No

6. If the course is intended primarily for students outside of your department, do you have the support of the department/program concerned?

Certificate Offering

PLEASE PROVIDE THE CONTACT INFORMATION FOR THE RECOMMENDED CHANGE:

Name: Email: Date submitted:

If you have any questions regarding this form, please contact the Assistant Graduate Secretary,
School of Graduate Studies, cbryce@mcmaster.ca.

**Recommendation for Change in Graduate Curriculum:
For Change(s) Involving Courses**

Please read the following notes before completing this form:

1. This form must be completed for ALL course changes. Sections of this form pertaining to your requested change must be completed.
2. An electronic version of this form (must be MS WORD not PDF) should be emailed to the Assistant Graduate Secretary (cbryce@mcmaster.ca).
3. A representative from the department/program is required to attend the Faculty Curriculum and Policy Committee meeting during which this recommendation for change in graduate curriculum will be discussed.

DEPARTMENT	DeGroote School of Business				
COURSE TITLE	Business Data Fundamentals on Cloud Computing Services				
COURSE NUMBER	GC502	COURSE CREDIT			
		6 Unit Course ()	4 Unit Course ()	3 Unit Course ()	2 Unit Course (X)
REQUISITE(S) (Pre/Co/Anti or program enrollment requirement)					
Nature of Recommendation (Please Check Appropriate Box)					
Is this change a result of an IQAP review? <input type="checkbox"/> Yes <input type="checkbox"/> No					
NEW COURSE	X	DATE TO BE OFFERED (FOR NEW COURSES)	WAS THE PROPOSED COURSE OFFERED ON DEAN'S APPROVAL? IF YES, PROVIDE THE DATE:		



Will the Course be Cross-listed (combined sections) with another department? **NO**

If Yes, please note which department:

Attach to this Form Any Relevant Correspondence with the other department(s).

Note: Cross-listing of courses requires written approval from each department and faculty concerned. If you would like to remove a cross-listing you must include a written explanation agreed upon by both departments affected.

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Provide the new Course Title:

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Provide the Reason for Course Cancellation:

Please note: cross-listed (combined sections) courses can only be cancelled by the department who owns the course.

OT
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EXPLAIN:

BRIEF COURSE DESCRIPTION FOR CALENDAR - Provide a brief description (6 lines) to be included in the Graduate Calendar (for changes to the description please include a track changes version of the description or the old and new versions)

This course exposes students to the broad spectrum of data (a collection of raw facts, figures, or observations that represent information about objects, events, or phenomena). Participants gain an overview of how products are built with data, as it is taken in by computing systems (structured, semi-structured and unstructured). Participants also look under the hood of how modern data products and improvements are built in a professional setting.

Students will identify the core principles of data storage, describe the functions of cloud data lake and database services for handling large-scale data, and recognize SQL database structures. They will demonstrate basic querying techniques and apply foundational skills to manage and retrieve data effectively for business analysis.

CONTENT/RATIONALE - Provide a brief description, i.e., outline the topics or major sub-topics, and indicate the principal texts to be used.

- **Core Concepts:**



- Overview of data science, data management
- Applications and limitations of data in various industries.
- Business Data Fundamentals on Azure
 - Core data concepts: Relational and non-relational data, data workloads, analytics.
 - Cloud Data Services: Core services for data analysis, data storage, processing, and management.
 - Structured and Unstructured cloud data storage
 - Leveraging cloud document storage for information management
 - Build a simple reporting and/or KPI dashboarding utilizing visual analysis tools

Online modules contains self-paced video and text content that serves as course text. Students will be supported by a case pack that includes, but is not limited to content from: “Data Management Body of Knowledge”, 2nd Ed. (DAMA, 2017), “Data Governance in Practice: (MIT Sloan Review, 2020); The Data Warehouse Toolkit: The Complete Guide to Dimensional Modeling (Wiley, 2013)

1. STATEMENT OF PURPOSE (How does the course fit into the department’s program and/or tie to existing Program Learning Outcomes from the program’s IQAP cyclical review (if applicable)?)

This is a graduate level course that contributes to a graduate academic certificate.

2. EXPECTED ENROLMENT:

We expect an enrollment as high as 35 students. This estimate is a result of the industry and community engagement that we leveraged to validate our offering, inform our value proposition, and ensure differentiation from other programs in the market.

3. DESCRIBE IN DETAIL THE METHOD OF PRESENTATION OF COURSE MATERIAL (i.e., lectures, seminars):

This course will be delivered via virtual lectures (40%), guided labs via tutorial (30%), and online self-paced content (30%). The synchronous components will be supported by in class discussion and case-based learning. The asynchronous components will be supported by reflection opportunities, discussion boards and “test your

understanding” type quizzes.

This means that the 20 hours of organized activity would be divided into 8 hours of virtual lectures, 6 hours of labs, and 6 hours of online self-paced content.

4. DESCRIBE IN DETAIL THE METHOD OF EVALUATION (percentage breakdown, if possible): (For 600-level course, indicate the Extra Work to be required of graduate students, i.e., exams, essays, etc. Please also note if a lab or tutorial will be included.)

Participation & Discussions: 20%

Quizzes & Assignments – 40%

Labs – 40%

5. To prevent overlap, is a course in the same or related area offered in another department? If YES please note below and/or attach to this form any relevant correspondence with the other department(s).

No

6. If the course is intended primarily for students outside of your department, do you have the support of the department/program concerned?

Certificate Offering

PLEASE PROVIDE THE CONTACT INFORMATION FOR THE RECOMMENDED CHANGE:

Name: Email: Date submitted:

If you have any questions regarding this form, please contact the Assistant Graduate Secretary, School of Graduate Studies, cbryce@mcmaster.ca.

**Recommendation for Change in Graduate Curriculum:
For Change(s) Involving Courses**

Please read the following notes before completing this form:

1. This form must be completed for ALL course changes. Sections of this form pertaining to your requested change must be completed.
2. An electronic version of this form (must be MS WORD not PDF) should be emailed to the Assistant Graduate Secretary (cbryce@mcmaster.ca).
3. A representative from the department/program is required to attend the Faculty Curriculum and Policy Committee meeting during which this recommendation for change in graduate curriculum will be discussed.

DEPARTM ENT	DeGroote School of Business				
COURSE TITLE	AI Foundations for Business				
COURSE NUMBE R	GC503	COURSE CREDIT			
		6 Unit Course ()	4 Unit Course ()	3 Unit Course ()	2 Unit Course (X)
REQUI SI TE(S) (Pre/Co /Anti or progra m enrollm ent require ment)					
Nature of Recommendation (Please Check Appropriate Box)					
Is this change a result of an IQAP review? <input type="checkbox"/> Yes <input type="checkbox"/> No					
N E W C O	X	DATE TO BE OFFERED (FOR <u>NEW</u> COURSES ONLY):	WAS THE PROPOSED COURSE OFFERED ON DEAN'S APPROVAL? IF YES, PROVIDE THE DATE:		



U R S E		WINTER 2025	
<p>Will the Course be <u>Cross-listed (combined sections)</u> with another department? NO If Yes, please note which department:</p> <p>Attach to this Form Any Relevant Correspondence with the other department(s). Note: Cross-listing of courses requires written approval from <u>each</u> department and faculty concerned. If you would like to remove a cross-listing you must include a written explanation agreed upon by both departments affected.</p>			
CHANG E IN COURSE TITLE		Provide the new Course Title:	
CHANGE IN COURSE DESCRIPTION		600-LEVEL COURSE (Undergraduate course for graduate credit) Please see #4 on page 2 of this form	
COUR SE CANC ELLAT ION		Provide the Reason for Course Cancellation: Please note: cross-listed (combined sections) courses can only be cancelled by the department who owns the course.	
OT HE R CH A N GE S		EXPLAIN:	

BRIEF COURSE DESCRIPTION FOR CALENDAR - Provide a brief description (6 lines) to be included in the Graduate Calendar (for changes to the description please include a track changes version of the description or the old and new versions)

This course teaches the broad spectrum of AI tools. This course gives participants an overview of how products are built with AI and a look under the hood of how AI products and improvements are built in a professional setting. Students will explore and experiment with modern AI tools to recognize and evaluate AI-driven solutions for business applications, applying basic AI workflows and assessing the value of machine learning models for industry settings.

CONTENT/RATIONALE - Provide a brief description, i.e., outline the topics or major sub-topics, and indicate the principal texts to be used.

Core Concepts:

- Overview of AI, machine learning, and generative AI.
- Applications and limitations of AI and machine learning in various industries.

AI Foundations For Business

Core concepts of AI, machine learning, and deep learning.

- Building AI solutions: AI lifecycle, model training, deployment, and monitoring.
- Leveraging cloud AI services to develop AI solutions.
- Utilizing AI agent platforms
- Responsible AI principles: Fairness, transparency, and accountability.

Online modules contains self-paced video and text content that serves as course text, preparing students for the synchronous classes. Students will be supported by a case pack that includes, but is not limited to portions of: "Principles on Artificial Intelligence" (OECD.AI, 2019), "The Elements of Statistical Learning: regression, classification, and clustering" (Springer, 2009), "Attention Is All You Need" (NIPS, 2017).

1. STATEMENT OF PURPOSE (How does the course fit into the department's program and/or tie to existing Program Learning Outcomes from the program's IQAP cyclical review (if applicable)?)

This is a graduate level course that contributes to a graduate academic certificate.

2. EXPECTED ENROLMENT:

We expect an enrollment as high as 35 students. This estimate is a result of the industry and community engagement that we leveraged to validate our offering, inform our value proposition, and ensure differentiation from other programs in the market.

3. DESCRIBE IN DETAIL THE METHOD OF PRESENTATION OF COURSE MATERIAL (i.e., lectures, seminars):

This course will be delivered via virtual lectures (40%), guided labs via tutorial (30%), and online self-paced content (30%). The synchronous components will be supported by in class discussion and case-based learning. The asynchronous components will be supported by reflection opportunities, discussion boards and “test your understanding” type quizzes.

This means that the 20 hours of organized activity would be divided into 8 hours of virtual lectures, 6 hours of labs, and 6 hours of online self-paced content.

4. DESCRIBE IN DETAIL THE METHOD OF EVALUATION (percentage breakdown, if possible): (For 600-level course, indicate the Extra Work to be required of graduate students, i.e., exams, essays, etc. Please also note if a lab or tutorial will be included.)

Participation & Discussions: 20%

Quizzes & Assignments – 40%

Labs – 40%

5. To prevent overlap, is a course in the same or related area offered in another department? If YES please note below and/or attach to this form any relevant correspondence with the other department(s).

No

6. If the course is intended primarily for students outside of your department, do you have the support of the department/program concerned?

Certificate Offering

PLEASE PROVIDE THE CONTACT INFORMATION FOR THE RECOMMENDED CHANGE:

Name: Email: Date submitted:

If you have any questions regarding this form, please contact the Assistant Graduate Secretary,
School of Graduate Studies, cbryce@mcmaster.ca.

To : Graduate Council

From : Christina Bryce
Assistant Graduate Secretary

At its meeting on March 13th the Faculty of Health Sciences Graduate Policy and Curriculum Committee approved the following graduate curriculum recommendations.

Please note that these recommendations were approved by the Faculty of Health Sciences.

For Approval of Graduate Council:

- **Health Policy***
 - **Addition of a Part-time Option**

***Also approved by the Faculties of Business and Social Sciences**



RECOMMENDATION FOR CHANGE IN GRADUATE CURRICULUM - FOR CHANGE(S) INVOLVING DEGREE PROGRAM REQUIREMENTS / PROCEDURES / MILESTONES

IMPORTANT: PLEASE READ THE FOLLOWING NOTES BEFORE COMPLETING THIS FORM:					
<p>1. This form must be completed for ALL changes involving degree program requirements/procedures. All sections of this form must be completed.</p> <p>2. An electronic version of this form (must be in MS WORD not PDF) should be emailed to the Assistant Secretary, School of Graduate Studies (cbryce@mcmaster.ca).</p> <p>3. A representative from the department is required to attend the Faculty Curriculum and Policy Committee meeting during which this recommendation for change in graduate curriculum will be discussed.</p>					
DEPARTMENT		Health Policy (Interdisciplinary Program)			
NAME OF PROGRAM and PLAN		Health Policy			
DEGREE	PhD				
NATURE OF RECOMMENDATION (PLEASE CHECK APPROPRIATE BOX)					
Is this change a result of an IQAP review? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
CREATION OF NEW MILESTONE <input type="checkbox"/>					
CHANGE IN ADMISSION REQUIREMENTS		<input type="checkbox"/>	CHANGE IN COMPREHENSIVE EXAMINATION PROCEDURE		<input type="checkbox"/>
CHANGE IN THE DESCRIPTION OF A SECTION IN THE GRADUATE CALENDAR		<input type="checkbox"/>	CHANGE IN COURSE REQUIREMENTS		
OTHER CHANGES		<input checked="" type="checkbox"/>	EXPLAIN:		
			We are introducing a part-time stream to the program. We also tidy up a few related issues in the Calendar text.		

DESCRIBE THE EXISTING REQUIREMENT/PROCEDURE:

Currently only a full-time stream is available.

PROVIDE A DETAILED DESCRIPTION OF THE RECOMMENDED CHANGE (*Attach additional pages if space is not sufficient.*)

Prospective applicants can apply for the full-time or part-time stream as of September 2025.

RATIONALE FOR THE RECOMMENDED CHANGE (How does the requirement fit into the department's program and/or tie to existing Program Learning Outcomes from the program's IQAP cyclical review?):

Over the years we have had many prospective students ask about the possibility of a part-time stream. We feel we are missing the opportunity to admit additional high caliber students.

PROVIDE IMPLEMENTATION DATE: (*Implementation date should be at the beginning of the academic year*)

September 1, 2025

ARE THERE ANY OTHER DETAILS OF THE RECOMMENDED CHANGE THAT THE CURRICULUM AND POLICY COMMITTEE SHOULD BE AWARE OF? IF YES, EXPLAIN.

No special details.

PROVIDE A DESCRIPTION OF THE RECOMMENDED CHANGE TO BE INCLUDED IN THE CALENDAR (please include a tracked changes version of the calendar section affected if applicable):

Students in the part-time stream would have the same course and program requirements, but on a different timeline. Please see attached: draft curriculum timeline, part-time program milestones, and Calendar text (tracked and clean versions) that makes these and related changes.

CONTACT INFORMATION FOR THE RECOMMENDED CHANGE:

Name: Arthur Sweetman Email: arthur.sweetman@mcmaster.ca Extension:23218 Date submitted:23 Jan 2025

If you have any questions regarding this form, please contact the Assistant Secretary, School of Graduate Studies, cbryce@mcmaster.ca

HP PhD Program Requirements

Model Timeline for Completing Requirements – Part-time stream

(Version: 18 February 2025)

Below is a potential timeline for a part-time student with no advanced standing. However, many students will have one or more courses removed (waived) from their timeline because they have completed equivalent graduate training before matriculation. The HP PhD program has a maximum of 10, and a minimum of 4, required courses: 2 doctoral seminars, 0 to 2 breadth courses, 0 to 3 methods courses and 2 to 3 field courses.

Part-time students with no courses waived complete three courses approved by the Health Policy Ph.D. program per year for two of their first three years, and four courses in one of their first three years, to complete the required 10 courses.

If a student has waivers (i.e., the total number of courses is reduced) then the timing of the comprehensive exams, the dissertation plan/proposal presentations, and/or the start of the thesis research/writing, may be advanced relative to the timing below. Successful completion of the three comprehensive exams by the end of the third year is required.

Model Timeline

Year 1

- Coursework (3 or 4)
 - 2 PhD Seminars (required; 1 in each of fall and winter terms)
Plus 1 or 2 of:
 - 1 or 2 Breadth
 - 1 or 2 Field
 - 0 or 1 Methods

Year 2

- Coursework (3 or 4)
- Two breadth courses and the first field course must be completed by the end of year 2
 - 1 or 2 Breadth
 - 1 or 2 Field
 - 0 to 2 Methods
- Breadth comprehensive exam (spring, required)
- Methods comprehensive exam (spring, if completed methods courses)

Year 3

- Final courses completed (3 or 4)
 - 1-2 Methods
 - 1-2 Field
- Methods comprehensive exam (spring, if not already completed)
- Field comprehensive exams (spring)
- Dissertation plan presentation

Year 4

- Dissertation proposal presentation
- Dissertation research
- Dissertation writing

Year 5

- Dissertation research
- Dissertation writing

Year 6

- Dissertation writing
- Submit and defend dissertation

Health Policy PhD Program Part-time Stream

Checklist of Basic Progress Milestones

(version: 18 February 2025)

This is a summary of basic milestones for completing the PhD degree while enrolled part time. Students and their supervisory committees should address each of these aspects of progress. This checklist is for convenient reference only and should not be substituted for the Calendar regulations or a detailed written *PhD Supervisory Committee Meeting Report*. The University requires these formal Supervisory Committee meetings and reports at least once per year, but the Health Policy program advises that they occur twice per year. Please see the Supervision Guide for further guidance and details.

First year milestones

- A “**course planning rubric**” has been completed and filed with the Program by the end of September
 - The student is enrolled in a **part-time course load** until all required courses are completed (max. 3 courses per academic year in two of first 3 years; and at most one year with an overload number of courses, that is more than 3 courses per academic year, in the first 3 years)
 - All required **courses are scheduled** for completion by 36th month (end of 3rd year)
- All final course **marks are B- or higher**; no “incompletes” outstanding; no failed courses
- A 3-member **supervisory committee** is selected and in place by the 6th month, or earlier
- **Professional activities** are pursued appropriately and do not impede academic progress
- The program’s **professional development and competency tracking tool** has been reviewed and relevant professional development goals and skill-building priorities and opportunities have been identified

Second year milestones

- A “**course planning rubric**” has been updated and filed with the Program by end of September
 - Student is enrolled in a **part-time course load**
 - All required **courses are scheduled** for completion by 36th month (end of 3rd year)
- All final course **marks are B- or higher**; no “incompletes” outstanding; no failed courses
- **Comprehensive exams** are being scheduled, written and passed on schedule
 - **Breadth exam** successfully completed by the **24th month**
 - All comprehensive exams to be completed & passed **by 36th month** (end of 3rd year)
- A promising **dissertation topic and questions/objectives** have been identified
- **Professional activities** are pursued appropriately and do not impede academic progress
- Student continues to reflect on and identify **career and professional development goals** and opportunities in consultation with their supervisor and committee members

Third year milestones

- A final, fully completed “**course planning rubric**” is filed with the Program by end of September
 - Student is enrolled in a **part-time course load**
 - All required courses to be **completed & passed by the 36th month** (end of this year)
- All final course **marks are B- or higher**; no “incompletes” outstanding; no failed courses

- All final **comprehensive exams are completed & passed by 36th month**
- **Design and methods** for dissertation research are developed and the drafting of a protocol is underway
 - **Dissertation plan** is formally presented. Normally the presentation is in the winter of Year 3 to the doctoral seminar (i.e., HP 712) with the supervisor, and perhaps others (e.g., committee members, other program faculty, and/or relevant experts) also present.
- Student identifies remaining **skill and competency gaps** and sets relevant professional development and career planning priorities in consultation with their supervisor and committee members

Fourth year milestones

- Student has submitted a realistic and acceptable **timeline** for completing dissertation to supervisory committee
 - **Dissertation proposal** is formally presented. Normally the presentation is in the fall of Year 4 to the doctoral seminar (i.e., HP 711) with supervisor committee members and perhaps others (e.g., other program faculty and/or relevant experts) also present.
 - All **resources** necessary for completing dissertation research are secured
 - All **approvals** (e.g., REB) necessary for completing dissertation research are secured
 - **Final dissertation proposals** are detailed, and judged acceptable and viable by faculty
- **Timeline** for completion is kept up to date, and is followed
- Student and faculty have agreed on a **process for reviewing work** in progress
- Professional activities are pursued appropriately and do not impede academic progress
- **Professional activities** are pursued appropriately and do not impede academic progress

Fifth year milestones

- Student has updated and submitted a realistic and acceptable **timeline** for completing dissertation
- Substantial progress is being made on the **dissertation research and writing**
- Student and faculty have agreed on a **process for reviewing work** in progress
- **Timeline** for completion is kept up to date and is followed
- Student is **completing preliminary draft chapters** on a routine and non-urgent basis
- Faculty are receiving and **reviewing draft chapters** on a routine and non-urgent basis
- **Professional activities** are pursued appropriately and do not impede academic progress
- Post-graduate **career strategies** and opportunities are being discussed and pursued
- If 6th year completion becomes unlikely, **timely plans are made for late completion**, including arrangements for extended supervision and financial support

Sixth year milestones

- Student has updated and submitted a realistic and acceptable **timeline** for completing dissertation
- Substantial progress is being made on the **dissertation research and writing**
- Student and faculty have agreed on a **process for reviewing work** in progress
- **Timeline** for completion is kept up to date and is followed

- Student is **completing draft chapters** on a routine and non-urgent basis
- Faculty are receiving and **reviewing draft chapters** on a routine and non-urgent basis
- Student is completing revisions and **final chapters** on a routine and non-urgent basis
- Faculty are receiving and **approving final chapters** on a routine and non-urgent basis
- Thesis defense is scheduled
- Student is actively engaged in **career planning activities**
- **Professional activities** are pursued appropriately and do not impede academic progress
- Post-graduate **career strategies** and opportunities are being discussed and pursued

Health Policy, Ph.D.

Ph.D. Degree

The purpose of the Ph.D. in Health Policy is to train intellectual leaders in the field who will make seminal contributions to policy understanding and practice. The curriculum provides students with theoretical and empirical tools, and knowledge regarding the organization of health systems, for answering a range of questions about health policy, and the ability to develop new approaches to move the field forward. An emphasis on theoretical and conceptual frameworks for policy analysis distinguishes this program from health degrees with a primary focus on empirical methodologies or on specific substantive problems.

The Ph.D. program integrates intellectual resources for education and research across McMaster University. Participating faculty members have appointments predominantly in departments within the Faculty of Social Sciences, the Faculty of Health Sciences, and the School of Business. Graduates with a Ph.D. in Health Policy are well prepared for academic appointments in interdisciplinary departments or institutes. Outside of academia, graduates are qualified for leadership positions in government, policy consulting, non-governmental organizations throughout the health sector, and private industry. Graduates' training prepares them for fruitful engagement with policy makers and academics as providers of useful knowledge, insightful research, and innovative solutions to policy problems.

Specializations

The program offers three fields of specialization: *Health Economics*, *Political Studies*, and *Health Systems and Society*.

Health Economics

The Health Economics field addresses the economic analysis of health policies and health systems, as well as the economic analysis of responses to health policies. Topics may include, for example, health resource allocation, health human resources, economic evaluation, public and private financing of health care, societal investments in health production, etc. The dominant disciplinary perspective is that of microeconomics, but insight into economic behaviour may also be provided by perspectives such as business, psychology, and others.

Political Studies

The Political Studies field emphasizes the political aspects of health policy including the influences by political institutions, actors, values, and ideas operating within state and global jurisdictions. Topics of interest, for example, may include the role of historical institutional arrangements in shaping health governance reforms, the impact of global trade agreements on domestic health care and pharmaceutical policy, the role of the public, stakeholders, and prevailing values on policy agendas, etc. Political science is the dominant disciplinary perspective, with related areas including, public policy analysis, public administration, comparative public policy, law, political theory and philosophy.

Health Systems and Society

The Health Systems and Society field emphasizes the analysis of the social influences that shape the production of health (and illness), the organization of health systems and services, and their associated policies. Topics of interest may include the generation and use of information to inform policy, political economies of health and its production, policies to address the social determinants of health, health systems and organizations, professional roles and behaviour, etc. Relevant disciplinary perspectives include anthropology, business administration and management, public administration and management, law, health systems, history, philosophy, political science, psychology and sociology.

Admission

Admission to either the full- or part-time streams of the Ph.D. program requires previous graduate training in one or more of a wide range of fields (e.g., health/life sciences, public health, health professions, social sciences, business, policy, philosophy, legal or administrative professions), with at least an A- grade average in past graduate coursework. A Master's degree is preferred. At least one graduate-level statistics half-course should be passed prior to admission. Students without this preparation in statistics may be admitted, but would be required to take a graduate statistics course in addition to normal program requirements. Successful applicants must also meet all School of Graduate Studies admissions requirements. Current admission procedures, forms, and deadlines are available on the Health Policy program website: <https://hpphd.healthsci.mcmaster.ca/>.

Degree Requirements

The Health Policy Ph.D. curriculum has three parts, which will normally be completed within a four-year period in the full-time stream, and within a six year period in the part-

time stream: (1) coursework (full-time: first and second years; part-time: first through third years); (2) comprehensive examinations (full-time: first and second years; part-time: second and third years); (3) the doctoral dissertation, which involves the approval and defense of the proposal for the doctoral research (full-time: third year; part-time: fourth year), then dissertation research, and the completion, approval, and defense of the written dissertation. If required courses are waived as a result of the successful completion of pre-PhD training accepted by the Health Policy Ph.D. program, then this may reduce the number of required courses in the program and may accelerate the timing for parts (1), (2) and/or (3).

Course Requirements

Coursework is normally completed during the first and second years of full-time study, and the first through third years of part-time study. Depending upon graduate-level training successfully completed prior to admission, between 4 and 10 half courses (i.e., one-term courses) are required. Courses are chosen from the list of recommended courses for each curriculum area (listed below). Required coursework includes 2 terms of the Doctoral Seminar in Health Policy; 2 to 3 specialty field courses; 0 to 2 breadth field courses outside the student's specialty field; and 0 to 3 research methods courses, including both quantitative and qualitative methods.

Students without prior graduate training in a given area are required to take the maximum number of required courses for that area. Students who have completed training prior to admission that is accepted as relevant by the Health Policy Ph.D. program may have relevant course requirements waived (the number of required courses is reduced). A minimum of 4 half-courses (including the 2 doctoral seminar half-courses) may not be waived and must be completed while the student is enrolled in the Health Policy Ph.D. program.

Part-time students complete up to three courses approved by the Health Policy Ph.D. program for two of their first three academic years. In one term of their first three years, part-time students may take an overload course load and, in this year, take more than three courses. This allows students with no courses waived to complete the required 10 courses. This combination of course enrolments is supported by their part-time term-by-term tuition.

Doctoral seminar

Each of:

- [HLTH POL 711 / Doctoral Seminar in Health Policy I](#)
- [HLTH POL 712 / Doctoral Seminar in Health Policy II](#)

Commented [LS1]: This change reflects a previous curriculum submission that is effective in the 2025-26 year.

Breadth field courses

0 to 2 half courses, one from each of the two fields other than the student's specialty:

Health Economics:

-
- PUBHLTH/ [HLTH POL 706 / Introduction to health and public health economics](#)
 - [HTH RS M 788 / Health Economics](#)

With program permission:

-
- [HLTH POL 798 / Independent Study in Health Policy](#)

Political Studies:

-
- HLTHPOL/ [HTH RS M 738 / Health Policy Analysis](#)

With program permission:

-
- [HLTH POL 798 / Independent Study in Health Policy](#)

Health Systems and Society

-
- [HLTH AGE 703 / Social Systems, Services and Policy: Critical Perspectives](#)

With program permission:

-
- [HLTH POL 798 / Independent Study in Health Policy](#)
 - [HTH RS M 748 / Population and Public Health](#)
 - [PHILOS 759 / Selected Topics in Applied Ethics](#)

Specialty field courses

2 to 3 half courses in 1 of the following 3 fields:

Health Economics:

Required for all Health Economics field students, unless waived:

- [HTH RS M 788 / Health Economics](#)
- [ECON 727 / Microeconomic Theory for Public Policy](#)

Additional choices:

-
- [HTH RS M 791 / Topics in Advanced Health Economics](#)
 - [ECON 793 / Health Economic Policy](#)

With program permission:

-
- [HLTH POL 750 / Special Topics in Health Policy](#)
 - [HLTH POL 798 / Independent Study in Health Policy](#)

Political Studies:

Required for all Political Studies field students, unless waived:

- HLTH POL/ [HTH RS M 738 / Health Policy Analysis](#)

Additional choices:

-
- [POL SCI 783 / Comparative Public Policy](#)
 - [POL SCI 785 / Public Sector Management](#)
 - [POL SCI 740 / Theories of Comparative Politics](#)
 - [POL SCI 706 / Comparative Politics of Health Policy](#)
 - POL SCI/ [GLOBALST 777 / Global Governance](#)

With program permission:

-
- [HLTH POL 750 / Special Topics in Health Policy](#)
 - [HLTH POL 798 / Independent Study in Health Policy](#)

Health Systems and Society

Required for all Health Systems and Society field students, unless waived:

- [HLTH AGE 703 / Social Systems, Services and Policy: Critical Perspectives](#)

With program permission:

-
- [HTH RS M 748 / Population and Public Health](#)
 - [HLTH AGE 715 / Critical Perspectives in Health & Society](#)
 - [PHILOS 759 / Selected Topics in Applied Ethics](#)
 - [SOCSCI 708 / Critical Approaches to Community Based Research](#)
 - [SOCIOL 714 / Political Sociology](#)
 - [SOCIOL 718 / Sociology of Work and Occupations](#)
 - [GLOB HTH 708 / Challenges in Global Health Equity](#)
 - [GLOB HTH 709 / Refugee Health Policies and Practice](#)
 - [HTH RS M 736 / Design Innovation for Health System Challenges](#)
 - [HLTH POL 750 / Special Topics in Health Policy](#)
 - [HLTH POL 798 / Independent Study in Health Policy](#)

Methodology courses

0 to 3 half courses, including both quantitative, and qualitative or mixed, methods:

Quantitative Methods:

Required for Health Economics specialty field students, unless waived:

- [ECON 761 / Econometrics I](#)

Additional choices for students in all specialty fields:

- [ECON 762 / Econometrics II](#)
- [ECON 6G03 / ECONOMETRICS 2](#)
- [ECON 769 / Advanced Microeconometrics](#)
- [ECON 795 / Analysis of Health Data](#)
- [HTH RS M 727 / Theory and Practice of Measurement](#)
- [HTH RS M 751 / Observational and Analytical Research Methods](#)
- [HTH RS M 723 / Regression Analysis](#)
- [HTH RS M 740 / Advanced Decision Analysis in Health Technology Assessment \(HTA\)](#)
- [HTH RS M 737 / Economic Analysis for the Evaluation of Health Services](#)
- [POL SCI 784 / Quantitative Political and Policy Analysis](#)
- [SOCIOLOGY 740 / Statistical Methods for Social Research](#)

With program permission:

- [HLTH POL 750 / Special Topics in Health Policy](#)
- [HLTH POL 798 / Independent Study in Health Policy](#)

Qualitative Methods:

- [HLTH POL 747 / Qualitative and Conceptual Methods](#)
- [HTH RS M 745 / Qualitative Research Methods](#)
- [HTH RS M 758 / Qualitative Research Methods for Analysing and Interpreting Data](#)
- [SOCIOLOGY 743 / Historical Methods](#)

With program permission:

- [HLTH POL 750 / Special Topics in Health Policy](#)
- [HLTH POL 798 / Independent Study in Health Policy](#)

Mixed Methods:

- [HTH RS M 770 / Mixed Methods Research Designs for Health Services and Policy Research](#)
- [POL SCI 796 / Research Design and Methods](#)
- [BUSINESS C780 / Mixed Methods Research](#)

- [HTH RS M 726 / The Science and Practice of Knowledge Translation: Foundations](#)

With program permission:

-
- [HLTH POL 750 / Special Topics in Health Policy](#)
 - [HLTH POL 798 / Independent Study in Health Policy](#)

Comprehensive Examination

Comprehensive examinations are usually completed during the first and second years of full-time study, and the second and third years of part-time study, as the relevant coursework requirements are completed. The timing may be earlier if students have waivers. Students complete three required comprehensive examinations in the following areas:

- One Breadth exam addressing all of the interdisciplinary program's three fields of specialization (health systems and society, political studies, and health economics);
- One Research Methods exam (qualitative and quantitative empirical approaches); and
- One chosen Specialty Field exam (health systems and society, political studies, or health economics).

Doctoral Dissertation

All Health Policy Ph.D. students are required to research, write, and successfully defend a doctoral dissertation, which constitutes an original contribution to knowledge in the field of health policy. The dissertation is developed and completed under the guidance of the student's primary supervisor and a dissertation supervision committee consisting of at least two additional faculty members.

- Normally by the beginning of the third year of full-time study, or fourth year of part-time study, the doctoral dissertation *proposal* is formally presented and defended before a committee and observers.
- The doctoral dissertation research is normally completed during the third and fourth years of full-time study, or fourth through sixth years of part-time study, with the completion, approval, and defense of the written dissertation by the end of the fourth year in the full-time stream, and sixth year in the part-time stream.

Supervision

Each student will be assigned a provisional faculty supervisor upon admission to the program. A final faculty supervisor and a three-member supervisory committee will be appointed within 6 months of the student's enrollment in the program. At least two (of

three) supervisory committee members must be core faculty members of the Health Policy Ph.D. Program. The faculty supervisor and supervisory committee provide guidance and monitor the student's progress. The supervisory committee is expected to meet with the student twice annually to assess the student's progress and to file a written progress report with the Program.

Additional Regulations

Students and prospective applicants should consult the Graduate Calendar for a complete description of regulations concerning the Ph.D. degree and graduate studies at McMaster University.

Health Policy, Ph.D.

Ph.D. Degree

The purpose of the Ph.D. in Health Policy is to train intellectual leaders in the field who will make seminal contributions to policy understanding and practice. The curriculum provides ~~the students~~ with theoretical and empirical tools, and knowledge regarding the organization of health systems, for answering a range of questions about health policy, and the ability to develop new ~~investigation~~ approaches to move the field forward. An emphasis on theoretical and conceptual frameworks for policy analysis distinguishes this program from health degrees with a primary focus on empirical methodologies or on specific substantive problems.

The Ph.D. program integrates intellectual resources for education and research across McMaster University. Participating faculty members have appointments predominantly in departments within the Faculty of Social Sciences, the Faculty of Health Sciences, and the School of Business. Graduates with a Ph.D. in Health Policy ~~will be~~ well prepared for academic appointments in interdisciplinary departments or institutes. ~~Their training will also prepare them for fruitful engagement with policy makers as providers of useful knowledge, insightful research, and innovative solutions to policy problems.~~ Outside of academia, graduates ~~would be~~ qualified for leadership positions in government, policy consulting, non-governmental organizations throughout the health sector, and private industry. Graduates' training prepares them for fruitful engagement with policy makers and academics as providers of useful knowledge, insightful research, and innovative solutions to policy problems.

Specializations

The program offers three fields of specialization: *Health Economics*, *Political Studies*, and *Health Systems and Society*.

Health Economics

The ~~h~~Health ~~e~~Economics field addresses the economic analysis of health policies and health systems, as well as the economic analysis of responses to health policies. Topics may include, for example, health resource allocation, ~~configuration of~~ health human resources, economic evaluation ~~of policy options~~, public and private financing of health care, societal investments in health production, etc. The dominant disciplinary perspective

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is that of microeconomics, but insight into economic behaviour may also be provided by perspectives such as business, psychology, and others.

Political Studies

The Political Studies field emphasizes the political aspects of health policy including the influences by political institutions, actors, values, and ideas operating within state and global jurisdictions. Topics of interest, for example, may include the role of historical institutional arrangements in shaping health governance reforms, the impact of global trade agreements on domestic ~~home health~~ care and pharmaceutical policy, the role of the public, stakeholders, and prevailing values on policy agendas, etc. Political science is the dominant disciplinary perspective, with related areas including, public policy analysis, ~~public and~~ administration, comparative public policy, law, political theory and philosophy.

Health Systems and Society

The Health Systems and Society field emphasizes the analysis of the social influences that shape the production of health (and illness), the organization of health systems and services, and their associated policies. Topics of interest may include the generation and use of information to inform policy, political economies of health and its production, policies to address the social determinants of health, ~~health systems and organizations, and~~ professional roles and behaviour, etc. Relevant disciplinary perspectives include anthropology, business administration ~~or and~~ management, ~~public administration and management, law,~~ health systems, history, philosophy, political science, psychology and sociology.

Admission

Admission to ~~either~~ the full- or part-time streams of the Ph.D. program requires previous graduate training in ~~a one or more of a wide range of relevant fields~~ (e.g., health/life sciences, public health, health professions, social sciences, business, policy, philosophy, legal or administrative professions ~~social sciences, health professions, policy, business, legal or administrative professions~~), with at least an A- grade average in past graduate coursework. A Master's degree is preferred. At least one graduate-level statistics half-course should be passed prior to admission. Students without this preparation in statistics may be admitted, but would be required to take a graduate statistics course in addition to normal program requirements. Successful applicants must also meet all School of Graduate Studies admissions requirements. Current admission procedures, forms, and deadlines are available on the Health Policy program website:

~~<https://hpphd.healthsci.mcmaster.ca/>~~ ~~<https://healthsci.mcmaster.ca/hpphd>~~

Degree Requirements

The Health Policy Ph.D. curriculum has three parts, which will normally be completed ~~over~~ within a four-year period in the full-time stream, and within a six year period in the part-time stream: (1) coursework (full-time: first and second years; part-time: first through third years); (2) comprehensive examinations (full-time: first and second years; part-time: second and third years); (3) the doctoral dissertation, which involves the approval and defense of the proposal for the doctoral research (full-time: third year; part-time: fourth year), then dissertation research ~~(third and fourth years)~~, and the completion, approval, and defense of the written dissertation ~~(fourth year)~~. If required courses are waived as a result of the successful completion of pre-PhD training accepted by the Health Policy Ph.D. program, then this may reduce the number of required courses in the program and may accelerate the timing for parts (1), (2) and/or (3).

Course Requirements

Coursework is normally completed during the first and second years of full-time study, and the first through third years of part-time study. Depending upon graduate-level training successfully completed prior to admission, between 4- and 10 half courses (i.e., one-term courses) are required. Courses are chosen from the list of recommended courses for each curriculum area (listed below). Required coursework includes 2 terms of the Doctoral Seminar in Health Policy; 2-to 3 specialty field courses; 0-to 2 breadth field courses outside the student's specialty field; and 0-to 3 half-research methods courses, including both quantitative and qualitative ~~or mixed~~ methods.

Students without prior graduate training in a given area are required to take the maximum number of required courses for that area. Students who have completed ~~some relevant~~ training prior to admission that is accepted as relevant by the Health Policy Ph.D. program may have relevant course requirements waived (the number of required courses is reduced) at the time of admission to the Health Policy Ph.D. program. A minimum of 4 half-courses (including the 2 doctoral seminar half-courses) may not be waived and must be completed while the student is enrolled in the Health Policy Ph.D. program.

Part-time students complete up to three courses approved by the Health Policy Ph.D. program for two of their first three academic years. In one term of their first three years, part-time students may take an overload course load and, in this year, take more than three courses. This allows students with no courses waived to complete the required 10 courses. This combination of course enrolments is supported by their part-time term-by-term tuition.

Doctoral seminar

~~Each of: 2 terms of:~~

- [HLTH POL 711 / Doctoral Seminar in Health Policy I](#)
- [HLTH POL 712 / Doctoral Seminar in Health Policy II](#)

Commented [LS1]: This change reflects a previous curriculum submission that is effective in the 2025-26 year.

Breadth field courses

0 ~~to~~ -2 half courses, one from each of ~~the~~ two fields other than the student's specialty:

Health Economics:

-
- PUBHLTH/ [HLTH POL 706 / Introduction to health and public health economics](#)
 - [HTH RS M 788 / Health Economics](#)

With program permission:

-
- [HLTH POL 798 / Independent Study in Health Policy](#)

Political Studies:

-
- HLTHPOL/ [HTH RS M 738 / Health Policy Analysis](#)

With program permission:

-
- [HLTH POL 798 / Independent Study in Health Policy](#)

Health Systems and Society

-
- [HLTH AGE 703 / Social Systems, Services and Policy: Critical Perspectives](#)

With program permission:

-
- [HLTH POL 798 / Independent Study in Health Policy](#)
 - [HTH RS M 748 / Population and Public Health](#)
 - [PHILOS 759 / Selected Topics in Applied Ethics](#)

Specialty field courses

2 ~~to~~ -3 half courses in 1 of the following 3 fields:

Health Economics:

Required for all Health Economics field students, unless waived:

- [HTH RS M 788 / Health Economics](#)
- [ECON 727 / Microeconomic Theory for Public Policy](#)

Additional choices:

-
- [HTH RS M 791 / Topics in Advanced Health Economics](#)
 - [ECON 793 / Health Economic Policy](#)

With program permission:

-
- [HLTH POL 750 / Special Topics in Health Policy](#)
 - [HLTH POL 798 / Independent Study in Health Policy](#)

Political Studies:

Required for all Political Studies field students, unless waived:

- HLTH POL/ [HTH RS M 738 / Health Policy Analysis](#)

Additional choices:

-
- [POL SCI 783 / Comparative Public Policy](#)
 - [POL SCI 785 / Public Sector Management](#)
 - [POL SCI 740 / Theories of Comparative Politics](#)
 - [POL SCI 706 / Comparative Politics of Health Policy](#)
 - POL SCI/ [GLOBALST 777 / Global Governance](#)

With program permission:

-
- [HLTH POL 750 / Special Topics in Health Policy](#)
 - [HLTH POL 798 / Independent Study in Health Policy](#)

Health Systems and Society

Required for all Health Systems and Society field students, unless waived:

- [HLTH AGE 703 / Social Systems, Services and Policy: Critical Perspectives](#)

With program permission:

-
- [HTH RS M 748 / Population and Public Health](#)
 - [HLTH AGE 715 / Critical Perspectives in Health & Society](#)
 - [PHILOS 759 / Selected Topics in Applied Ethics](#)
 - [SOCSCI 708 / Critical Approaches to Community Based Research](#)
 - [SOCIOLOG 714 / Political Sociology](#)
 - [SOCIOLOG 718 / Sociology of Work and Occupations](#)
 - [GLOB HTH 708 / Challenges in Global Health Equity](#)

- [GLOB HTH 709 / Refugee Health Policies and Practice](#)
- [HTH RS M 736 / Design Innovation for Health System Challenges](#)
- [HLTH POL 750 / Special Topics in Health Policy](#)
- [HLTH POL 798 / Independent Study in Health Policy](#)

Methodology courses

0 to -3 half courses, including both quantitative and qualitative or mixed methods:

Quantitative Methods:

Required for Health Economics specialty field students, unless waived:

- [ECON 761 / Econometrics I](#)

Additional choices for students in all specialty fields:

- [ECON 762 / Econometrics II](#)
- [ECON 6G03 / ECONOMETRICS 2](#)
- [ECON 769 / Advanced Microeconometrics](#)
- [ECON 795 / Analysis of Health Data](#)
- [HTH RS M 727 / Theory and Practice of Measurement](#)
- [HTH RS M 751 / Observational and Analytical Research Methods](#)
- [HTH RS M 723 / Regression Analysis](#)
- [HTH RS M 740 / Advanced Decision Analysis in Health Technology Assessment \(HTA\)](#)
- [HTH RS M 737 / Economic Analysis for the Evaluation of Health Services](#)
- [POL SCI 784 / Quantitative Political and Policy Analysis](#)
- [SOCIOL 740 / Statistical Methods for Social Research](#)

With program permission:

- [HLTH POL 750 / Special Topics in Health Policy](#)
- [HLTH POL 798 / Independent Study in Health Policy](#)

Qualitative Methods:

- [HLTH POL 747 / Qualitative and Conceptual Methods](#)
- [HTH RS M 745 / Qualitative Research Methods](#)
- [HTH RS M 758 / Qualitative Research Methods for Analysing and Interpreting Data](#)
- [SOCIOL 743 / Historical Methods](#)

With program permission:

- [HLTH POL 750 / Special Topics in Health Policy](#)
- [HLTH POL 798 / Independent Study in Health Policy](#)

Mixed Methods:

-
- [HTH RS M 770 / Mixed Methods Research Designs for Health Services and Policy Research](#)
 - [POL SCI 796 / Research Design and Methods](#)
 - [BUSINESS C780 / Mixed Methods Research](#)
 - [HTH RS M 726 / The Science and Practice of Knowledge Translation: Foundations](#)

With program permission:

-
- [HLTH POL 750 / Special Topics in Health Policy](#)
 - [HLTH POL 798 / Independent Study in Health Policy](#)

Comprehensive Examination

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- The doctoral dissertation research is normally completed during the third and fourth years of full-timefull-time study, or fourth through sixth years of part-time study, with the completion, approval, and defense of the written dissertation by the

end of the fourth year in the full-time stream, and sixth year in the part-time stream.

Supervision

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Additional Regulations

Students and prospective applicants should consult the Graduate Calendar for a complete description of regulations concerning the Ph.D. degree and graduate studies at McMaster University.

To : Graduate Council

From : Christina Bryce
Assistant Graduate Secretary

Via e-ballot on March 25th the Faculty of Social Sciences Graduate Curriculum and Policy Committee approved the following graduate curriculum recommendations.

Please note that these recommendations were approved by the Faculty of Social Sciences.

For Information of Graduate Council:

- **Economics**
 - **Change to Course Title, Description and Requisite**
 - 782 Labour Economics II



SCHOOL OF GRADUATE STUDIES

☒ RECOMMENDATION FOR CHANGE IN GRADUATE CURRICULUM - FOR CHANGE(S) INVOLVING COURSES & MILESTONES

IMPORTANT: PLEASE READ THE FOLLOWING NOTES BEFORE COMPLETING THIS FORM:

1. This form must be completed for ALL course changes. Sections of this form pertaining to your requested change must be completed.
2. An electronic version of this form (must be MS WORD not PDF) should be emailed to the Assistant Secretary, School of Graduate Studies (cbryce@mcmaster.ca).
3. A representative from the department/program is required to attend the Faculty Curriculum and Policy Committee meeting during which this recommendation for change in graduate curriculum will be discussed.

DEPARTMENT		Economics		
COURSE TITLE		Labour Economics II		
COURSE NUMBER	Econ 782	COURSE CREDIT		
		6 Unit Course ()	3 Unit Course (x)	1.5 Unit Course ()
INSTRUCTOR(S)		Angela Zheng		
REQUISITE(S) (Pre/Co/Anti or program enrollment requirement)		Prerequisites: 781 to be removed		
NATURE OF RECOMMENDATION (PLEASE CHECK APPROPRIATE BOX)				
Is this change a result of an IQAP review? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
NEW COURSE		DATE TO BE OFFERED (FOR NEW COURSES ONLY):	WAS THE PROPOSED COURSE OFFERED ON DEAN'S APPROVAL?	
WILL THE COURSE BE <u>CROSS-LISTED (COMBINED SECTIONS)</u> WITH ANOTHER DEPARTMENT? NO IF YES, PLEASE NOTE WHICH DEPARTMENT:				
ATTACH TO THIS FORM ANY RELEVANT CORRESPONDENCE WITH THE OTHER DEPARTMENT(S). NOTE: CROSS-LISTING OF COURSES REQUIRES WRITTEN APPROVAL FROM <u>EACH</u> DEPARTMENT AND FACULTY CONCERNED. IF YOU WOULD LIKE TO REMOVE A CROSS-LISTING YOU MUST INCLUDE A WRITTEN EXPLANATION AGREED UPON BY BOTH DEPARTMENTS AFFECTED.				
CHANGE IN COURSE TITLE		PROVIDE THE NEW COURSE TITLE: LABOUR ECONOMICS : INCOME AND EDUCATIONAL INEQUALITY		
CHANGE IN COURSE DESCRIPTION		x	600-LEVEL COURSE (Undergraduate course for graduate credit) Please see #4 on page 2 of this form	

COURSE CANCELLATION	PROVIDE THE REASON FOR COURSE CANCELLATION:	
	<p>N/A</p> <p>PLEASE NOTE: CROSS-LISTED (COMBINED SECTIONS) COURSES CAN ONLY BE CANCELLED BY THE DEPARTMENT WHO OWNS THE COURSE.</p>	
OTHER CHANGES	EXPLAIN: REMOVE PREREQUISITE.	
<p>BRIEF COURSE DESCRIPTION FOR CALENDAR - Provide a brief description (<i>maximum 6 lines</i>) to be included in the Graduate Calendar.</p> <p>New description: "This course surveys state-of-the-art research in labour economics with a focus on income inequality and intergenerational mobility of income. Topics covered include: trends in inequality, the widening college premium, skill-biased technological change, the child penalty and female labour force participation, and the effects of neighborhoods on economic opportunity. Students will develop empirical skills by working with datasets."</p> <p>Old description</p> <p>This course surveys state-of-the-art research in labour economics. Recently covered topics include asymmetric information models of strikes; estimation of duration models; recent trends in wage structure, firm size, unionization, and self employment; the impact of international competition and technological change on labour markets; and modeling dynamic family labour supply decisions.</p>		
<p>CONTENT/RATIONALE - Provide a brief description, i.e., outline the topics or major sub-topics, and indicate the principal texts to be used. The new instructor is more focussed on inequality. Also we want to remove the prerequisite of 781 so that graduate students can take the course even when 781 is not offered. Recently only one of the two labour economics courses is available in a year.</p>		

<p>1. STATEMENT OF PURPOSE (How does the course fit into the department's program and/or tie to existing Program Learning Outcomes from the program's IQAP cyclical review (if applicable)?)</p> <p>This is a key course which used to be only available to students wanting to take two courses in labour economics. Recently we have not offered both 781 and 782 due to limited graduate enrollments and class size restrictions as well as instructor availability since Steve Jones retired.</p>
<p>2. EXPECTED ENROLMENT:</p> <p>5-10</p>
<p>3. DESCRIBE IN DETAIL THE METHOD OF PRESENTATION OF COURSE MATERIAL (i.e., lectures, seminars):</p> <p>Lectures</p>

4. DESCRIBE IN DETAIL THE METHOD OF EVALUATION (percentage breakdown, if possible): (For 600-level course, indicate the Extra Work to be required of graduate students, i.e., exams, essays, etc. Please also note if a lab or tutorial will be included.)

unchanged

**5. TO PREVENT OVERLAP, IS A COURSE IN THE SAME OR A RELATED AREA OFFERED IN ANOTHER DEPARTMENT?
IF YES, PLEASE ATTACH TO THIS FORM ANY RELEVANT CORRESPONDENCE WITH THE OTHER DEPARTMENT(S).**

No

**6. IF THE COURSE IS INTENDED PRIMARILY FOR STUDENTS OUTSIDE YOUR DEPARTMENT, DO YOU HAVE THE
SUPPORT OF THE DEPARTMENT/PROGRAM CONCERNED?**

Not applicable.

PLEASE PROVIDE THE CONTACT INFORMATION FOR THE RECOMMENDED CHANGE:

Name: Alok Johri Email: johria Extension: 23830 Date submitted: March 25, 2025

If you have any questions regarding this form, please contact the Assistant Secretary, School of Graduate Studies,
cbryce@mcmaster.ca.



May 13, 2025

TO: Graduate Council

FROM: Steve Hranilovic
Vice-Provost and Dean of Graduate Studies
Co-Chair, Quality Assurance Committee

RE: 2020 – 2024 IQAP Cyclical Program Reviews

INTRODUCTION

The purpose of Institutional Quality Assurance Process (IQAP) program reviews is to assist academic units in clarifying their objectives and to assess curriculum and pedagogical policies, including desirable changes for future academic development. Although the primary objective for these reviews is the improvement of our academic programs, the processes that we adopt are also designed to meet our responsibility to the government on quality assurance. The process by which institutions meet this accountability to the government is outlined in the Quality Assurance Framework (QAF), developed by the Ontario Councils of Academic Vice-Presidents (OCAV). Institutions' compliance with the QAF is monitored by the Ontario Universities Council on Quality Assurance, also known as the Quality Council, which reports to OCAV and the Council of Ontario Universities.

The goal of McMaster's IQAP is to facilitate the development and continued improvement of our undergraduate and graduate academic programs, and to ensure that McMaster continues to lead internationally in its reputation for innovation in teaching and learning and for the quality of its programs. McMaster's IQAP is intended to complement existing mechanisms for critical assessment and enhancement, including departmental reviews and accreditation reviews. The uniqueness of each program emerges through the self-study.

All program review reports (including self studies, review team recommendations, departmental responses, and dean's implementation plans) are submitted to McMaster's Quality Assurance Committee, a joint committee of Undergraduate and Graduate Councils.

The Quality Assurance Committee assesses all submitted reports and prepares a Final Assessment Report (FAR) for each program review conducted during the previous academic session. Each FAR:

- | Identifies significant strengths of the program;
- | Addresses the appropriateness of resources for the success of the program;
- | Identifies opportunities for program improvement and enhancement;
- | Identifies and prioritizes the recommendations;

Undergraduate Council and/or Graduate Council will review this report to determine if it will make additional recommendations.

In the attached please find the FARs received by the QAC for the following review periods.

2020 – 2024 IQAP CYCLICAL PROGRAM REVIEWS

The following programs were reviewed during 2020-2021:

Graduate Program

Nursing

The following programs were reviewed during 2021-2022:

Graduate Programs

Computational Science and Engineering

Graduate Diploma in Professional Accountancy

The following programs were reviewed during 2022-2023:

Graduate Programs

Graduate Diploma in Clinical Epidemiology

Occupational Therapy

Undergraduate and Graduate Programs

Sociology

The following programs were reviewed during 2023-2024:

Graduate Programs

Child Life and Pediatric Psychosocial Care

Civil Engineering

Executive MBA

Gender and Social Justice

Master of Financial Mathematics

Undergraduate and Graduate Programs

Anthropology

Physics and Astronomy

FINAL ASSESSMENT REPORT

Institutional Quality Assurance Program (IQAP) Review

Nursing – Graduate Programs

Date of Review: May 18th and 19th, 2021

In accordance with the University Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response and assessments of the graduate programs delivered by the School of Nursing. This report identifies the significant strengths of the program, together with opportunities for program improvement and enhancement, and it sets out and prioritizes the recommendations that have been selected for implementation.

The report includes an Implementation Plan that identifies who will be responsible for approving the recommendations set out in the Final Assessment Report; who will be responsible for providing any resources entailed by those recommendations; any changes in organization, policy or governance that will be necessary to meet the recommendations and who will be responsible for acting on those recommendations; and timelines for acting on and monitoring the implementation of those recommendations.

Executive Summary of the Review

In accordance with the Institutional Quality Assurance Process (IQAP), the School of Nursing program submitted a self-study in April 2021 to the Vice-Provost and Dean of Graduate Studies to initiate the cyclical program review of its graduate programs. The approved self-study presented program descriptions, learning outcomes, and analyses of data provided by the Office of Institutional Research and Analysis. Appendices to the self-study contained all course outlines associated with the program and the CVs for each full-time member in the department.

Two arm's length external reviewers and one internal reviewer were endorsed by the Dean, Faculty of Health Sciences, and selected by the Vice-Provost and Dean of Graduate Studies. The review team reviewed the self-study documentation and then conducted a review on May 18th and 19th, 2021. The review included interviews with the Provost and Vice-President (Academic); Vice-Provost and Dean of Graduate Studies, Associate Dean, Grad Studies and Research, Assistant Dean of the School of Nursing and meetings with groups of current students, full-time faculty and support staff.

The Assistant Dean of the School and the Dean of the Faculty of Health Sciences submitted responses to the Reviewers' Report (August 2021 and November 2021). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.

Program Strengths:

Reputation for Excellence

The School of Nursing at McMaster University is recognized nationally and internationally for excellence. The School of Nursing is ranked 15th in the world (2021 Quacquarelli Symonds World University Rankings by subject) demonstrating recognized academic excellence, world renowned professors, and alumni accomplishments. The School of Nursing's leadership, and faculty are to be commended for the extensive process undertaken to revise learning outcomes and curriculum across the MScN and PhD graduate programs of study in Nursing. The PHCNP diploma is part of a 9-university collaborative program in Ontario and was not included. The rigorous process of program renewal involved literature reviews, consultations with key stakeholders and consultation with curriculum experts internationally. The focus for the consultations centered on the needs of the health system and the advanced education needs of the nursing profession.

Curriculum Designed to Prepare Nurse Leaders

The enhancements to the graduate programs are innovative and timely given the need for graduates to be prepared to take on leadership roles in the transformation of the Canadian healthcare system post-pandemic. A unique aspect of the McMaster SON graduate programs is the aim of having all graduate students as nurse leaders, an important competency of nurses within the healthcare systems. This has involved all graduate students taking a graduate course on leadership.

1.1.1 Response to Calls to Action from the Truth and Reconciliation Commission

The school's work with Dr. Bernice Downey, a nursing professor, and Indigenous Health Lead for the Faculty of Health Sciences to respond to the call for Truth and Reconciliation is a strength. Dr. Downey is a member of the Curriculum Committee and has advised throughout the curriculum revisions. In addition, Dr. Downey has played a key role in the Indigenous Health and Indigenous curriculum workshops for faculty. All graduate students are required to take online Indigenous Relationship and Cultural Safety courses, there is an Indigenous thread throughout the graduate programs' curriculum, and Dr. Downey meets with all Indigenous graduate students.

Research Support and the Appointment of an Assistant Dean of Research (note: information related to titles of SON members corrected in this paragraph)

Another quality enhancement for graduate students and professors was establishing an Assistant Dean of Research who currently holds a University Scholar Award. This role focuses on enhancing quality of doctoral student education (PhD seminar), graduate student success with national and provincial funding fellowships, and professor success with grant applications.

Student Focused Adjustments to Teaching and Enhanced Communication

The School of Nursing was required to make a rapid shift to providing courses using distance technologies in response to the COVID-19 pandemic. This was a challenge but has led to some very positive outcomes for students who commented on increased communication by having access to "town hall" sessions on Zoom. Many graduate students and professors are hoping to continue with some of the

advantages.

Program Areas for Enhancement:

The reviewers agree with the proposed areas for improvement stated in the self-study:

1.1.2 Master's Thesis Admissions and Time to Completion

The self-study report identified a decline in applicants for the Master's Thesis stream in the past 2-3 years, and a more recent increase in the number of students transferring from the Master's Thesis to Master's Course stream. Time to completion for Master's Thesis students was also identified as problematic with many students defending in their third year. The review team recommends supporting more graduate students to complete their thesis and ensure appropriate time to completion. In fact, improving time to completion may incentivize more students to enter the thesis stream. The reviewers acknowledge that this issue is not unique to McMaster and that nurses who are employed with competing demands on their time may find the course-based master's option more achievable.

The reviewers also reported some thesis students identified the need for coaching on how to work with supervisors to make plans, ensure timely feedback and best ways to make contact.

Program Response: COVID saw students switch from thesis to course because of barriers to conducting research. Recently, we have incoming students change their admission from course to thesis programs after discussion with faculty advisors and the Assistant Dean. In 2021, four incoming students will switch to the thesis program. At fall Open House and recruitment sessions, we will continue to provide information about the Masters thesis and provide consultation to interested students.

For both incoming and current Masters Thesis students, we are planning several initiatives. We will continue to ensure Thesis students have a committee meeting during term one, that includes the AD. At this time a review of the schedule for completion will be discussed. All thesis students and their supervisors will be provided information from the School of Graduate Studies about Getting the Supervisory Relationship off to a Good Start (https://gs.mcmaster.ca/app/uploads/2020/02/supervisory_relationshipjuly_222016.pdf). In addition to this, we plan to have a Town Hall meeting for thesis and PhD students to discuss the topic which will include current students to share ideas and strategies.

1.1.3 Decision on Neonatal Nurse Practitioner Program

The self-study report and the site visit confirmed that this program has not run for over seven years yet remains a program offering. Dr. Nancy Carter sits on a national advisory panel to look at the lack of Neonatal Nurse Practitioner programs in Canada, and potential for a consortium approach. Neonatal nursing was not identified as a strength of the program during the curriculum renewal process or during the site visit. The reviewers recommend that a decision be made about the Neonatal Nurse Practitioner Program as soon as possible.

Program Response: We recommend that the Neonatal Nurse Practitioner Program be closed. The Canadian Council of Registered Nurse Regulators (CCRNRR) has begun an implementation plan (The Nurse Practitioner Regulation Implementation Plan Project) to standardize NP education in Canada to the level of the generic all-ages NP role with entry-level competencies and examination. Specialized NP programs, including the Neonatal NP, will no longer be viable. Currently, the School of Nursing does not have faculty with a specialization in Neonatal Nursing. This area of nursing was not supported during the Curriculum Renewal process.

Implementation Plan

Recommendation	Proposed Follow-Up	Responsibility for Leading	Timeline
Develop a plan to ensure that early and mid-career graduate faculty receive support to develop their research and teaching expertise (capacity building strategy).	<p>Currently there are several processes in place to support early and mid career faculty:</p> <p>Research:</p> <ul style="list-style-type: none"> • Start up funds supported by SON/FHS for new faculty • Proposal for use of funds reviewed with the AD Research – within first 12 months • Grant submission and review support from AD and FHS Health Research Services • Assignment of a research mentor (senior faculty) <p>Teaching:</p> <ul style="list-style-type: none"> • Co-teaching new courses with experienced faculty • Graduate supervision privileges in first year • Support from AD Grad and AD Research for student applications for tri counsel funding and other. 	SON Leadership Team including Assistant Dean Research Assistant Dean Graduate Studies	Discuss annually
Evaluate the new graduate curriculum as planned, including tracking graduates to measure the impact of the leadership focus.	The focus of activities for the Graduate Curriculum Committee will be the development and implementation of an ongoing evaluation process. From our program perspective, leadership is not a position or title, but a skill or attribute that all nurses can possess to improve health care, education,	Assistant Dean and Graduate Program Curriculum Committee, with support from McPherson Institute	Winter 2022 for completion of plan to be carried out after 2021 2022 Academic year

	and research. It may be difficult to evaluate, but we will discuss this further.		
Increase the transparency for funding of part-time versus full-time doctoral studies.	The Assistant Dean will continue to have individual conversations with all incoming PhD students and their supervisors about funding. This information is in offer letters. Graduate faculty are provided this information at year graduate faculty orientation.	Assistant Dean and Graduate Program Admin Assistant	Ongoing
Provide guidance in working with supervisors for thesis students i.e., panel of supervisors for Q& A or a workshop.	This excellent suggestion can be organized as a virtual session in the fall. We will also send material from SGS (Getting Supervisory Relationship off to a Good Start for instance) to all student/supervisor dyads and invite current students and supervisors to attend.	Assistant Deans of Graduate Studies and Research	Fall 2021
Prioritize a discussion in the School of Nursing around the admission of International Students into Master's and Doctoral thesis programs.	An international PhD student begins the program in the fall of 2021, and there may be opportunity in the future. Discussion will occur at the SON Leadership Council, as well as the Graduate Faculty meetings. We will seek out advice from other Ontario Nursing Graduate Programs who admit international students.	SON Leadership Team, Graduate Faculty	Fall 2021 discussions
Assist students to gain a better understanding of reasonable timelines for preparation to apply for external awards i.e., CIHR, SSHRC.	Timelines for external awards deadlines are shared with students and Graduate Faculty. External award applications are also discussed at the first committee meetings students have which includes the Assistant Dean. It will be incorporated into student orientation.	Assistant Dean, Graduate Faculty	Fall 2021

Faculty Response

The Faculty thanked the reviewers, Drs. Linda Patrick, Dawn Stacey and Emma Apatu for their thorough, thoughtful, and constructive review of the graduate programs in Nursing at McMaster University. They appreciate that the reviewers identified strengths of the programs including its reputation for excellence. They agree with the reviewers that the suite of graduate nursing programs are well positioned to address the post-pandemic challenges of leadership, research, and

clinical care in the profession. They are well-supported by the vibrancy, strategic direction, and strong leadership of the School of Nursing.

They have reviewed the program's response and we support their plans to address the recommendations in the report. They are thankful for several thoughtful suggestions about the curriculum, and are confident that these will be carefully considered by the Nursing program leaders. The IQAP review was particularly timely, being well aligned to the broader strategic planning process in the School, the recent curriculum renewal, and the reappointment of the Assistant Dean, Dr. Carter. Dr. Carter and her team have clear guidance about enhancement for graduate training in Nursing over the next 5 years. They agree that support for supervisory capacity in the thesis-based programs and the evaluation of the curriculum are key priorities and will work with the School of Nursing to support their innovations in these areas. They recognize that international enrollment has been low and look forward to further discussions with the programs and the School about the advisability of international recruitment.

They extended their thanks to Dr. Carter, Dr. Carroll and the faculty and staff of the School of Nursing for their excellent work on the self-study and site visit and to Dr. Welch and his staff in the School of Graduate Studies for their support of the IQAP process.

Quality Assurance Committee Recommendation

The Quality Assurance Committee on Jan 26, 2022, recommend that the graduate Nursing programs should follow the regular course of action with an 18-month progress report and a subsequent full external cyclical review to be conducted no later than 8 years after the start of the last review.

FINAL ASSESSMENT REPORT

Institutional Quality Assurance Program (IQAP) Review

Computational Science and Engineering (M.Eng., M.A.Sc., M.Sc., Ph.D.)

Date of Review: April 11th – 13th, 2021

In accordance with the University Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response and assessments of the graduate programs offered by the School of Computational Science and Engineering. This report identifies the significant strengths of the program, together with opportunities for program improvement and enhancement, and it sets out and prioritizes the recommendations that have been selected for implementation.

The report includes an Implementation Plan that identifies who will be responsible for approving the recommendations set out in the Final Assessment Report; who will be responsible for providing any resources entailed by those recommendations; any changes in organization, policy or governance that will be necessary to meet the recommendations and who will be responsible for acting on those recommendations; and timelines for acting on and monitoring the implementation of those recommendations.

Executive Summary of the Review

In accordance with the Institutional Quality Assurance Process (IQAP), the School of Computational Science and Engineering submitted a self-study in February 2022 to the Vice-Provost and Dean of Graduate Studies to initiate the cyclical program review of its program. The approved self-study presented program descriptions, learning outcomes, and analyses of data provided by the Office of Institutional Research and Analysis. Appendices to the self-study contained the CVs for each full-time member in the department.

Two arm's length external reviewers and one internal reviewer were endorsed by the Dean, Faculty of Science, and selected by the Vice-Provost and Dean of Graduate Studies. The review team reviewed the self-study documentation and then conducted a virtual review on from April 11th – 13th, 2022. The review included interviews with the Provost; Vice-Provost and Dean of Graduate Studies, Associate Dean, Grad Studies and Research, Director of the program and meetings with groups of current students, full-time faculty and support staff.

The Director of the program and the Deans of the Faculty of Science, Engineering and Business submitted responses to the Reviewers' Report (March 2024). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.

- **Strengths**

The reviewers highlighted the program's interdisciplinary nature, its flexibility (which makes it accessible to students with a broad range of backgrounds and interests), and the very high quality of the students and faculty engaged in the program. The program was noted for its creative and innovative form of the comprehensive PhD exam, the inclusion of data analytics and artificial intelligence in the program (these are new areas of importance), engagement found in student-run seminars, and providing students with solid fundamentals in scientific computing in its core courses. The program also aligns perfectly with McMaster University's commitment to interdisciplinary learning.

- **Areas for Improvement**

The first theme is to ensure long-term viability of the program by developing a medium-term teaching plan for our core courses, broadening participation by a diverse group of faculty, and negotiating for more recognition and resources for interdisciplinary programs. The second theme, in recognition of the fact that many of our students pursue careers in industry, is to add more opportunities for development of professional skills; increase engagement with industry via alumni-focused seminars and social events; and add opportunities for co-op placements and internships. The third theme of improvement is to increase student engagement and sense of community by (among other activities) fostering a graduate student association and securing a dedicated office/interaction space for students.

Summary of the Reviewers' Recommendations with the Department's and Dean's Responses

Implementation Plan

Recommendation [bracketed numbers refer to IQAP review recommendations]	Proposed Follow-Up	Responsibility for Leading Follow-Up	Timeline for Addressing Recommendation
Theme: sustainability			
Broaden the governance structure through an expansion of the Advisory Council with attention paid to increase the diversity of the members [2]	<p>This recommendation is straightforward to implement. The two major challenges are (1) avoiding overburdening people from underrepresented groups (who are often saddled with extra service duties to support EDI (Equity, Diversity, and Inclusion) initiatives) and early-career researchers; (2) the limited diversity within the faculty members of the School as a whole. To address (1), we will consider limiting terms of service to 1 year; addressing (2) requires a more general effort, which depends on appropriate recruitment by the university (i.e., new faculty who are both computationally oriented and members of underrepresented groups). To begin to address this issue, the director/administrator will annually review the list of new hires in all participating faculties to identify any who might be suitable for CSE.</p> <p>We will replace at least one member of the advisory council with an ECR/member of an underrepresented group this year and will initiate a more formal rotation of advisory council membership (3-year terms with exceptions as stated above).</p>	Director, Associate Director (Nedialkov), Administrative Assistant (Attar-Elbard) [assisting with annual review of new hires]	Initiate immediately (recruit one new advisory council member starting fall 2023)

Develop a longer-term instructional plan (3+ years) for core courses at a minimum. This should involve identifying full-time faculty who are potential instructors for the courses, and assigning instructors on an, e.g., 3-year, basis, alternating through faculty/department as appropriate. Faculty funding for these should flow to the departments to ensure that no extra burden is put on the particular department that supplies the instructor. [3]	In the absence of additional resources, we can best approach a sustainable plan by reaching out to chairs/graduate chairs of relevant departments and discussing how CSE needs can be met in the context of departmental procedures and plans (e.g., the departments of Math & Stats and Biology only develop teaching plans one year at a time). For planning purposes, it will be useful to maintain a list of all CSE members who could be called on to teach the core courses. CSE 745 (which is best taught by SHARCnet technical staff) and CSE 780 (cross-listed as STATS 780, and subject to growing demand from all departments) are of less concern.	Director, Associate Director (developing faculty list)	Initiate discussions fall-summer 2022-2023; plan ready by fall 2023 if possible, or fall 2024 at the latest
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Theme: External engagement

Explore the introduction of co-op/internship programs [4]	The Faculty of Engineering has an existing graduate co-op program; the Faculty of Science is considering developing such a program. The administrative demands of such a program are high, but hopefully we can piggyback on the existing structures in the Faculty of Engineering or new developments in the Faculty of Science (contact: Alice O'Carroll, Director, Student Careers and Co-operative Education); the other requirement for a successful co-op program will be to work with the co-op office to develop connections with industry through our alumni and through existing industrial/agency partnerships of CSE members (e.g. Dofasco, Public Health Agency of Canada). We envision internships/co-op activities as extending the study period of a student (as with McMaster's undergraduate co-op programs), rather than needing to be	Director, Advisory Council Members, Associate Deans of Graduate Studies (Science, Engineering, Business)	Pilot offering for fall/winter 2024-2025
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	<p>done concurrently with courses and thesis research (as is done in the existing eHealth co-op program).</p> <p>In the interim, we will make sure that students are aware of funding and project opportunities through MITACS (although these projects will have to be pursued in the context of the supervisors' and students' research programs, rather than as standalone activities).</p>		
<p>Educational objectives of the Graduate Symposium be expanded to include professional development and include networking with guest lectures from alumni and other industry professionals [5]</p>	<p>We believe the best way to provide such skills is through the MacPherson Institute's (MI) offerings and newly launched Faculty of Science graduate student career and mentorship program pilots. We will encourage students to take advantage of these opportunities. We are unconvinced of the wisdom of adding requirements to the program; we will consult with students and alumni and add an appropriate mandate (e.g., for completing a specified number of hours of MI training of the student's choice) if it seems justified. The Science career and mentorship opportunities will be available to our students including the Graduate Mentorship Program and Graduate Student Career Services. These programs include workshops, alumni presentations, individual development plans, and career-related guidance by trained staff. In addition, our students have access to alumni social events organized by the Science Graduate Student Association (SciGSA) alumni events every year. These events consist of round table discussions on non- academic careers, practical advice, and Q/A session.</p> <p>We will also discuss with students and MI staff the possibility of developing additional CSE-focused professional</p>	<p>Director, Advisory Council Members, Associate Dean Graduate Studies</p>	<p>Ongoing; implement new requirements (if any) for incoming students in fall 2023.</p>

	<p>development opportunities, if these are warranted. We prefer to keep the CSE symposium focused on research and networking (see next item), rather than trying to squeeze in professional development activities as well</p> <p>Discussion of these options would be one important topic for an upcoming School retreat.</p>		
Expand networking/alumni engagement [5, 9]	<p>We will add at least one alumni seminar each term as part of the biweekly seminar schedule and plan an annual evening alumni networking event with refreshments (panel discussion + mixer), offering small honoraria to the panel speakers. This event will (hopefully) be organized by the graduate student association, with input and support from the director and admin.</p> <p>As mentioned above, the SciGSA and Engineering Graduate Society run alumni socials are other events that are available to our students.</p> <p>We will institute an annual e-mail to alumni including an opportunity to opt out of future communications or provide updated contact information.</p>	CSE Graduate Student Association, Outreach Coordinator, Director, Administrative Assistant	Late winter/spring 2023; alumni seminars to start winter 2023 if possible, otherwise fall 2023
Theme: Student and faculty engagement			
Establish a dedicated space to the CSE program, specifically desk/working space for students and shared spaces for student interactions [6]	Like several other items above, this item depends on external resources. We will make this part of our post-IQAP discussions with Deans and the Provost (in the context of initiating the Provost's review). In the short term, we will see whether any space may be available in library facilities. If possible, we will engage with the campus master planning exercise to advocate for space for interdisciplinary programs.	Director, Advisory Council Members	Space secured by beginning of fall 2024, if possible.
Enhanced orientation for	We will add a social event and short	Director,	Immediate (fall

<p>incoming students in addition to the information session that is currently provided with interaction between incoming and more senior students. The orientation should include a follow- up meeting with each individual student to ensure any residual issues the student may have been addressed.</p> <p>The graduate coordinator should take responsibility for communicating with the graduate coordinators of the incoming students' home departments to ensure that the incoming students are properly integrated into their home departments. [7]</p>	<p>'entrance interviews' to the standard orientation activities. We will develop a standard set of questions for graduate chairs of supervisors' home departments (e.g., "what provisions are there for desk/office space? are CSE students included in orientation activities/added to departmental mailing lists?") and communicate before the beginning of the term.</p>	<p>Administrative Assistant (assemble list of graduate chairs; assist in scheduling interviews)</p>	<p>2022)</p>
<p>Initiate a CSE Graduate Student Association [8]</p>	<p>We are in the process of assembling an exploratory committee of graduate students to form a CSE graduate student association. The students will decide which themes they would like to emphasize but organizing social activities (weekly/biweekly/monthly) will be encouraged.</p>	<p>Graduate students, with input/encouragement from Director</p>	<p>Immediate (fall 2022)</p>
<p>Graduate student participation in advisory council, outreach etc.; student activities/ outreach coordinator [3, 8]</p>	<p>We plan to continue the participation of a graduate student liaison on the Advisory Council. It may work to combine this role with the presidency of the proposed CSE graduate student association (GSA), but we will consult with the students before making this decision (for example, if the CSE GSA focuses on organizing social events, it may make sense for these to be separate roles). Ideally, the CSE GSA would nominate one or more candidates for the</p>	<p>Director, Graduate Students</p>	<p>Hiring graduate student outreach coordinator in winter 2023</p>

	<p>liaison position. We do not think it makes sense to organize a formal graduate student caucus; we will leave the organization of graduate student consensus/decision-making up to the students, to be communicated with the director and advisory council via the graduate student liaison.</p> <p>To our knowledge it is unusual for graduate student association presidents or liaisons to be paid a stipend. Instead, we envision recruiting one student volunteer per year as an admin/outreach coordinator. This position may (but would not necessarily) go to the same student who is serving as GSA president/liaison. The student's duties would include connecting with the Science Graduate Career manager, Science alumni coordinator, and SciGSA to help organize the annual networking/panel event and maintenance of the web site.</p>		
More robust and systematic surveys and exit interviews of current students and alumni [9]	<p>We will implement an annual spring survey of current students, covering current plans (more feedback on PhD student progress/planned completion will be helpful, although the University-administered supervisory committee reports can also shed light on this) and intended next steps for finishing students; course enrolment plans and requests for the next academic year; and general sentiment/opportunity to express concerns.</p> <p>Periodic alumni surveys (every 3-5 years).</p>	Director, Associate Director, Outreach Coordinator	Spring 2023
Development of a Faculty mentorship model to encourage participation of young faculty in interdisciplinary supervisions [10]	Faculty mentorship will also be considered by new faculty members' home departments; we will communicate with home-department chairs about how CSE can complement existing mentorship plans, and to open the discussion about how appropriate	Director, Associate Director	Social event "immediately" (October 2022); discussions with chairs before fall 2023.

	credit can be given for teaching courses and supervising students in CSE. We will hold an informal social event in October (after the first rush of McMaster onboarding etc.), inviting all incoming CSE faculty and including some established faculty.		
Hold a regular School retreat (e.g., every two years) [11]	We will plan a retreat for December 2022. We are still deciding on the scope (faculty plus 'graduate caucus' vs. including all graduate students); it may work to hold a retreat/full-group meeting every year, alternating between faculty- focused and graduate-focused events.	Director, Associate Director, Administrative Assistant	Initial retreat mid-December 2022 (this event was run, and was well attended by faculty and students)
Introduce resources and have enhanced information for prospective students. Ensure applications are processed on the same timeline or before those of participating departments. [12]	In addition to enhancing material on the web (see Recommendation #13 below), we will hold at least one live/synchronous informational session for prospective students; this will be held online via Zoom, for the benefit of prospective students from outside McMaster, but we will publicize the event within McMaster as well, especially by contacting instructors of potential "feeder" courses (upper-level numerical and computational science courses).	Director, Associate Director, Administrative Assistant	Mid-November 2022
Improve online presence with a view to enhance student recruitment. Complete a periodic review of the information, links and program membership displayed on the web pages [13]	Issues with the size of the faculty list and faculty web page links (trimming and link-checking) are already resolved. We will reorganize and add material for prospective students, specifically useful information, and tips for identifying a prospective supervisor.	Director, Outreach Coordinator	First round of improvements (focused on prospective students) by November 1 (opening of application window for fall 2023); other improvements on an ongoing basis,

Faculty Response

We sincerely thank all the reviewers for their thorough and constructive review of McMaster's School of Computational Science and Engineering (CSE) graduate program. This Dean's response is submitted jointly between the Faculties of Science, Engineering, and DeGroote School of Business given the CSE Graduate Program is a joint program between these three Faculties.

The CSE Program leadership has provided a detailed, point-by-point response, along with specific actions, and timelines. We have reviewed the program's response to the review and agree with proposed plans and timelines for improvement and enhancement. Many of the recommendations are already implemented or will be addressed soon. Below is our response to their recommendations.

Program Governance [2, 8]: We recognize that the inclusion of a diverse membership including students within the CSE Advisory Council is critical. CSE has identified next steps and how this diverse governance body will be achieved moving forward. As noted in the program response, graduate students are part of the Advisory Committee and participate in decision making. We will work with CSE to review the current process and ways to improve future involvement and communications with the student community. We will encourage the formation of a CSE Graduate Student Association by working with the Science Graduate Student Association (SciGSA).

Long-term Instruction Plan [3]: We support CSE's response to this recommendation while recognizing that additional faculty and instructional resourcing is limited. We will work with CSE in identifying an optimal solution to the need for a longer-term instructional plan while recognizing and working within the resources that are currently available.

Explore the introduction of co-op / internship programs [4]: The Faculty of Engineering will offer guidance to the Faculty of Science as it explores opportunities for Work Integrated Learning (WIL) within graduate programs through the Associate Dean of Graduate Studies

(Science) office and the Science Career & Cooperative Education (SCCE) office. The demand for WIL was expressed in a Career Needs Assessment for Science Graduate Students conducted earlier in 2023. SCCE will continue to explore opportunities for WIL over the 2023/24 academic year. Students in CSE graduate programs will have the opportunity to participate in these initiatives and be able to network with alumni, receive career guidance, acquire new sets of skills through workshops and microcredentials, and have experiential learning opportunities.

Expand professional development opportunities [5]: We will continue to support students in CSE expand their professional development opportunities through existing groups and activities

such as McMaster's MacPherson Institute, the SciGSA, and the Faculty of Science's Graduate Mentorship Program and Graduate Student Career Services. They may also use online tools for professional development already built by the Faculty of Engineering. We see these as critically important opportunities for our students given that many will not continue in academia and instead work in the private or public sector.

Expanded Engagement: Opportunities for expanded engagement with alumni [5, 9] and students and faculty [7] were noted in the review. The issues of expanding networking and alumni engagement, improved orientation activities, interaction between junior and senior graduate student collaborations and cross-disciplinary activities is important. The program response has mentioned a few ideas that are being explored. We support CSE in taking steps to address the recommendations and look forward to working with them in meaningful ways. In addition, the School of Graduate Studies (SGS) recognizes that the creation of community among our graduate students is critical. Alumni engagement and networking is also being explored by the SCCE office through the inclusion of Work Integrated Learning (WIL) as part of its graduate programming initiatives.

CSE Program Space [6]: We recognize the importance for programs to identify space as their own which enable a touch point for students, staff, and instructors alike. Given space and budget constraints on campus, however, there is little opportunity to provide dedicated space to CSE. We will continue to work with CSE and to identify alternatives.

Student surveys [9]: We appreciate the recommendation of developing more robust and systematic surveys and exit interviews of CSE students. While not all options will be time effective and informative, we will draw on examples of how other units in Science survey students and work with CSE to identify the best way(s) to survey students on an ongoing basis.

Faculty mentorship [10]: We recognize that faculty mentorship, particularly for new faculty, is a critical component of successful career development. Together with the Provost's Office and the MacPherson Institute, the Faculty of Science implemented a new faculty mentorship program in 2019-2020. We will continue to foster mentorship and faculty teaching and research collaborations across the Faculties to ensure that students have access to the excellent supervision and research opportunities in all three Faculties.

Regular School Retreats [11]: Regular retreats are encouraged to develop community and discuss plans and needs for the unit. We support CSE's response and will encourage these provided there is a clear mandate for events.

Student recruitment [12, 13]: We recognize the importance of student recruitment events and ensuring resources are available for students interested in the program. CSE has identified online recruiting events for prospective students and are encouraged to continue these. In

addition, SGS holds several on-campus recruitment events, and we will encourage CSE participation in these.

Quality Assurance Committee Recommendation:

McMaster's Quality Assurance Committee (QAC) reviewed the above documentation at the May 2024, meeting. The committee recommends that the **Computational Science & Engineering** program should follow the regular course of action with an 18-month progress report and subsequent full external cyclical review to be conducted no later than eight years after the start of the last review.

FINAL ASSESSMENT REPORT

Institutional Quality Assurance Program (IQAP) Review

Professional Accountancy G. Dip.

Date of Review: June 13th, 2022

In accordance with the University Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response and assessments of the graduate diploma in Professional Accountancy. This report identifies the significant strengths of the program, together with opportunities for program improvement and enhancement, and it sets out and prioritizes the recommendations that have been selected for implementation.

The report includes an Implementation Plan that identifies who will be responsible for approving the recommendations set out in the Final Assessment Report; who will be responsible for providing any resources entailed by those recommendations; any changes in organization, policy or governance that will be necessary to meet the recommendations and who will be responsible for acting on those recommendations; and timelines for acting on and monitoring the implementation of those recommendations.

Executive Summary of the Review

In accordance with the Institutional Quality Assurance Process (IQAP), the Professional Accountancy program submitted a self-study in June 2022 to the Vice-Provost and Dean of Graduate Studies to initiate the cyclical program review of its diploma. The approved self-study presented program descriptions, learning outcomes, and analyses of data provided by the Office of Institutional Research and Analysis. Appendices to the self-study contained all course outlines associated with the program and the CVs for each full-time member in the department.

Two arm's length external reviewers and one internal reviewer were endorsed by the Dean, Faculty of Business, and selected by the Vice-Provost and Dean of Graduate Studies. The review team reviewed the self-study documentation and then conducted a modified desk-audit review on June 13th, 2022. The visit included interviews with the Vice-Provost and Dean of Graduates Studies, Associate Dean, Grad Studies and Research and Director of the Program.

The Director of the Program and the Dean of the Faculty of Business submitted responses to the Reviewers' Report (August 2022 and August 2023). Specific recommendations were discussed, and clarifications and corrections were presented. Follow-up actions and timelines were included.

- **Strengths**

- A key GDPA strength is that is accredited by CPA Ontario, thus being an attractive alternative for the many students hoping to earn a CPA designation
- The establishment of a common case-based midterm and final exam
- Personalized feedback provided to students on the Midterm exam following Common Final Examination (CFE) guidelines
- McMaster's GDPA is attractive to accounting graduates working in the Hamilton area, especially with the resumption of in-person instruction.

- **Areas for Enhancement or Improvement**

- Use of tenure track faculty should be encouraged, not discouraged
- More administrative support is needed
- Historically, the CFE pass rate has not been as strong as might be expected for an accredited program, but the move to a "hard" B+ entrance requirement should help to improve results over time. Due to the size of the program, the results should be assessed over multiple years, as any one year of pass rate results may could vary significantly from a long-term trend.

Summary of the Reviewers' Recommendations with the Department's and Dean's Responses

Please outline the recommendations made by reviewers and indicate how you plan to address the recommendations in the chart below.

Recommendation	Proposed Follow-Up	Responsibility for Leading Follow-Up	Timeline for Addressing Recommendation
1. <i>Per the self-study report (p. 10) "... since 2021, on the direction of then Dean Len Waverman, regular full-time tenure/tenure track faculty members were asked not to teach in the program in order to deploy academic capacity to teach other regular MBA or UG courses or use that time to further the research mission of the school and the university. Consequently, regular</i>	<p>The program recognizes the Review Committee's recommendation for tenure and tenure track faculty, and agrees that instructor continuity is of benefit to the students in the program.</p> <p>The program feels there are many benefits to students by continuing with regularly returning sessional instructors including a closeness to changing industry trends, innovation and developments in</p>	Dr. Emad Mohammad Mr. Aadil Juma	Summer 2023

<p><i>tenure and tenure track faculty are not teaching in the GDPA program.” Similarly, teaching in the Graduate Diploma program is not counted towards faculty members’ teaching load in the DeGroote School of Business. In 2022, we noted that no tenured or tenure-track faculty are teaching in the GDPA. The extensive use of sessionals reduces the continuity in the program and the potential benefits of students learning from instructors with research experience. We recommend that tenured and tenure-track faculty be encouraged to teach in the GDPA as part of their regular teaching load and/or on an overload basis. This would better allow the program to contribute to the attainment of University priorities relating to teaching and scholarship.</i></p>	<p>common practice, networking opportunities, and insights into hiring practices.</p> <p>It was noted in a meeting with CPA Ontario in 2023 that students who have taken the DeGroote GDPA program have an 11% higher pass rate of the “CFE” (CPA examination) than students taking the program through CPA Ontario, as well as a higher pass rate against other schools offering a similar program, indicating the strength of our instructors.</p> <p>The Area and Program Director oversee the attainment of University priorities related to teaching and scholarship within the program, and meetings are held bi-annually with instructors to align these priorities with in course materials.</p>		
<p><i>2. Our discussions indicate that since the inception of the GDPA approximately 8 years ago, the stipend for teaching in the program has not increased. For example, sessionals (who make up the majority of those teaching in the program) have received \$10,500 per course since</i></p>	<p>A salary increase was approved by the Dean’s Office, DeGroote School of Business for the 2023 academic year. Instructor salaries were increased from \$10,500 per course in 2022 to \$11,200 per course in 2023. This increase is higher than sessional instructor salaries in other DeGroote programs, which</p>	<p>Dr. Emad Mohammad Mr. Aadil Juma</p>	<p>Summer 2023</p>

<p><i>inception. We recommend that the compensation for those teaching in the program be reviewed to ensure that is (and remains) competitive and sufficient to attract experienced faculty, including tenured and tenure-track faculty, to teach in the program.</i></p>	<p>is currently \$10,200 per course.</p> <p>The program also feels this compensation amount is competitive compared to other institutions offering a similar program. For example, the Director of the GDPA program at Toronto Metropolitan University shared that their instructors are paid \$6300 or \$8500 per course depending on their contract agreement.</p>		
<p><i>3. We note that the entrance average for admission to the GDPA was increased to a “hard” B+ (that is, no exceptions) several years ago based on a review of the program by CPA Ontario. We believe that such an increase is warranted to help ensure that the pass rate on the CPA examinations (the “CFE”) increases to a more acceptable range. We also note that one of the University’s key priorities is “to aspire to embed an inclusive approach that intentionally engages and represents a diversity of peoples, perspectives, and ways of knowing, in everything we do at McMaster University.” We recommend that after the pass rate on the CFE increases to a more sustainable rate (above 80%) the GDPA</i></p>	<p>As noted above, it is our understanding that graduates of DeGroote’s GDPA program are more successful in the “CFE” (CPA examination) than students taking similar courses at CPA Ontario or other institutions.</p> <p>Based on this understanding, the program required admissions criteria (B average in the final two years of study) will be removed for the 2025 admissions cycle.</p> <p>The B+ average entrance requirement highlighted by the Review Committee is a requirement mandated by the School of Graduate Studies; therefore, we are unable to remove this entrance average. However, this average is not a “hard” B+ and the program regularly considers applicants who do not meet this criterion for admission to the program. The</p>	<p>Dr. Emad Mohammad Mr. Aadil Juma</p>	<p>Summer 2023</p>

<p><i>assess whether the B+ entrance requirement is limiting the ability of a diverse cohort of students from entering the program. For example, is the level of diversity in the GDPA consistent with the level of diversity in McMaster's undergraduate Bachelor of Commerce program?</i></p>	<p>program administration manually assesses these applicants, and letters of support may be written to the School of Graduate Studies if an offer for admission is believed to be warranted by the program.</p>		
<p><i>4. Our discussions indicate that there is a lack of administrative support in the GDPA. Yvonne Kwok was the former Program Administrator however, due to term limits at McMaster University, she is no longer eligible to remain in that role. We recommend that a Program Administrator be appointed (such as Yvonne Kwok) reporting to the Program Director.</i></p>	<p>The program administration has returned to the DeGroote Student Experience office and an Admissions Officer and Academic Associate have been assigned. The Program Director feels the appointment of these two positions has been an asset to the program.</p>	<p>Dr. Emad Mohammad Mr. Aadil Juma</p>	<p>Summer 2023</p>
<p><i>5. The Executive Committee charged with overseeing the Graduate Diploma of Professional Accountancy program does not appear to meet regularly. The Committee should meet at least once per year to review curriculum matters, faculty recruitment and CPA</i></p>	<p>Conversations with the Program Director, Area Chair, and Manager of Student Experience occur as emerging items arise (such as the recent question of retaining 4AF3 as an admissions prerequisite).</p> <p>There is a continuous drive for improvement within the program, reflected in the regular meetings of the</p>	<p>Not Applicable</p>	<p>Not Applicable</p>

<p><i>Examination pass rates. This will be of increased importance as a new GDPA Director has recently been appointed.</i></p>	<p>program administration, specifically in the Winter term during the admissions process. While there is limited opportunity for academic discretion due to CPA Ontario regulations, pass rates and areas for improvement within the program are shared with instructors with a goal of finding development opportunities.</p> <p>Year-end debriefs with instructors and regular Area meetings address larger concerns, while additional meetings are scheduled directly with individual instructors as necessary throughout the program duration.</p>		
<p><i>6. As noted above, there are several universities in Ontario accredited by CPA Ontario to deliver the final CPA courses needed prior to Capstone 1 and 2 offered by CPA Ontario and the CPA Common Final Examination. A key advantage for these programs, particularly once in-person instruction resumes, is serving the local market where students either attend university and/or have moved to work. Thus, convenience of location is critical. Both faculty teaching in the program and students alike appear to favour locating the CGPA</i></p>	<p>The Program agrees with the Review Committee's recommendation for the below reasons:</p> <ol style="list-style-type: none"> 1. As the administrative staff and Student Experience office are located on main campus, it is of benefit to the students to be able to access these supports and services easily. 2. Students have shared that many already have housing secured near main campus, making it easier for them to commute to their classrooms. 		

<i>classes on the McMaster main campus rather than at the QEW satellite campus. We recommend that GDPA classes be held on an ongoing basis at the main campus of McMaster University.</i>	As such, we support the recommendation for GDPA classes to be held at main campus in future years.		
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Faculty Response

The Dean thanked the review team members and noted that the assessment is confirmation of the need for a Graduate Diploma in Professional Accountancy program, and a reflection of the commitment of the team.

The review team identified several areas of improvement, and the Program Director has addressed the recommendations in the Program response and implementation plan. Below, the Dean commented on each.

1. **Teaching Personnel:** we expect this issue to be addressed with the significant growth in faculty hiring at the School of Business over the next three years. I am in support of tenure/tenure track faculty teaching professors teaching in this program on an overload basis. Additionally, we feel that there are professionally qualified sessionals who are committed to teaching in this program on a regular basis.
2. **Teaching Stipend:** The stipend for our sessional instructors in the GDPA is higher than our general sessional instructor rates and it was increased again this year. We will continue to monitor this rate going forward.
3. **Student Diversity:** We agree that diversity is important in all our programs including GDPA and have asked the program directors to continue to monitor diversity in their programs and take actions to rectify lack of diversity as appropriate. However, we don't feel that diversity is directly related to admission GPA.
4. **Administrative Support:** All programs in the Faculty of Business are provided with the required administrative support through our student experience office and this program is no exception. At this time, the GDPA has access to an Admissions Officer and an Academic Associate from the student experience staff.
5. **Course Venue:** We agree with this recommendation and understand that the program has already implemented it.

Quality Assurance Committee Recommendation:

McMaster's Quality Assurance Committee (QAC) reviewed the above documentation at the May 2024, meeting. The committee recommends that the **Professional Accountancy** program should follow the regular course of action with an 18-month progress report and subsequent full external cyclical review to be conducted no later than eight years after the start of the last review.

FINAL ASSESSMENT REPORT

Institutional Quality Assurance Program (IQAP) Review

Graduate Diploma in Clinical Epidemiology

Date of Review: February 28th, 2023

In accordance with the University Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response and assessments of the Graduate Diploma in Clinical Epidemiology. This report identifies the significant strengths of the program, together with opportunities for program improvement and enhancement, and it sets out and prioritizes the recommendations that have been selected for implementation.

The report includes an Implementation Plan that identifies who will be responsible for approving the recommendations set out in the Final Assessment Report; who will be responsible for providing any resources entailed by those recommendations; any changes in organization, policy or governance that will be necessary to meet the recommendations and who will be responsible for acting on those recommendations; and timelines for acting on and monitoring the implementation of those recommendations.

Executive Summary of the Review

In accordance with the Institutional Quality Assurance Process (IQAP), the Graduate Diploma in Clinical Epidemiology leadership submitted a self-study in December 2022 to the Vice-Provost and Dean of Graduate Studies to initiate the cyclical program review of its program. The approved self-study presented program descriptions, learning outcomes, and analyses of data provided by the Office of Institutional Research and Analysis. Appendices to the self-study contained the CVs for each full-time member in the department.

Two arm's length external reviewers and one internal reviewer were endorsed by the Dean, Faculty of Health Sciences, and selected by the Vice-Provost and Dean of Graduate Studies. The review team reviewed the self-study documentation and then conducted a modified desk-audit review on February 28th, 2023. The review included interviews with the Vice-Provost and Dean of Graduates Studies, Associate Dean, Grad Studies and Research and Director of the Program.

The Director of the program and the Dean of the Faculty of Health Sciences submitted responses to the Reviewers' Report (April and December 2023 respectively). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.

- **Strengths**
 - Students provided both synchronous and asynchronous online learning options.

- Diverse instructors with strong backgrounds in clinical epidemiology and strong links to hospital and clinical settings.
- **Areas for Improvement**
 - Revisit the GDCE Program philosophy of making a core clinical epidemiology program that is accessible, given cost of the program.
 - Clarify wording of program learning outcomes (PLO) 4 & 6:
 - *Critically appraise the quantitative research methods used in published articles and research protocols after conducting a systematic review that requires the assessment of risk of bias and certainty of the evidence;*
 - *Use the updated reference lists of the GDCE courses to understand how the rapidly evolving nature of clinical epidemiology seeks to overcome the methodological limits of the discipline*
 - Collect data in a systematic fashion from faculty and students to assess whether the current Learning Outcomes are met and whether resources are adequate to meet the program requirements.
 - Require that students admitted have completed a basic undergraduate course in research statistics (i.e., that covers the basics of elementary probability, basic descriptive statistics, hypothesis testing, and introductory parametric/nonparametric tests).
 - The program does not include a foundations course in epidemiology. It is recommended to cover foundations in epidemiology with one of three approaches: 1) the Program considers requiring applicants to have completed an introductory epidemiology course before admission; 2) a foundations course in epidemiology will be added into the GDCE curriculum as a fifth course; 3) a foundational course in epidemiology replaces the HTHRSM 771 course.
 - If the GDCE team does not take action based on Recommendation 5, consider changing the name of the program to include all methods taught (e.g. 'Graduate Diploma Program in Clinical Research Methods').
 - If HTHRSM 771 remains in the curriculum, update the Program Learning Outcomes, analysis course (HTHRSM 774), and systematic review course (HTHRSM 773) to include learning goals, analysis, and systematic review methods as relevant for qualitative research, as qualitative research is introduced in HTHRSM 771 but does not appear in any of the other courses.
 - The Program Learning Outcome "Understanding biostatistics at a level sufficient to complete a results/discussion section of a scientific paper" may be difficult to achieve with a single biostatistics course. If action is taken for Recommendation 4, the emphasis on basic statistics could be reduced in favour of more hands-on instruction on relevant biostatistical methods in clinical epidemiology using analytic software in the lectures and tutorials. Selecting a specific software for students in this class is also recommended.

- Enhance student interaction with the pool of core faculty members to enrich their learning and educational experience within GDCE.
- To enhance the program's diversity in terms of students and offerings, three recommendations are made: 1) EDI training for all faculty members involved in GDCE teaching; 2) Funding support to applicants from low-resource settings, both nationally and globally; 3) Add more online courses to widen the range of options for students.

Summary of the Reviewers' Recommendations with the Department's and Dean's Responses

Implementation Plan

Clarifications for table:

- HEI leadership = Chair, Associate Chair of Faculty Affairs and EDI-IR, and Associate Chair of Education
- GDCE Program Committee = GDCE central team, admissions committee, course coordinators, tutors, student ambassador, HEI chair, department manager and communications manager, and non-HEI representatives as needed.
- HEI Educational Council = Associate Chair of Education and leads of all graduate programs in HEI, i.e. Health Research Methodology MSc and PhD, Master of Public Health, e-Health MSc, Health Policy PhD, Public Health and Preventive Medicine Residency, Graduate Diploma in Clinical Epidemiology, and Graduate Diploma in Community and Public Health.

Recommendation	Proposed Follow-Up	Responsibility for Leading Follow-Up	Timeline for Addressing Recommendation
1. Revisit the GDCE Program philosophy of making a core clinical epidemiology program that is accessible, given cost of the program.	Discuss with the GDCE Program Committee and HEI leadership.	Program Director	Discuss in 2023. If GDCE costs are changed, implement September 2024 at the earliest.
2. Clarify wording of PLO 4 & 6.	Revise the wording for these PLOs for clarity. Obtain feedback on planned revisions by educational developer.	Program Director	Revise in 2023.
3. Collect data systematically to assess	Review and revise course-specific and program-specific	Program Manager	Review in 2023. Changes will be implemented

achievement of PLO's and adequacy of resources.	<p>evaluation surveys to ensure adequate information is captured at the optimal time.</p> <p>Obtain feedback on planned revisions by educational developer.</p>		September 2023 - August 2024.
4. Require basic statistics course either for applicants or add to curriculum.	Discuss with the GDCE Admissions Committee, GDCE Program Committee, and HEI Educational Council.	Program Director	Discuss September-December 2023. If decided to add requirement, implement September 2024 at the earliest.
5. Cover foundations in epidemiology, as admissions requirement or in GDCE courses.	Discuss with the GDCE Admissions Committee, GDCE Program Committee, and HEI Educational Council.	Program Director	Discuss in 2023, together with Recommendation 6. Selected solution will be implemented in 2024-25.
6. If no action is taken for Recommendation 5, consider changing the program name (e.g. 'Graduate Diploma in Clinical Research methods').	Discuss with the GDCE Admissions Committee, GDCE Program Committee, and HEI Educational Council.	Program Director	Discuss in 2023, together with Recommendation 5. Selected solution will be implemented in 2024-25.
7. Update the PLO, analysis course, and systematic review course to include qualitative learning goals, qualitative analysis, and qualitative systematic review methods in line with HTHRSM 771.	Discuss with the GDCE Program Committee, and HEI Educational Council.	Program Director	Discuss in 2023. Selected solution will be implemented in 2024-25.
8. If Recommendation 4 is implemented, provide more hands-on instruction on relevant biostatistical methods in clinical epidemiology using analytic software. Selecting a specific software for students in	Discuss with the GDCE Admissions Committee, HTHRSM 774 course coordinator, GDCE Program Committee, and HEI Educational Council.	Program Director	Discuss in 2023, together with Recommendation 4. Selected solution will be implemented in 2024-25.

this class is also recommended.	Note: all GDCE students are already receiving access to SPSS software for the HTHRSM 774 course.		
9. Enhance student interaction with the pool of core faculty members.	Discuss with the GDCE Program Committee.	Program Manager	Discuss in 2023. Selected solution will be implemented in 2024-25.
10. EDI training for all teaching faculty, provide funding support to applicants from low-resource settings, and provide additional online courses.	Discuss with HEI leadership and GDCE Program Committee: 1) enforcement of EDI training for all teaching faculty; 2) potential avenues for funding support for applicants from low-resource settings. Discuss with the GDCE Admissions Committee, GDCE Program Committee, and HEI Educational Council the addition of available or new online courses.	Program Director	Discuss with HEI leadership in 2023. Discuss addition of online courses in 2024.

Faculty Response

The reviewers note strengths of the program, including the effective mix of synchronous and asynchronous online learning strategies and the participation of instructors with strong backgrounds in the discipline and links to clinical settings. They offer ten recommendations for improvement.

We are confident that the program will consider these recommendations carefully and will respond appropriately. The report poses some interesting challenges to fundamental features of the GDCE in two main aspects.

The reviewers question whether applicants are arriving to the diploma with sufficient background in epidemiology and statistics, whether they have sufficient interaction with faculty during the program, and whether they emerge with sufficiently advanced skills. It is important to note that although the diploma is not a degree, it is derived from the Health Research Methodology master's program. But we acknowledge that the program should take seriously the implied question about whether the program is meeting the needs of its graduates and challenge them to implement a rigorous, ongoing plan to evaluate this.

The reviewers raise questions about the program's "accessibility", by which they appear to mean barriers to enrolment due to the cost of tuition. This diploma program seems to successfully respond to widespread calls for flexible, part-time, online curriculum to address the growing barriers to traditional, full-time, in-person study. Furthermore, the program operates in the financial context of the Department of Health Research Methods, Evidence, and Impact, in which the accessibility of other educational programming is crucially supported from GDCE revenue. Nonetheless, we agree that the program will need to consider whether the international influence and reach of the program is a priority and how to support this, given the fees.

Quality Assurance Committee Recommendation:

McMaster's Quality Assurance Committee (QAC) reviewed the above documentation at the April 2024, meeting. The committee recommends that the **Graduate Diploma in Clinical Epidemiology** program should follow the regular course of action with an 18-month progress report and subsequent full external cyclical review to be conducted no later than eight years after the start of the last review.

FINAL ASSESSMENT REPORT

Institutional Quality Assurance Program (IQAP) Review

Occupational Therapy, M.Sc.

Date of Review: May 1st and 2nd, 2023

In accordance with the University Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response and assessments of the M.Sc. in Occupational Therapy. This report identifies the significant strengths of the program, together with opportunities for program improvement and enhancement, and it sets out and prioritizes the recommendations that have been selected for implementation.

The report includes an Implementation Plan that identifies who will be responsible for approving the recommendations set out in the Final Assessment Report; who will be responsible for providing any resources entailed by those recommendations; any changes in organization, policy or governance that will be necessary to meet the recommendations and who will be responsible for acting on those recommendations; and timelines for acting on and monitoring the implementation of those recommendations.

Executive Summary of the Review

In accordance with the Institutional Quality Assurance Process (IQAP), the M.Sc. in Occupational Therapy program submitted a self-study in March 2023 to the Vice-Provost and Dean of Graduate Studies to initiate the cyclical program review of its program. The approved self-study presented program descriptions, learning outcomes, and analyses of data provided by the Office of Institutional Research and Analysis. Appendices to the self-study contained the CVs for each full-time member in the department.

Two arm's length external reviewers and one internal reviewer were endorsed by the Dean, Faculty of Health Sciences, and selected by the Vice-Provost and Dean of Graduate Studies. The review team reviewed the self-study documentation and then conducted a virtual review on May 1st and 2nd, 2023. The review included interviews with the Deputy Provost; Vice-Provost and Dean of Graduate Studies, Associate Dean, Grad Studies and Research, Assistant Dean of the program and meetings with groups of current students, full-time faculty and support staff.

The Assistant Dean of the program and the Dean of the Faculty of Health Sciences submitted responses to the Reviewers' Report (July and December 2023 respectively). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.

- **Strengths**

- **Program:** Mission and vision are aligned with priorities and goals of the university, faculty, and school. The Program Learning Objectives (PLOs) are linked to the Degree Level expectations and the method for assessing PLOs is clearly described.
- **Admissions:** The admissions requirements clearly link to the PLOs as well as the Competencies for Occupational Therapists in Canada (COTC, the OT professional requirements). There is a clearly described commitment to Equity, Diversity, and Inclusion (EDI) which is forward thinking.
- **Curriculum:** Faculty research is incorporated into the curriculum; use of technology is embraced in teaching methods and curriculum mapping. EDI, including accessibility, is a priority and is being implemented with strong leadership (Prof. Dhillon).
- **Teaching and Assessment:** Problem based learning, teaching and assessment methods are effective and leading edge.
- **Resources to Meet Program Requirements:** The human resources and physical space are adequate for Program delivery. The budget structure provides some funding for creative ideas and initiatives within the Program.
- **Quality Indicators:** The OT faculty are recognized as international leaders in the field; the Program has high graduation (and low attrition) rates.
- **System of Governance:** Although complex, the governance systems meet the Program needs and accreditation requirements.
- **Academic Services:** Students commented on the opportunities for involvement within the Program, the opportunity to provide feedback which is addressed by faculty and staff; available resources are structured to compliment the curriculum.

- **Areas for Improvement**

The Review Committee did *not* identify any areas for Improvement.

The Review Committee did identify areas for Enhancement. These include (verbatim from report):

1. The excellence of the OT program is its people. Dedicated faculty, staff, and students work together with a strong commitment to Problem-Based Learning. Faculty and staff are working incredibly hard, and it will be important to monitor the sustainability of the human resources delivering the Program so as to avoid stress and burnout.
2. Dr. Bosch is an exceptional leader, and should she not seek a second term, it will be necessary to think about succession planning to ensure the continuity of this high-quality Program.
3. The new curriculum and the Program Learning Model are innovative, focus on outcomes, and address the competencies. It will be important to undertake program evaluation and ensure the outcomes are achieved.
4. The new admissions process and the use of Kira software is creative. While it has allowed for an increased number and diversity of people interviewed, it will be important to ensure an increased diversity in the OT evaluators in the process.
5. As technology continues to advance, it will be important to ensure classroom technology continues to meet the needs of faculty, staff and students.

Summary of the Reviewers' Recommendations with the Department's and Dean's Responses

Implementation Plan

Recommendation	Proposed Follow-Up	Responsibility for Leading Follow-Up	Timeline for Addressing Recommendation
1. Monitor the sustainability of the human resources delivering the Program as to avoid stress and burnout	Ongoing. Monitoring burnout has been a consistent area of review. The 2023 Climate Survey Results (not available at the time of the Reviewers' On-site visit), completed by faculty, staff and research staff, indicates that the faculty and staff are overall satisfied with the SRS (80.4%), and 15% had concerns about time to do role adequately. We will continue to review faculty workload at annual reviews. Staff will consult and communicate with their supervisor and/or the Director of Administration about ongoing workload.	Faculty: SRS Vice Dean OT Program Assistant Dean Staff: SRS Director of Administration	April 15, 2024 Summary of outcome of discussions and plans for next steps
2. Consider succession planning to ensure the continuity of this high-quality Program	Ongoing. Faculty at all levels are encouraged to consider further leadership and training opportunities (e.g., Acting Assistant Dean when incumbent is off-line for extended periods, chairing committees, FHS Leadership training). The SRS Vice Dean can explore interest in the Assistant Dean position during 2024 Annual Reviews	SRS Vice Dean OT Program Assistant Dean	March 2024 Annual Reviews
3. Important to undertake program evaluation and ensure the outcomes are being achieved with the new curriculum mapping and Program Learning Model	The OT Curriculum Committee underwent the first curriculum review using Appendix 4.1C SOP Curriculum Review. This SOP outlines the steps taken to ensure the outcomes are achieved and now requires review and revision to capture lessons learned from the first review, which includes a better description of the faculty's curriculum expectations, as suggested by the Reviewers.	Curriculum Chair Program Quality Improvement Chair Assistant Dean, OT Program	January 1, 2024
4a. Important to ensure an increased diversity in	Already underway: We agree with the reviewers' suggestions and have implemented a tracking system as part of the Admissions	Admissions Committee Chair	November 15, 2024 (review of diversity

Recommendation	Proposed Follow-Up	Responsibility for Leading Follow-Up	Timeline for Addressing Recommendation
the OT evaluators in the process	Committee process to identify strengths and gaps in the diversity of our reviewers. Pending the outcome, efforts to recruit more diverse reviewers will be considered. This will be done in addition to continuing the Black Equity Stream admissions process.		numbers and plan to address if required)
4b. A part-time program should be considered	This issue will continue to be considered at an SRS Leadership Level. The scoping review in STEER/R is looking at strategies to increase retention of students with disabilities, and part-time options are one of the potential approaches. However, a first priority for the Program is the Northern Ontario School of Medicine University collaboration initiative (while not part-time, this initiative will address accessibility and workforce demand issues in Northern Ontario).	SRS Vice Dean OT Program Assistant Dean STEER/R Coordinator	June 1, 2024 (STEER/R update)

Faculty Response

The reviewers noted many strengths of the program, citing it as “excellent” and as a “recognized leader in Problem-Based Learning.” They praise the leadership of Dr. Bosch, the “cutting edge” curriculum, and the rich network of partners that sustains the program.

Effusive in their praise, the reviewers made few recommendations. We have reviewed the program’s thoughtful response to the report, and we are confident that they will address the recommendations appropriately. We observe that the OT program underwent accreditation in parallel with the IQAP and is guided by this process also. Nonetheless, we do appreciate when reviewers probe more deeply and challenge an excellent program.

With respect to resource management, the reviewers call for the School of Rehabilitation Science to monitor faculty workloads, be vigilant to associated stress, and monitor the sustainability of teaching and scholarship. The Assistant Dean and Vice Dean will continue to monitor this.

We agree with the reviewers that it will be worthwhile for the program to ensure the diversity of the evaluators who are involved in admissions process. The School of Rehabilitation Science has established itself as a leader in the Faculty in working toward the diversity and inclusiveness of its learning and research environment. This effort is supported in concrete ways through initiatives in the Faculty of Health Sciences and central university to support the recruitment of Black and Indigenous faculty. The School of Rehabilitation Science recently collaborated with Faculty’s Indigenous Health Learning Lodge (IHLL) to recruit its first full-time Indigenous Faculty member. Within the School, initiatives such as the Anti-Racism, Anti-Bias and Anti-Oppression (ARABO) committee offer a forum to share support and experiences among learners across rehabilitation disciplines.

Quality Assurance Committee Recommendation:

McMaster’s Quality Assurance Committee (QAC) reviewed the above documentation at the April 2024, meeting. The committee recommends that the **Occupational Therapy M.Sc.** program should follow the regular course of action with an 18-month progress report and subsequent full external cyclical review to be conducted no later than eight years after the start of the last review.

FINAL ASSESSMENT REPORT

Institutional Quality Assurance Program (IQAP) Review

SOCIOLOGY PROGRAM

(Undergraduate and Graduate)

Date of Review: March 6 – 7, 2023

In accordance with the University Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response, and assessments of the undergraduate and graduate program delivered by the Sociology program. This report identifies the significant strengths of the program, together with opportunities for program improvement and enhancement, and it sets out and prioritizes the recommendations that have been selected for implementation.

The report includes an Implementation Plan that identifies who will be responsible for approving the recommendations set out in the Final Assessment Report; who will be responsible for providing any resources entailed by those recommendations; any changes in organization, policy or governance that will be necessary to meet the recommendations and who will be responsible for acting on those recommendations; and timelines for acting on and monitoring the implementation of those recommendations.

Executive Summary of the Review

In accordance with the Institutional Quality Assurance Process (IQAP), the Faculty of Social Sciences submitted a self-study in December 2022 to the Vice-Provost (Teaching and Learning) and Vice-Provost and Dean of Graduate Studies to initiate the cyclical program review of the Sociology undergraduate and graduate program. The approved self-study presented program descriptions, learning outcomes, and analyses of data provided by the Office of Institutional Research and Analysis.

Two arm's length external reviewers and one internal reviewer were endorsed by the Dean, Faculty of Social Sciences and selected by the Vice-Provost (Teaching and Learning) and Vice-Provost and Dean of Graduate Studies. The review team reviewed the self-study documentation and then conducted a virtual site visit on March 6 – 7, 2023. The visit included interviews with the Vice-Provost (Teaching and Learning), Associate Dean of School of Graduate Studies, Deputy Provost, Dean of the Faculty of Social Sciences, Chair of the Department of Sociology, Associate Deans of Undergrad and Grad studies, and meetings with groups of current students, full-time faculty, and support staff.

The Dean of the Faculty of Social Sciences, and the Chair of the Department of Sociology submitted responses to the Reviewers' Report. The initial response was prepared by the program in April 2023 and finalized by the Dean in July 2023. Specific recommendations were discussed, and clarifications and corrections were presented. Follow-up actions and timelines were included.

Strengths

The review team noted that the Sociology Department has a strong graduate program. Relatively small in size, our program offers strong mentorship to MA and PhD students, resulting in well trained graduates who are known to make contributions to knowledge.

The review team noted that our undergraduate program is healthy, having rebounded from its previous lower enrollments. A focused effort on improving the undergraduate course offerings to make them more appealing to students, as well as partnerships with Social Psychology and the My Own McMaster program in the Centre for Continuing Education, means that our students have a wide range of options.

The reviewers also acknowledged the steady leadership of the Sociology Department's Executive Team and our excellent staff, who have gone above and beyond during the difficult years of the pandemic, remote work, and a shift to online learning. We greatly appreciate that this work has been acknowledged by the reviewers, who report that this leadership was appreciated by students at the undergraduate and graduate levels.

Areas for Improvement

The review team notes several areas for improvement, each of which is aligned with the current priorities of the Sociology Department. These include improved communications with students, staff, and faculty, as well as maintaining connections with our graduates. The equitable distribution of work is another priority that has important implications for faculty productivity, a collegial workplace, and a sense of fairness among all colleagues. In terms of the undergraduate curriculum, the reviewers suggest we consider the balance of online and in-person course offerings, a topic which we have already raised for discussion at our May 2023 retreat.

The review team also recommends that we consider the number of undergraduate programs offered and specialization in the graduate program. It may be that our programs have been spread too thin, and we will discuss the possibility of having fewer options that will concentrate our focus. Finally, funding of graduate students is a key priority that is exacerbated by the much larger size of our undergraduate program relative to our graduate enrollments. We will consider what our options are within the constraints of the corridor funding model, and we will give deep consideration to TA supports for undergraduate courses—also an item for discussion at our upcoming retreat. Consistent with reviewer recommendations, we have already begun to offer conference funding to our graduate students for the 2023 conference season.

Implementation Plan

Summary of the Reviewers' Recommendations with the Department's and Dean's Responses

Recommendation	Proposed Follow-Up	Responsibility for Leading Follow-Up	Timeline for Addressing Recommendation
Improving and increasing communication with students, staff, and faculty.	UG committee members hold advising office hours.	Undergraduate Chair will review responsibilities for UG committee.	Summer 2023
	Increase faculty understanding of program options.	UG Admin will craft one-page overview of programs for faculty to reference.	Summer 2023
	Revise course names and descriptions.	Undergraduate Chair will lead this process.	
	Invest in connections with Student Society.	Already underway, the UG Admin works with the ADM and UG Chair to work with Student Society.	May-Oct 2023
	Incorporate more discussion of career pathways in to ProSem course.	Already underway, the Graduate Chair will lead this process.	Ongoing
	Improve communication of news and announcements into departmental communications/social media.	Communications committee.	Ongoing
			September 2023

<p>Continue to work on an equitable distribution of labour and a participatory departmental culture.</p>	<p>Discuss commitments to community and culture at retreat.</p> <p>Run a collaborative exercise on the principles, considerations, and constraints that we should keep in mind when assigning work.</p> <p>Consider work distribution process; make effort to assign work once per year, rather than continuously over the academic year.</p>	<p>Department Chair</p> <p>Department Chair and Executive Committee</p> <p>Department Chair has requested list of service commitments across university from FSS; Exec Committee will incorporate into committee assignments</p>	<p>May 5</p> <p>May 5 – exercise June – implementation of best practices</p> <p>June 2023</p>
<p>Considering the balance of online versus in-person offerings and work to promote a stronger departmental culture.</p>	<p>Beginning at the retreat, we will hold ongoing discussions about the role of online courses in our curriculum and how they are distributed across instructors.</p> <p>Develop core hours for faculty and student office time.</p> <p>Hold enjoyable, in-person events.</p>	<p>Undergraduate Chair and UG Committee</p> <p>Department Chair and Academic Department Manager</p> <p>Communications Committee, ADM, Department Chair</p>	<p>May 5 – discussion Sept/Oct- proposals for changes</p> <p>After timetabling for courses each year.</p> <p>At May 5 retreat, ADM will lead calendaring process that will set stage for events.</p>

<p>Consider the number of undergraduate programs offered and specialization in the graduate program.</p>	<p>Review the UG programs and consider reducing options.</p> <p>Consider creating a capstone experience for Specialist students.</p> <p>Review the Grad stream in Soc Psych and consider eliminating.</p>	<p>UG: Undergraduate Chair and UG committee</p> <p>UG: Undergraduate Chair and UG committee</p> <p>Grad: Graduate Chair and Grad committee</p>	<p>2023-2024 academic year, with decisions to be implemented Oct 2024.</p> <p>Sept/Oct 2023 – develop proposal for capstone experience</p> <p>2023-2024 academic year, with decisions to be implemented as they are made.</p>
<p>Work to increase program assessment and ongoing relations with alumni.</p>	<p>Work with FSS and MacPherson to enhance alumni contacts and set benchmarks for program assessment.</p> <p>Work with FSS Manager of Recruitment and Marketing on exit survey.</p> <p>Submit a request to IRA to resume exit surveys, incorporate NSSE and CGPSS data for future self-study reports.</p> <p>Enhance social media presence, hire work-study student</p>	<p>Department Chair and ADM</p> <p>Department Chair and ADM</p> <p>Department Chair and ADM</p> <p>ADM and Communications committee</p>	<p>Summer 2023</p> <p>Pilot underway</p> <p>Summer 2023</p> <p>September 2023</p>
<p>Work with the faculty and university on graduate student support, and consider the right</p>	<p>We are moving toward caps newly announced by Assoc Dean Grad.</p>	<p>Graduate Chair and Grad Admissions committee</p>	<p>Ongoing; next Admissions season Jan 2024</p>

balance in terms of the size of the graduate program.	<p>A review of graduate funding levels is underway at the University and FSS levels.</p> <p>Initiate conference funding program for graduate students.</p>	<p>Graduate Chair and Department Chair will continue working with FSS Assoc Dean Grad.</p> <p>Graduate Chair, Grad Admin and ADM</p>	<p>Ongoing</p> <p>Initiated April 2023.</p>
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Dean's Response, Faculty of Social Sciences:

An IQAP review team consisting of external members Dr. Howard Ramos, Western University and Dr. Xiaobei, Carleton University, and internal member, Dr. Chandrima Chakraborty (McMaster English and Cultural Studies) conducted a review in March 2023 of both the undergraduate and graduate programs of the Department of Sociology. I thank the reviewers for their thorough and thoughtful review of Sociology's educational programs. The insights and recommendations provided by the review will be valuable to the Department and the Faculty as we work to improve the programs in the coming years. Herein I provide my response to the report and the department's response to it.

The reviewers' expressed disappointment that the review was conducted on-line rather than in person, noting that it was harder to gain an appreciation for the department culture and spaces. I appreciate the point about benefits of in-person interactions in this context. Each format brings advantages and disadvantages, and we weight competing factors in each case when deciding how to conduct a review. We have conducted a number of on-line reviews in recent years in which reviewers felt they were able to elicit the information needed to make informed judgements. Any future online reviews will incorporate their suggestions for improving their effectiveness.

They also expressed that undergraduate and graduate programs should be reviewed separately rather than together. Although they are not always done jointly, again we have done this a number of times and reviewers have never previously expressed this concern. While it can imply less depth of review for each program, it offers the advantage of being able to consider recommendations that incorporate interactions across programs offered through the same department (e.g., aligning course and curriculum designs that align with TAs available). Again, future joint reviews of both programs will incorporate their suggestions for improving the effectiveness of the review.

Like the department, I am gratified by the overall very positive assessment of both the undergraduate and graduate programs. The department has worked hard in recent years to improve the structure and design of the programs and the students' experience. As is to be expected, the review identified specific areas for enhancement in the coming years. A number of the recommendations, in a sense, bear on the broader operation and life of the department, such as continuing to work on an equitable distribution of labour in the department and a participatory departmental culture. As such, they do not call for specific program changes.

The department has offered a detailed and robust response outlining how it will act on each recommendation. Work has already begun in a number of areas. I offer additional comment on a few that require resources of action by the Dean's Office.

Graduate Student Support. The university, increased the minimum funding floor for in-time PhD students, funded by each Faculty, effective September 1, 2023. The Faculty of Social Sciences has developed a revised approach to funding graduate students that can provide this additional support in a flexible way that can also accommodate future changes to the funding floor. Separately, the Faculty created a research-related teaching release program tied to obtaining external research funding that requires faculty to use some of those resources to support graduate students through research

assistantships. Finally on this note, Sociology is among the departments that have managed TA and Scholarship funding particularly well in recent years.

Relations with Alumni. The university recently re-organized Alumni Relations to strengthen alumni support through each Faculty. This additional, Faculty-specific alumni support will enhance the department's ability to engage with alumni.

Department Culture. The department has worked hard in recent years to build a stronger, more collegial culture that will invite greater engagement by faculty, staff and students. This includes an explicit, equity-oriented process for allocating administrative and service responsibilities, a better integration of graduate admissions decisions and the distribution of supervisory responsibilities, and improved communication. As the reviewers note, there is more work to be done, but it is also important to note valuable work done in this respect in recent years.

Quality Assurance Committee Recommendation:

McMaster's Quality Assurance Committee (QAC) reviewed the above documentation at the June 19, 2024, meeting. The committee recommends that the **Sociology** undergraduate and graduate program should follow the regular course of action with an 18-month progress report and subsequent full external cyclical review to be conducted no later than eight years after the start of the last review.

FINAL ASSESSMENT REPORT

Institutional Quality Assurance Program (IQAP) Review

Child Life and Pediatric Psychosocial Care, M.Sc.

Date of Review: February 27th and 28th, 2024

In accordance with the University Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response and assessments of the M.Sc. in Child Life and Pediatric Psychosocial Care. This report identifies the significant strengths of the program, together with opportunities for program improvement and enhancement, and it sets out and prioritizes the recommendations that have been selected for implementation.

The report includes an Implementation Plan that identifies who will be responsible for approving the recommendations set out in the Final Assessment Report; who will be responsible for providing any resources entailed by those recommendations; any changes in organization, policy or governance that will be necessary to meet the recommendations and who will be responsible for acting on those recommendations; and timelines for acting on and monitoring the implementation of those recommendations.

Executive Summary of the Review

In accordance with the Institutional Quality Assurance Process (IQAP), the Child Life and Pediatric Psychosocial Care program submitted a self-study in January 2024 to the Vice-Provost and Dean of Graduate Studies to initiate the cyclical program review of its program. The approved self-study presented program descriptions, learning outcomes, and analyses of data provided by the Office of Institutional Research and Analysis. Appendices to the self-study contained the CVs for each full-time member in the department.

Two arm's length external reviewers and one internal reviewer were endorsed by the Dean, Faculty of Health Sciences, and selected by the Vice-Provost and Dean of Graduate Studies. The review team reviewed the self-study documentation and then conducted a virtual review to McMaster University on February 27th and 28th, 2024. The review included interviews with the Deputy Provost; Vice-Provost Vice-Provost and Dean of Graduate Studies, Associate Dean Graduate Studies, Assistant Dean of the program and meetings with groups of current students, full-time faculty and support staff.

The Assistant Dean of the program and the Dean of the Faculty of Health Sciences submitted responses to the Reviewers' Report (May 2024). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.

Summary of Previous Review's Recommendations

Prior to this formal academic review, the only other review undertaken was within the new program approval process. This is the first and only formal academic review since the program commenced in 2016. The initial recommendations made to strengthen the *proposed* program and its delivery have been addressed and included within the table below.

	Recommendations of Previous Review	Addressed / Not Addressed	Comments
1	Hiring a full-time faculty as program director to design curriculum and to implement the proposed graduate child life program (as well as other duties such as student advisement and accreditation reports).	Addressed	-A 0.75FTE Director role was included in the original program proposal. This was increased to 1.0FTE at the outset of the program.
2	Add additional faculty to assist with designing the online courses, managing enrollment and clinical supervision. Offering office space with a computer and phone for supportive faculty. Recognition that a new program will require additional resources to implement and maintain the program and systems.	Addressed	-Two other faculty members were also listed at 0.75FTE in the original proposal. These roles also increased to 1.0FTE at the outset of the program. -Five sessional instructors were involved in supporting the design of online courses with four continuing to support their ongoing enhancement and instruction since that time. -The office space has grown from one workstation to three, including two office computers.
3	Create a student and faculty online manual to assist in navigating potential technical issues before enrolling in courses.	Partially addressed	-a formal manual was not created, but technical requirements are outlined on the Program's website and handbook with orientation/training to technology systems (Avenue to Learn, Teams, Zoom) completed during initial residency weeks. This includes practice with uploading assignments, creating discussion posts, etc. to support students in preparing for online and virtual course work. -How to use Zoom videos were developed to support learners in engaging with this software and troubleshooting any technical issues. Since COVID, these videos are no longer needed as stakeholder proficiency is evident. -The Paul R. MacPherson Institute for Leadership, Innovation and Excellence in Teaching has developed detailed self-service support resources within the Support for Avenue to Learn section of this learning management system alongside their technical support service hours. Their resources section includes tutorials, FAQs, etc. in addition to terms of use , browser check details and how to navigate pop-up blockers . These are all accessible on the landing page prior to logging into the system for both faculty and students.
4	In addition to the McMaster Institute of Innovation and Excellence in Teaching and Learning there will need to be designated online support for after-hours technical issues for faculty and students.	Addressed	-A technology support role was created and utilized during the first year and a half of the Program. This role supported faculty in online Avenue to Learn course set up and navigating any technical issues for both faculty and students. Minimal student requests were found to come in after hours and those that did most often related to difficulty uploading different video file types. A new

			<p>process was established within a course assignment to resolve that challenge and be more user friendly.</p> <p>-Core faculty have remained consistent and become accustomed to technology systems, no longer requiring this level of support. The Program's Curriculum Coordinator has become the internal backup resource should any new challenges arise with existing faculty. University resources have also expanded significantly since the time of our initial new program review.</p>
5	As part of admission process to the program, an online course questionnaire that prospective students will complete. The technical requirements must be clear to all students both in a written and digital format.	Addressed	-As noted above, technical requirements are outlined on the Program's website and handbook with orientation/training to technology systems (Avenue to Learn, Teams, Zoom) completed during initial residency weeks. This includes practice with uploading assignments, creating discussion posts, etc. to support students in preparing for online and virtual course work. Each course outline also identifies the technical requirements needed.
6	A formalized assessment of the online program at selected points is needed; a plan should be developed before the program is launched that will guide the ongoing monitoring, and revisions to the program. This ongoing assessment will allow for the program to meet the needs of students and provide opportunities to navigate the trends of technology and adapt to changes in the field of child life including but not limited to Child Life Accreditation of Academic Programs. The current plan to evaluate the program through course evaluations is a first step; however, a more systematic evaluation plan is required.	Addressed	<p>-Ongoing program assessment and evaluation has occurred by seeking out stakeholder feedback (e.g. alumni surveys re. student experience, whether the program met planned learning outcomes and any new recommended areas of practice to incorporate within curriculum in addition to applicant surveys following switch to virtual admissions interviews, student feedback through course and faculty evaluations, etc.), ongoing review of program retention, attrition and graduation rates, review of whether GPA is a predictor of success in the Program, etc. Evidence of other systematic evaluations can also be found within this self-study report.</p> <p>-Graduate Program Endorsement for Stream 1 was achieved in 2019. An accreditation process for the child life profession has not yet been formally developed as anticipated at the time of our original Program proposal.</p>
	Additional Enhancements Suggested during the external reviewers on site visit	Addressed / Not Addressed	Comments
a	Consider creating the option for a remediation process.	Addressed	-Both an informal and formal remediation process have been developed and included as part of the Program's Guideline for Review of Student Performance and Progress
b	Have a library liaison even with students accessing library resources remotely	Addressed	The CLPPC Program has a library liaison within the Health Sciences Library. Students meet this librarian during their first on campus Residency course during a workshop facilitated on library services and database searches. There is a webpage with resources, key databases,

			citation style guides, online tutorials on using health databases, etc. specific to the CLPPC program within the HSC library that also includes contact information for the librarian linked to our Program.
c	Consider additional support to various facets of research and writing	Addressed	During the first Residency weeks on campus orientation is provided with a workshop on APA referencing. There is also a graduate writing workshop facilitated by the Student Success Centre with a personal connection as well as links to this centre provided at this Program's onset.
d	The following quote is noted. <i>"Many of the core faculty in the program are quite early in their careers in academia. For the Child Life Program to develop, they will need to be supported to ensure adequate time and support to launch independent program of research in the area of Child Life and Pediatric Psychosocial Care. It is expected that more senior faculty members will act as mentors and co-investigators to support the more junior faculty as they work towards independent programs of research".</i>	Partially addressed	-Core faculty have received research mentorship while serving as co-investigators within more senior department members research teams. Opportunities for independent programs of research have unfortunately been limited, however, due to current teaching loads.

Summary of Program Current Program Review

• Strengths

The review committee shared the following program strengths (verbatim from report):

The Child Life & Pediatric Psychosocial Care Master's Program at McMaster University encompasses innovation, expertise, evidence-based practices and cutting-edge pedagogical approaches making this program a leader regionally and internationally. Here are the notable areas of strengths.

- The program consists of three dedicated full-time faculty members, all of whom are Certified Child Life Specialists (CCLS) and have diverse clinical expertise and scholarly inquiry areas. Additionally, adjunct faculty members contribute to the program with a broad range of disciplinary backgrounds.
- It is the only program of its kind in Canada.
- The Association of Child Life Professionals (ACLP) has endorsed the Stream 1 program.
- The academic offerings to Stream 1 and Stream 2 options appeal to students who strive to work in healthcare, community-based professions, and the private sector.
- The curriculum integrates simulation-based learning and clinical experiences to provide extensive opportunities for enhancing clinical practice skills.
- The program demonstrates robust interest and enrollment numbers.

- Successful graduation rate and retention numbers reflect the institution's ability to provide a supportive learning environment, quality instruction, and effective student support services.
- The program benefits from involvement of active and engaged alumni.
- The program application process prioritizes accessibility for traditionally underrepresented and marginalized groups of people.

- **Opportunities for Improvement and Enhancement, including appropriateness of resources**

The review committee did not identify any areas for improvement. They did however identify *program areas for enhancement*. These include the following recommendations (verbatim from report):

1. Reassess faculty administrative workload and reevaluate the distribution of teaching and service effort to allow percent time for conducting research or scholarly activities. Consider creating a tenure-track faculty position to support CLPPC faculty members seeking to expand their research contribution.
2. Reevaluate the procedure for collecting student feedback on clinical placements and preceptors to ensure an optimal student learning environment and identify areas for preceptor education and support.
3. Provide clearer pathways for students to report and access support for navigating challenging situations or grievances in the internship experience.
4. Increase the support for racialized students in the CLPPC703/Research Methods in Pediatric Psychosocial Care course.
5. Modify the requirement of the Portfolio in internship applications with feedback from internship preceptors on aspects that would be helpful to them.

Summary of the Reviewers' Recommendations with the Department's and Dean's Responses

Recommendation #1:

Reassess faculty administrative workload and reevaluate the distribution of teaching and service effort to allow percent time for conducting research or scholarly activities. Consider creating a tenure- track faculty position to support CLPPC faculty members seeking to expand their research contribution.

Department's Response and Actions to be Taken:

It is understood that faculty teaching and administrative loads are high with core faculty teaching 7+ courses each year. The 3-core full-time faculty in this program hold teaching track appointments which align with high teaching obligations. While there is an interest in opportunities for scholarly activities, funding is not available in the current climate for protected time for such activities without compromising learner experience and further burdening the already high teaching loads among existing faculty.

There are however plans to continue to review faculty workload at annual reviews and within professional development planning as a means of further examining creative options/solutions. A tenure track faculty position is something that would need to be considered by the Department of Pediatrics leadership. This would support expanding scholarly contributions but if developed with the current faculty complement would further challenge teaching load allocations. The feasibility of this will be easier to evaluate pending the outcomes of the 2 additional actions below.

Faculty are encouraged to consider applying for internal funding awards (e.g. MERIT faculty fellowship for mentorship and supervision in health professions education research and MacPherson Leadership in Teaching and Learning Fellowship) to enable dedicated time and mentorship for scholarly activities and a redistribution of teaching and administrative workloads with funding received. One application to MERIT has just been submitted.

Discussions are taking place for program faculty to create continuing education and/or micro credential options (with some small initial department support for development costs) that can be offered to bring in additional revenue to the program. While this will place some additional up-front burden on faculty, the new revenue generated could be utilized to support hiring a sessional instructor(s) to redistribute workload to enable dedicated time for scholarly activities/research and a reduced teaching load on a rotating schedule.

Dean's Response:

We recognize that CLPPC is supported by a relatively small faculty complement in teaching intensive roles. Faculty activity should be closely aligned to the roles into which they were hired. We agree that faculty development and workloads are important considerations and should be monitored by the Department Chair as part of ongoing career review. Whether the program is meant to support a research agenda in the Department of Pediatrics is primarily a question of the department's priorities and financial constraints. The practice-oriented CLPPC students are learning in a Faculty of Health Sciences environment that is among the most health research-intensive in Canada; if they will benefit from more interaction with researchers, there are many opportunities for the program to facilitate this.

Recommendation #2:

Reevaluate the procedure for collecting student feedback on clinical placements and preceptors to ensure an optimal student learning environment and identify areas for preceptor education and support.

Department's Response and Actions to be Taken:

Students are invited throughout the program to participate in surveys to provide feedback on their internship site and preceptor(s) following each internship in the fall and winter terms. While some feedback has been received each year, it has not been as robust as anticipated to enable generating data to inform areas for education, support and about the student experience. While anecdotal feedback and discussions take place regularly, concrete data is more limited as students have shared that they do not wish their feedback to be shared with preceptors out of concern it will impact their opportunities for job placements in the future due to the small child life community.

Plans therefore include increasing education and guidance through the Clinical Education Coordinator to promote ongoing bidirectional feedback between preceptors and students during each internship.

At present formal feedback discussions during internships tend to be centered on student assessment. A more consistent approach to promoting a space for bidirectional feedback as part of weekly preceptor check-in meetings and within evaluation meetings held with the Clinical Education Coordinator (who participates in at minimum 2 evaluation meetings with each student/preceptor per internship) may enable an expansion of professional reflection for preceptors and guided experience for students in constructive feedback/dialogue.

Plans continue to encourage students' post-internship feedback through site and preceptor evaluation surveys. We will reinforce that only themes from these surveys will be shared with sites/preceptors and that their feedback will help to inform future education and support needs for preceptors.

Plans are underway to develop two new surveys: one retrospective survey to all stream 1 alumni and students who have completed internships, to provide anonymous feedback about their experiences and sense of psychological safety at each internship site; and another to distribute to preceptors scheduled to supervise students in 2024-2025 to gain insight on their preferred education and support needs. These results will be utilized in addition to feedback received from students' previous post-internship surveys (collected 2017-winter 2024 to date) as well as those received moving forward to inform the development of additional training videos, and support processes from the Clinical Education Coordinator.

Dean's Response:

We agree that ongoing evaluation of clinical placement sites is essential, and we recognize that soliciting candid and fair evaluations from current students can be a challenge in situations where relatively few students are placed per year. From this perspective, we strongly support the program's plan to solicit evaluations from recent graduates and alumni. The challenges of evaluating clinical placements are shared with other health professional programs, including in the rehabilitation sciences, nursing, and undergraduate and post-graduate medicine, and we encourage the programs to consult with these leaders and share best practices.

Recommendation #3:

Provide clearer pathways for students to report and access support for navigating challenging situations of grievances in the internship experience.

Department's Response and Actions to be Taken:

There is some information contained within the program's Clinical Education Handbook and in internship course outlines (CLPPC 715 & 716). Further verbal information is provided within the internship course introduction and also during bi-weekly clinical supervision meetings between the Clinical Education Coordinator and students. We recognize that a clear pathway of who students can reach out to during internship for support (aside from the Clinical Education Coordinator) is needed. Plans are underway to further expand upon written information in the program's Clinical Education Handbook. The aim is to provide a central place knowing that students in a challenging situation may find it more difficult to sift through several current documents and recall verbal information they did not anticipate needing. As per our protocol, revised Clinical Education Handbooks are shared annually with all Stream 1 students and their preceptors before clinical placements commence. At the beginning of each internship semester, the Clinical Education Coordinator can also remind students of the reporting structure for student grievances based on the revisions being added to the Clinical Education Handbook this year.

Dean's Response:

Navigating the institutional resources for managing conflict or academic struggles can be a challenge although this is routinely complicated by learners' frequent reluctance to approach their program's Director. A number of other resources are available. The Office of the Vice-Dean/Associate Dean of Graduate Studies for Health Sciences has a role in advising graduate learners, including in CLPPC. The Office of Respectful Conduct in Clinical and Academic Environments (ORCCA) in the Faculty of Health Sciences advises on professionalism issues and can guide learners to the best resources for their situations. Resources in the central university include the Equity and Inclusion Offices, the University Ombuds, and the School of Graduate Studies. A variety of health and wellness resources are available graduate students. We agree that the clinical manual and program handbooks provide clear guidance.

Recommendation #4:

Increase the support for racialized students in the CLPPC 703/Research Methods in Pediatric Psychosocial Care course.

Department's Response and Actions to be Taken:

The CLPPC 703 Research Methods in Pediatric Psychosocial Care course is a required course for all students in the program. A total of 169 students have successfully completed this course with 7 failures. For context, all 7 students who failed this course were working health professionals within Stream 2 of our program juggling work and family responsibilities. Of those, the 3 that were Black students were also international students who had not had previous academic experience writing or conceptualizing research (from international medical schools). All however spoke English as their first language. There has only been 1 other Canadian student from a marginalized background in addition to 3 other domestic students who are white women. These individuals had been out of school for a number of years navigating this new balance of schoolwork and academics in their first semester.

Ongoing plans include:

- Encouraging all students to access services available to them through the university, including those geared towards student writing, accessibility and wellness. We recognize and have seen and heard from learners who have been racialized, that they face significant barriers to accessing these free resources because of stigma, fear, experiences and expectations of racism and trauma associated with previous academic experiences.
- Continuing to incorporate academic graduate writing workshops through the Student Success Centre and APA citation workshops by faculty at the outset of the program.
Continuing to explicitly encourage all students to come forth with all questions, concerns, dilemmas through the discussion boards, to *normalize* reaching out to the instructor to discuss questions, any challenging course contents, etc. We have anecdotally come to understand the history some have felt negatively judged for seeking help in their previous academic programs.
- Continuing to offer weekly drop-in office hours for check-ins.
- Continuing to proactively reach out to students who show signs of struggling academically or psychosocially, including those that may have received a grade <70% on the first assignment (early October) or who are less present on discussion boards to discuss challenges and offer support, particularly those in racialized or marginalized groups.
- Considering the option for PT Stream 2 students to take the research course in the fall semester of their second year after they have had the opportunity to acclimatize to graduate level writing in other courses.
- Consider recommending the MELD program for any students where English is a second language.
- Consult with the Department of Pediatrics, Associate Chair, Equity, Diversity & Inclusion for further recommendations.

Dean's Response:

The small number of failures in CLPPC (7/169) makes it difficult to interpret the data regarding academic struggles for students in CLPPC 703. In their response, the program has cited specific challenges for equity deserving students and so we support the program's efforts to investigate the causes of struggles more fully. Please note that the MELD program is an undergraduate bridging program that is not available to graduate students. The Faculty of Humanities does offer free English language support through their MODEL program. A more intensive, fee-based service is offered through their MERGE program which provides both language training and professional readiness for graduate students. The Faculty of Health Sciences has been providing funding to support a few students in the program each year but there are a limited number of places.

Recommendation #5:

Modify the requirements of the Portfolio in internship applications with feedback from internship preceptors on aspects that would be helpful to them.

Department's Response and Actions to be Taken:

The program has previous data collected through preceptor and site feedback surveys about the benefits and areas for improvement in receiving student ePortfolio submissions within the internship application process (the ePortfolios prior to 2022 were created with a McMaster owned software platform called "PebblePad"). The previous feedback showed a strong preference from internship sites that ePortfolios provided a more engaging and unique presentation of each learners' knowledge, skills and abilities beyond cover letters, resumes and application forms. We recognize that from the student perspective, the ePortfolios do require students' time to conceptualize and develop. Each year an ePortfolio award (typically 2 valued at \$500 each available through annual program scholarship funds received through SGS) are awarded following submission and review by an external panel. This external panel consists of alumni from the previous 2 years who have not yet supervised an intern due to length of time in practice requirements for supervisors based on our professional certification body. These awards have provided additional incentive for students on their professional value.

To update and gather feedback from both student and internship organizations' perspectives, a survey study is currently being prepared to the Hamilton Integrated Research Ethics Board (HiREB) for approval in May 2024. The survey questions will focus on the value of ePortfolios for internship selection and matching, and intern professional growth. More specifically, the surveys will be directed to two specific groups:

1. Internship site child life leads/managers who review intern applications.
2. Current students (who have completed ePortfolios for at least one internship application round) and alumni creating ePortfolios via the Canva platform from 2022 – 2024.

Results will inform whether the ePortfolio program will be continued, adapted or discontinued.

Dean's Response:

We are satisfied that the program has an appropriate plan to incorporate the feedback from preceptors.

Implementation Plan

[illegible]

	<p>activities and a redistribution of teaching and administrative workloads with funding received. One application is currently in progress.</p> <ul style="list-style-type: none"> Discussions are taking place for program faculty to create continuing education and/or micro credential options (with some small initial department support for development costs) that can be offered to bring in additional revenue to the program. This new revenue could be utilized to support hiring a sessional instructor(s) to redistribute workload to enable dedicated time for scholarly activities/research and a reduced teaching load on a rotating schedule. <p>Future plans:</p> <ul style="list-style-type: none"> A tenure track faculty position will be considered by the Department of Pediatrics leadership. This would support expanding scholarly contributions 		<p>2024-25 Academic year is the target to launch first continuing education offering.</p> <p>June 2026 to review feasibility and sustainability of a continuing education revenue pathway.</p> <p>Feasibility to be evaluated pending the outcomes of the 2 actions underway above. Projected timeline to evaluate winter 2026.</p>
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	but if developed with the current faculty compliment it would further challenge teaching load allocations.		
2. Reevaluate procedure for collecting student feedback re. clinical placements and preceptors and identify areas for preceptor education and support.	<p>Ongoing:</p> <ul style="list-style-type: none"> • Increase education and guidance through the Clinical Education Coordinator to promote bidirectional feedback between preceptors and students throughout internship experiences. • Continue to encourage students' post-internship feedback through site and preceptor evaluation surveys. Reinforce that only themes from these surveys will be shared with sites/preceptors and that their feedback will help to inform future education and support needs for preceptors. • Prepare new surveys and distribute to: (a) stream 1 alumni and students who have completed internships to provide anonymous feedback about their experiences 	CLPPC Clinical Education Coordinator and CLPPC Program Student Affairs Committee	<p>Initiate 2024-25 academic year with evaluation spring 2025.</p> <p>Ongoing</p> <p>Summer 2024 and ongoing</p>

	<p>and sense of psychological safety at each internship site; and</p> <p>(b) preceptors scheduled to supervise students in the year ahead to gain insight on their preferred education and support needs. Utilize these results in addition to feedback received from students' previous post-internship surveys (collected 2017-winter 2024 to date) as well as those received moving forward to inform the development of additional training videos, and support processes.</p>		
<p>3. Provide clearer pathways to report and access support to navigate challenging internship situations or grievances.</p>	<p>Already underway:</p> <ul style="list-style-type: none"> To further delineate information in written form, additions are being made to the program's Clinical Education Handbook. This will continue to be shared annually with all students and their preceptors before clinical placements commence. 	<p>CLPPC Clinical Education Coordinator, CLPPC Assistant Dean, a current student and alumni, the CLPPC Program Student Affairs Committee</p>	<p>Finalize handbook revisions with student consultation for June 2024 submission to Associate Dean, FHS Programs.</p> <p>Gather feedback from students/preceptors about the clarity of information provided throughout 2024/2025 internship cycles. Revise as needed for June 2025 resubmission.</p>

			Continue annual dissemination
4. Increase support for racialized students in CLPPC 703.	<p>Ongoing Plans:</p> <ul style="list-style-type: none"> Encourage all students to access services available to them through the university, including those geared towards student writing, accessibility and wellness. We recognize and have seen and heard from learners who have been racialized, that they face significant barriers to accessing these free resources because of stigma, fear, experiences and expectations of racism and trauma associated with previous academic experiences. Continue to incorporate academic graduate writing workshops through the Student Success Centre and APA citation workshops by faculty at the onset of the program to Continue to explicitly encourage all students to come forth with all questions, concerns, dilemmas through the 	<p>Department of Pediatrics - Associate Chair, Equity, Diversity & Inclusion</p> <p>MacPherson Institute – Educational Developer Anti-Racist Pedagogies</p>	Ongoing - annually

	<p>discussion boards, to <i>normalize</i> reaching out to the instructor to discuss questions, any challenging bits of content, etc. We have anecdotally come to understand the history some have shared feeling while in other programs of study where they felt negatively judged for seeking help.</p> <ul style="list-style-type: none"> • Continue to offer weekly drop-in office hours for check-ins. • Continue to proactively reach out to students who show signs of struggling academically or psychosocially, including those that may have received a grade <70% on the first assignment (early October) or who are less present on discussion boards to discuss challenges and offer support, particularly those in racialized or marginalized groups. • Consider recommending 		Consult with Stream 2 alumni
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	<p>that PT Stream 2 students take the research course in the fall semester of their second year after they have had the opportunity to acclimatize to graduate level writing in other courses.</p> <ul style="list-style-type: none"> Consider recommending the MELD program for any students where English is a second language. <p>Planned:</p> <ul style="list-style-type: none"> Consult with the Department of Pediatrics, Associate Chair, Equity, Diversity & Inclusion for further recommendations. 		<p>and current students in the fall of 2024 for feedback on proposing this revised program plan option. Current anecdotal feedback from 4 alumni suggests maintaining the current order of course work to set the stage on graduate level expectations within courses. A more formal review from a broader stakeholder group will best inform for potential implementation in 2025.</p> <p>Review annually to determine if there are any students who meet the MELD program requirements and share program information.</p> <p>Meet during Spring/summer 2024 to incorporate and/or integrate any recommendations into Fall 2024 course delivery.</p>
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<p>5. Modify Portfolio requirements in internship applications based on preceptor feedback on aspects helpful to them.</p>	<p>Already underway: A survey study is currently being prepared to HiREB for approval. This will include two stakeholder surveys to gather data on the value of ePortfolios for internship selection and matching, and intern professional growth.</p>	<p>CLPPC Clinical Education Coordinator, CLPPC Assistant Dean, CLPPC Curriculum Coordinator</p>	<p>Awaiting HiREB approval (May 2024 submission) Data collected will inform 2025 internship application cycle.</p>
	<p>Stakeholder Survey 1: Internship site child life leads/managers who review intern applications Stakeholder Survey 2: Current students (who have completed ePortfolios for at least one internship application round) and alumni from 2022 – 2024. Results will inform whether the ePortfolio program will be continued, adapted or discontinued.</p>		<p>Follow-up consultation with sites and students will continue in the spring of 2026 related to any program changes.</p>

Quality Assurance Committee Recommendation:

McMaster's Quality Assurance Committee (QAC) reviewed the above documentation at the October 17, 2024, meeting. The committee recommends that the **Child Life and Pediatric Psychosocial Care** graduate program should follow the regular course of action with an 18-month progress report and subsequent full external cyclical review to be conducted no later than eight years after the start of the last review.

FINAL ASSESSMENT REPORT

Institutional Quality Assurance Program (IQAP) Review

Civil Engineering, M.Eng, M.A.Sc., Ph.D.

Date of Review: April 23rd and 24th, 2024

In accordance with the University Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response and assessments of the undergraduate and graduate programs offered by Civil Engineering. This report identifies the significant strengths of the program, together with opportunities for program improvement and enhancement, and it sets out and prioritizes the recommendations that have been selected for implementation.

The report includes an Implementation Plan that identifies who will be responsible for approving the recommendations set out in the Final Assessment Report; who will be responsible for providing any resources entailed by those recommendations; any changes in organization, policy or governance that will be necessary to meet the recommendations and who will be responsible for acting on those recommendations; and timelines for acting on and monitoring the implementation of those recommendations.

Executive Summary of the Review

In accordance with the Institutional Quality Assurance Process (IQAP), the Civil Engineering program submitted a self-study in March 2024 to the Vice-Provost and Dean of Graduate Studies to initiate the cyclical program review of its program. The approved self-study presented program descriptions, learning outcomes, and analyses of data provided by the Office of Institutional Research and Analysis. Appendices to the self-study contained the CVs for each full-time member in the department.

Two arm's length external reviewers and one internal reviewer were endorsed by the Dean, Faculty of Engineering, and selected by the Vice-Provost and Dean of Graduate Studies. The review team reviewed the self-study documentation and then conducted a site visit to McMaster University on April 23rd and 24th, 2024. The review included interviews with the Deputy Provost, Vice-Provost and Dean of Graduate Studies, Associate Dean, Grad Studies and Research, Chair of the program and meetings with groups of current students, full-time faculty and support staff.

The Chair of the program and the Dean of the Faculty of Engineering submitted responses to the Reviewers' Report (September 2024). Specific recommendations were discussed, and clarifications and corrections were presented. Follow-up actions and timelines were included.

Summary of Previous Review's Recommendations

Recommendation	Response to Recommendation
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<p>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.</p>	<p>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.</p> <p>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.</p> <p>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.</p>
<p>Concerns with the transportation theme lacking critical mass</p>	<p>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.</p> <p>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.</p>

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

	<p>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.</p>
Concerns with the M.A.Sc. program being limited to 20 months of funding	<p>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.</p>
Distinction between M.A.Sc. and M.Eng. programs is unclear	<p>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).</p> <p>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.</p> <p>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.</p>
Graduate office space challenges	<p>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 hoteling style with ergonomically friendly sit/stand desks, new chairs, and a small kitchenette.</p>

	<p>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.</p>
<p>Technical support for graduate programs</p>	<p>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.</p>

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).

Dean's Response: We agree with this strategy for increasing enrollment and will support the department's ongoing efforts to enhance recruitment at both the Masters and Ph.D. levels. The faculty will continue to work with the department to tailor recruitment efforts, and we will make the necessary connections in the School of Graduate Studies, where international recruitment efforts for MEng programs are expanding.

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.

Dean's Response: We look forward to the department having discussions on how they would like to change the M.Eng. program. The faculty will consider the supports needed for any change and assist in aligning resources.

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 hoteling 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.

Dean's Response: We fully support the department's renovation plans to improve graduate student spaces and are confident the changes will make an impact on the graduate experience. Additionally, we will be conducting space audits to assess current utilization, ensuring that the department's growing needs are prioritized in future space allocations.

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-Dakhkhni. 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.

Dean's Response: The Faculty supports the appointment of the Associate Chair, Research, and looks forward to seeing the key performance indicators and strategic goals that emerge from this initiative. We will provide support for them in this area via our Associate Dean Research, Innovation and Partnerships.

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.

Dean's Response: We support the department to strengthen its engagement with alumni in partnership with the Faculty's development team.

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.

Dean's Response: We agree with this strategy. The Faculty supports empowering supervisors to assign external courses where appropriate, while ensuring adherence to Ministry requirements, to enhance students' learning opportunities.

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.

Dean's Response: We endorse the department's approach to providing mentoring and recruitment support to early career faculty and look forward to further discussions on this matter. Support via workshops organized by the Associate Dean Graduate Studies is also planned for new faculty members across all departments.

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.

Dean's Response: This is a reasonable approach, the Faculty strongly supports the continued promotion of the department's research themes as a recruitment tool and encourages their integration into both graduate and undergraduate programming.

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 insuring 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.

Dean's Response: We support the department's changes to the comprehensive exam and course requirements for Ph.D. students and look forward to the survey results that assess the impact of these adjustments.

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.

Dean's Response: The Faculty acknowledges the critical importance of the geotechnical program and will note its priority for future hiring and lab space enhancements to rebuild the program.

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).

Dean's Response: The Faculty endorses strategic planning initiatives, such as retreats and town halls, and will collaborate with the department to prioritize growth areas and funding strategies.

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.

Dean's Response: We encourage the department to continue exploring opportunities through MITACS and other industry partnerships. Through the Office of Associate Dean Research, Innovation and Partnerships, we will assist in this pursuit and identifying alternative funding sources where necessary. Students may also benefit from the expanding graduate cooperative education program in the Faculty.

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.

Dean's Response: The Faculty fully endorses the department's consultative approach with leadership and will continue to engage with the department's leadership team to address key issues collaboratively.

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	12 months
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	12 months
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	12 months
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	Consultation and plan development: 12 months

student enrollments, scholarly activity) as aspirational goals.			Implementation: to be determined based on needs
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	6 months
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	This has already been initiated and is ongoing.
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	Consultation and plan development: 12 months Implementation: to be determined based on needs
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	This has already been initiated and is ongoing.

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	12 months
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.	<p>1. Support onboarding of new faculty member in geotechnics.</p> <p>2. Advocate for new hires and/or lab space for geotechnical engineering, based on discussions with current and incoming faculty.</p>	Department Chair	<p>1. Immediately after visa approval</p> <p>2. Within 12 months after new faculty member joins.</p>
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	Discussion over next 12 months, with potential action to follow.
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	12 months

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	This has already been initiated and will be ongoing.
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Quality Assurance Committee Recommendation:

McMaster's Quality Assurance Committee (QAC) reviewed the above documentation at the October 17, 2024, meeting. The committee recommends that the **Civil Engineering** graduate programs should follow the regular course of action with an 18-month progress report and subsequent full external cyclical review to be conducted no later than eight years after the start of the last review.

FINAL ASSESSMENT REPORT

Institutional Quality Assurance Program (IQAP) Review

Executive MBA

Date of Review: October 7th, 2024

In accordance with the University Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response and assessments of the Executive MBA program. This report identifies the significant strengths of the program, together with opportunities for program improvement and enhancement, and it sets out and prioritizes the recommendations that have been selected for implementation.

The report includes an Implementation Plan that identifies who will be responsible for approving the recommendations set out in the Final Assessment Report; who will be responsible for providing any resources entailed by those recommendations; any changes in organization, policy or governance that will be necessary to meet the recommendations and who will be responsible for acting on those recommendations; and timelines for acting on and monitoring the implementation of those recommendations.

Executive Summary of the Review

In accordance with the Institutional Quality Assurance Process (IQAP), the EMBA program submitted a self-study in September 2024 to the Vice-Provost and Dean of Graduate Studies to initiate the cyclical program review of its program. The approved self-study presented program descriptions, learning outcomes, and analyses of data provided by the Office of Institutional Research and Analysis. Appendices to the self-study contained the CVs for each full-time member in the department.

Two arm's length external reviewers and one internal reviewer were endorsed by the Dean, Faculty of Business, and selected by the Vice-Provost and Dean of Graduate Studies. The review team reviewed the self-study documentation and then conducted a virtual review on October 7th, 2024. The review included interviews with the Deputy Provost, Vice-Provost and Dean of Graduate Studies, Associate Dean, Grad Studies and Research, Director of the program and meetings with groups of current students, full-time faculty and support staff.

The Director of the program and the Dean of the Faculty of Business submitted responses to the Reviewers' Report (February 2025). Specific recommendations were discussed, and clarifications and corrections were presented. Follow-up actions and timelines were included.

- **Strengths**

- Program design. Two-week intensive classroom experience followed by four-month intervals, allowing students to balance academic learning with professional responsibilities.
- Responsiveness to student feedback, especially the separation of accounting and finance courses and the faculty's efforts to keep up with emerging trends in digital transformation.
- Leadership coaching received during the program.
- Strong sense of community within the cohort, fostering valuable networking opportunities.
- Alumni involvement, with alumni expressing interest in continuing engagement with the program through lifelong learning events and mentoring new students. Alumni keen interest to support recruitment efforts, serve as guest speakers and program ambassadors.
- Cohort size, typically between 25-30, as it fosters close-knit learning.

- **Opportunities for Improvement and Enhancement**

- Refresh the program "to ensure it remains relevant in an evolving business landscape."
- Incorporate new technologies and employ more content that is immediately and transparently applicable to organizations.
- Improve the cohesion of the curriculum, eliminating repetitive frameworks.
- Introduce more advanced concepts in the statistics course during residency and moving basic content to self-study, online timeframes (i.e. pre-residency).
- Institute a broader array of active learning methods.
- Enhance the consistency and rigour of the admission process, strengthening standards for admission.
- Build-in more time for leadership coaching.
- Institute career-coaching.
- Integrating leadership and career coaching as a key program differentiator.

Recommendation #1: **Curriculum Refresh:** Introduce new content on emerging technologies (particularly more on AI and its impact) and ensure a more cohesive and integrated approach across courses.

Department's Response and Actions to be Taken: There were a few recommendations from the IQAP report concerning elements of a proposed curriculum refresh. They included: (a) improve coherency of the course offerings, reducing redundancy in coverage, (b) undertake a comprehensive curriculum review to introduce new content on digital transformation, leadership and wellness, (c) ensure more consistency in how instructors use the learning management system (Avenue to Learn), (d) align course dates on course deliverables to lessen burden on students, (e) include a physical and mental wellness component to the curriculum to support students during their residence.

- (a) Enhancing coherency and reducing redundancy across courses will be achieved through the Academic Director reviewing course outlines and sharing them with program instructors so that all instructors know the content of what each other is covering, including readings, assignments (e.g., cases), models and frameworks. During the summer of 2025, a program review workshop will be organized with all program instructors to discuss content across courses, with an objective to enhance coherency, reduce redundancy and explore opportunities for new updated content. The course outline review and program review workshop will also focus on ensuring classes are highly interactive/experiential (i.e., "active learning") and that they are current with respect to the latest developments in applications of AI, machine learning and digital transformation. The review will look for evidence of significant innovation in course content and delivery.
- (b) The program review workshop will consider the extent to which digital transformation, leadership and wellness are incorporated within and across courses and other venues (e.g. workshops, team-building exercises) and evaluated for sufficiency of coverage.
- (c) The statistics course was identified by the reviewers as particularly in need of revision. Specifically, it was recommended that only advanced concepts and applications be taught during residency, moving basic materials to pre-residence where students can learn self-paced and on their own, perhaps with access to tutorial assistance or instructor office hours as needed. Moreover, students have asked for the content of this course connect more transparently with the theme of the program, digital transformation, using applied workplace examples spanning small, medium and large organizations. Replace this course (T711; Statistics for Analytics) with "Analytics for Decision Making" focusing on business applications, and secure an instructor best fitted to this new offering. These changes are anticipated to be made for cohort 10 (Fall 2025).
- (d) A review of course outlines, complemented by discussions with instructors, will inform the Program Academic Director on the degree of uniformity in the way Avenue to Learn is used. Inconsistencies are to be addressed, with instructors encouraged toward uniform usage. A clear guideline document will be created that showcases the expected uniform usage of Avenue to Learn across all courses.
- (e) Spreading out dates of deliverables across courses to avoid too many assignments being due around the same time is underway, with the Academic Director and Program Manager sharing deliverable dates with all instructors (as sourced from course outlines) and requesting changes to due dates to lessen concentration over short periods.

- (f) For previous cohorts we have offered mindfulness, yoga and meditation sessions but have not done so recently. We will revisit whether to bring these back while considering other options. Students currently receive a workshop on workplace psychological safety and team-building. By moving some basic course materials to pre-residence where students can learn self-paced, more space can be created during a busy residency schedule to allow for integration of wellness activities.
- (g) The EMBA leadership team will review how to better use the time spent in Palo Alto (module 3), with the aim of students spending less time in a formal classroom (which they can do at RJC) and more time visiting businesses (including start-ups) to explore current and emerging topics with senior leaders and ensuring that our faculty contextualize course material to incorporate the insights of these visits.

Dean's Response:

It is important to ensure that the curriculum is up to date to remain competitive and to provide the best educational experience to the participants. To this end, the idea about a program review workshop in summer 2025 to identify curriculum update and integration opportunities is an important step. For this review to be effective, it would have to be informed with input from alumni and other industry participants to provide us with the relative high-level content that instructors should think to incorporate in their courses. This should ultimately help support the program to recruit more students going forward.

This workshop should also be used to provide (resource/training/educational) support to instructor so that they are better able to integrate digital transformation and emerging technologies such as AI within their respective courses. In addition, there is a need for the EMBA leadership team to actively consider contemporary topics such as strategic supply chain management including its interface with digital technology, role of information via block chain technology, aspects of disruption stemming from political and economic factors.

Recommendation #2: Admissions Review: Increase the quality bar in admissions to ensure all students meet the program's high standards, preventing negative cohort experiences.

Department's Response and Actions to be Taken: IQAP reviewers were not specific concerning how the "quality bar" might be increased to ensure all students meet the program's high standards and preventing negative cohort experiences. The one exception is the suggestion to incorporate digital fluency/understanding of technology into admission decisions. The program leadership team will meet to consider how to operationalize "digital fluency/understanding of technology" and the appropriateness of using this in admission decisions. We believe that the current admission process is extensive and rigorous. The EMBA leadership team will review our process with the aim of identifying ways to improve on the rigour and validity of our pre-admission assessments to ensure that every EMBA candidate can be an active contributor to classroom discussions. For example, reconsider the use of personality assessment tool used in selection of cohort 9 students, potentially helpful in identifying individuals with interpersonal challenges, such as working well in teams.

Of course, we can be more selective on admission if we are able to increase our applicant/recruitment pool. See below (recommendation #6).

Dean's Response:

Given the focus of the program on senior business leaders most of whom would have basic digital fluency, the current admission process is extensive and rigorous. However, I am in support of the EMBA leadership idea of reviewing the process and identifying other measures to be used to ensure excellent classroom experience for participants.

Recommendation #3: Enhance Career Coaching: Expand the career and leadership coaching aspects of the program, making them more impactful and better integrated into the curriculum.

Department's Response and Actions to be Taken: There is no information in the IQAP report speaking to how to expand the leadership coaching aspects of the program and better integrating this coaching into the curriculum. This will require discussions among members of the program leadership team and the instructor providing the leadership coaching across all four modules, Dr. Teal McAteer. Alumni will also be consulted to better understand how best to expand and enrich career and leadership coaching and how to better integrate this into all of our course offerings.

Dean's Response:

The EMBA leadership team is encouraged to include sessions with alumni and/or engage personnel within reasonable extra financial burden to enhance career coaching for the participants.

Recommendation #4: Alumni Engagement: Leverage alumni for recruitment, guest speaking, and case study development. Offer post-program career and leadership coaching to alumni.

Department's Response and Actions to be Taken:

1. Beginning with Cohort 9 alumni are now involved as capstone sponsors: Specifically, capstone projects will be provided by alumni of the program. As in the past, capstone companies will be larger legacy organizations (private or public) but the key clients (sponsors) for the capstone companies are now alumni of our program. They have direct relevant experience with their own EMBA capstone journeys. This will help to ensure alignment in expectations and support. It also provides our alumni with an exciting and meaningful way to engage with the program.
2. Alumni involvement as capstone mentors: Starting in Cohort 9, each capstone team is assigned a small group of EMBA alumni mentors, which will provide student teams with advice concerning their experiences in interacting with sponsor, overcoming hurdles and staying motivated. This provides our students with extra support in their capstone experience and provides our alumni with another exciting and meaningful way to engage with the program.
3. Program faculty are (and will continue to be) encouraged to include alumni as guest speakers in their courses. For example, for Cohort 9, two alumni have agreed to be guests in T731 (Strategic HR Analytics; module 2).
4. The EMBA leadership team will solicit program alumni to help develop classroom cases drawing on their experiences with their employing organization.
5. The EMBA leadership team will discuss how, and at what cost, post-program alumni career and leadership coaching can be implemented.
6. The EMBA leadership team to review current slate of alumni events and consider how they might be expanded and enriched.

Dean's Response:

The EMBA leadership team is encouraged to actively engage alumni in different capacities, to host events to expand the network and improve program visibility, and to develop post-program

modules in career, leadership and contemporary topics of interest to this audience.

Recommendation #5: Capstone Structure: Reconsider the design of the capstone projects to ensure they are more integrative and less repetitive.

Department's Response and Actions to be Taken:

In addition to EMBA alumni involvement as capstone sponsors and mentors, other major changes for the capstone (initiated with Cohort 9) include:

- 1. Instructor change:** Milena Head is taking over as the lead instructor for the EMBA capstone course. Milena has been Academic Director and an instructor for the program since its inception and is well familiar with the topics/content of the program and its courses. As Academic Director, she reviews all course outlines before the start of each module and holds meetings with module instructors to better understand major deliverables, cases and topics covered. Having this perspective, she is in the best position to improve integration of capstone with course/program content and will ensure repetitiveness is reduced. She meets with Michael Hartmann on a regular basis, who oversees the mini-capstones as part of his T721 (Digitally-driven Entrepreneurship) course, and through these conversations explores effective ways to integrate learnings between the capstones and reduce redundancy.
- 2. Integration of MDTRC insights:** Starting in Cohort 9, each capstone will utilize the expertise and tools available through the McMaster Digital Transformation Research Centre (MDTRC) to gain primary research insights. The neurophysiological tools available through the MDTRC can help enrich analysis and recommendations for capstone sponsors by gaining a deeper understanding of stakeholder experiences, journeys, challenges and drivers. Gaining experience with these tools and approaches can provide students with unique skill sets to further their own organizations and careers.

Dean's Response:

Given her familiarity with the EMBA program both as an instructor and as the Academic Director, Dr. Milena Head is in an excellent position to lead the capstone course. The integration of tools and expertise available through MDTRC is a unique aspect of the DeGroote EMBA program and should serve the participants in good stead.

Recommendation #6: Recruitment Resources: Invest in more recruitment events and restore scholarships and corporate sponsorships to attract a larger and more diverse cohort.

Department's Response and Actions to be Taken: The EMBA leadership team will convene to determine additional strategies to enhancing our recruitment efforts, which, at minimum, will entail increasing the number of recruitment events held at RJC, in Toronto and virtually. Other options being considered include securing corporate sponsorships, creating incentives for alumni referrals, and offering frequent podcasts made widely available on current developments and applications in digital transformation, include machine learning, AI, and quantum computing. An additional approach might be to encourage instructors to leverage the media to convey their expertise in the field in a way that captures the attention of the business community.

In September 2025, we will be hosting a Digital Futures Symposium at the RJC which will be a 2-day

event that brings industry, public sector and academic leaders together to discuss directions, impact and transformations that emerging digital technologies may bring to Canadians, the economy and society at large. This Symposium will highlight major digital transformation initiatives within the DeGroote School of Business, including the EMBA. This will serve as a celebration of 10 years of our EMBA program bringing together alumni, current students and prospective students. It is envisioned that this major event will help generate further awareness of the program to enhance recruitment efforts.

For cohort #10 we have instituted four scholarships, each worth \$10,000 – one to be offered in each of the following four categories: Women in Business, Sustainability Leadership, Entrepreneurship/Intrapreneurship and Healthcare Leadership. To qualify for consideration prospective students must complete the full application process. The four categories are aimed to further increase diversity of backgrounds of entering students. The effectiveness of these four categories will be monitored and re-evaluated over time.

We will review our website from a marketing perspective with the aim of making it more effective at engaging the interest of prospective students, which might include, for example, updated profiles of alumni and students.

Collect information from those who started (including those who completed) the application process but discontinued (or declined our offer) to help understand why we did not secure these individuals for our program. This understanding will help inform changes to take to secure a higher retention rate.

Dean's Response:

The various initiatives proposed by the EMBA leadership team to improve recruitment are commendable. It is important for the program to increase the cohort size to provide optimal experience for the participants, and also to be financially viable.

While not one of the core six program recommendations the reviewers (page 15 of their report, section "System of Governance") noted that there is a need to clarify and streamline the governance of the EMBA program" and "The roles of the Academic Director and Executive Director should be reviewed to ensure they are complementary."

Department's Response and Actions to be Taken: The EMBA Academic Director and Executive Director have been working well together since the inception of the program. The Academic Director focuses on curriculum, faculty and student-related issues, including but not limited to recruitment, admission and alumni engagement. The Executive Director focuses on building industry connections for site visits, guest speakers and works with the Academic Director on student recruitment and alumni engagement and ongoing program/module design and development activities. To split the workload, the Academic Director has typically taken a lead in Modules 1 and 4, while the Executive Director has typically taken a lead in Modules 2 and 3. While the separation of these activities into two roles was particularly important to establish awareness and create connections/collaborations for this new program, consideration will be given to the feasibility of streamlining to one EMBA Director within 2-3 years.

Dean's Response:

As the program has matured, it is important to revisit and formalize its governance structure in the near future.

Implementation Plan

Recommendation	Action(s) to be Taken	Responsibility for Leading Action (specify the role(s) that will be responsible for each action item e.g. Program Chair.)	Timeline for Completing Action (indicate specific timelines (e.g. not 'ongoing') for action)
Recommendation #1: Curriculum Refresh: Introduce new content on emerging technologies (particularly more on AI and its impact) and ensure a more cohesive and integrated approach across courses.	<p>a) A program review workshop will be organized with all program instructors to discuss content across courses, with an objective to enhance coherency, reduce redundancy and explore opportunities for new updated content. The course outline review and program review workshop will also focus on ensuring classes are highly interactive/experiential (i.e., “active learning”) and that they are current with respect to the latest developments in applications of AI, machine learning and digital transformation. The review will look for evidence of significant innovation in course content and delivery.</p> <p>b) Determine program content to incorporate to provide more</p>	Academic Director	Completed by August 2025.

	<p>coverage of leadership coaching, digital transformation and personal wellness.</p> <p>c) Replace (T711; “Statistics for Analytics”) with “Analytics for Decision Making” focused on applying basic and advanced statistical concepts and procedures and analytics to inform decision making.</p> <p>d) Attain uniformity among instructors on their use of Avenue to Learn. A clear guideline document to be created that showcases the expected uniform usage of Avenue to Learn across all courses.</p> <p>e) Spread out dates of deliverables across courses to avoid too many assignments being due around the same time</p> <p>f) Revise curriculum to integrate more wellness activities.</p> <p>g) Better use the time spent in</p>	<p>Academic Director</p> <p>Academic Director</p> <p>Academic Director</p> <p>Academic Director</p> <p>Academic Director</p>	<p>Completed by August 2025</p> <p>Implemented for Cohort 10 (approval process during Winter 2025)</p> <p>Completed by July 2025.</p> <p>Completed January 2025</p>
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	Palo Alto (module 3), with the aim of students spending less time in a formal classroom (which they can do at RJC) and more time visiting businesses (including start-ups) and contextualizing course material to incorporate the insights of these visits.	Academic Director	Integration in Cohort 10 Initiated for Cohort 9 (April 2025)
Recommendation #2: Admissions Review: Increase the quality bar in admissions to ensure all students meet the program's high standards, preventing negative cohort experiences.	Review current admission processes to consider how the "bar can be raised" to ensure greater uniformity in quality of admitted students.	Academic Director	Completed by August 2025 (for implementation in selecting students for cohort 11).
Recommendation #3: Enhance Career Coaching: Expand the career and leadership coaching aspects of the program, making them more impactful and better integrated into the curriculum.	EMBA leadership team to meet and discuss, in the context of other curriculum changes, how leadership coaching can be enriched and expanded. Also consider whether, and how, post-graduation career counselling can be introduced.	Academic Director	Completed by August 2025.
Recommendation #4: Alumni Engagement: Leverage alumni for recruitment, guest speaking, and case study development. Offer post-program career and leadership coaching to alumni.	<ul style="list-style-type: none"> *Capstone alumni sponsoring capstone projects *Have alumni mentor capstone projects *Alumni as guest speakers *Solicit alumni to help develop classroom cases *Evaluate structure, form and 	Academic Director Academic Director Course instructors Academic Director and Instructors Academic Director	Implemented for Cohort 9 Implemented for Cohort 9 Implemented and ongoing Initiated in 2025, 1 st case completed by December 2025 Completed by December 2025

	<p>feasibility of offering post-program alumni career and leadership coaching.</p> <p>*Review current slate of alumni events and consider how they might be enriched and expanded.</p>		Completed by December 2025
<p>Recommendation #5:</p> <p>Capstone Structure: Reconsider the design of the capstone projects to ensure they are more integrative and less repetitive.</p>	<p>*Assign an instructor (i.e. Academic Director) who is familiar with the topics, content and supporting activities of the program to lead the capstone course. Instructor to collaborate with Michael Hartmann who oversees the min-capstones to ensure integrated coordinated learning with minimum overlap.</p> <p>*Have each capstone utilize the expertise and tools available through the McMaster Digital Transformation Research Centre (MDTRC) to gain primary research insights and provide students with unique skill sets to further their own organizations and careers.</p>	<p>Academic Director</p> <p>Academic Director</p>	<p>Completed and in place for Cohort 9.</p> <p>Completed and in place for Cohort 9.</p>
<p>Recommendation #6:</p> <p>Recruitment Resources: Invest in more recruitment events and restore scholarships and corporate sponsorships to</p>	<p>*Hold meetings to determine additional strategies to enhance student recruitment efforts, to include at minimum more recruitment events held at RJC,</p>	Academic Director	Current and ongoing. These meetings have begun with some new strategies being implemented. No “completion date”.

<p>attract a larger and more diverse cohort.</p>	<p>in Toronto and virtually.</p> <p>*Initiate drive to secure corporate sponsorships, create incentives for alumni referrals, offer frequent podcasts on current developments and applications in digital transformation, machine learning, AI and quantum computing.</p> <p>*Encourage faculty to acquire media exposure for their expertise, adding visibility to the EMBA program (incentives?).</p> <p>*Mount Symposia in the digital transformation space at RJC and downtown Toronto.</p> <p>*Institute scholarships in areas aligned with strategic priorities of the DeGroote School of Business.</p> <p>*Review and update the EMBA program website to better engage interest of prospective students.</p>	<p>Academic Director and Dean</p> <p>Program Directors</p> <p>Academic Director</p> <p>Academic Directors, Program Managers and Media Relations</p>	<p>Complete by August 2025. Podcasts and webinars are currently underway with more being planned.</p> <p>Complete action plan by August 2025.</p> <p>Complete a one-year schedule of symposia by August 2025. One such symposium is scheduled for September 2025 at the RJC.</p> <p>Completed and in place for Cohort 10.</p> <p>Completed by August 2025.</p>
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	<p>* Analyze data on prospective program applicants who dropped out of the application process or who declined an admission offer to better understand their discontinuance of engagement with the EMBA program.</p>	Academic Director	Complete report by December 2025.
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Quality Assurance Committee Recommendations

McMaster's Quality Assurance Committee (QAC) reviewed the above documentation at the March 27, 2025, meeting. The committee recommends that the **Executive MBA** graduate program should follow the regular course of action with an 18-month progress report and subsequent full external cyclical review to be conducted no later than eight years after the start of the last review.

FINAL ASSESSMENT REPORT

Institutional Quality Assurance Program (IQAP) Review

**MA in Gender & Social Justice
Grad Dip (PhD) in Gender & Social Justice**

Date of Review: March 4th and 5th, 2024

In accordance with the University Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response and assessments of the graduate programs offered by Gender and Social Justice. This report identifies the significant strengths of the program, together with opportunities for program improvement and enhancement, and it sets out and prioritizes the recommendations that have been selected for implementation.

The report includes an Implementation Plan that identifies who will be responsible for approving the recommendations set out in the Final Assessment Report; who will be responsible for providing any resources entailed by those recommendations; any changes in organization, policy or governance that will be necessary to meet the recommendations and who will be responsible for acting on those recommendations; and timelines for acting on and monitoring the implementation of those recommendations.

Executive Summary of the Review

In accordance with the Institutional Quality Assurance Process (IQAP), the Gender and Social Justice program submitted a self-study in February 2024 to the Vice-Provost and Dean of Graduate Studies to initiate the cyclical program review of its program. The approved self-study presented program descriptions, learning outcomes, and analyses of data provided by the Office of Institutional Research and Analysis. Appendices to the self-study contained the CVs for each full-time member in the department.

Two arm's length external reviewers and one internal reviewer were endorsed by the Dean, Faculty of Humanities, and selected by the Vice-Provost and Dean of Graduate Studies. The review team reviewed the self-study documentation and then conducted a virtual review to McMaster University on March 4th and 5th, 2024. The review included interviews with the Deputy Provost; Vice-Provost and Dean of Graduate Studies, Associate Dean, Grad Studies and Research, Director of the program and meetings with groups of current students, full-time faculty and support staff.

The Director of the program and the Dean of Humanities submitted responses to the Reviewers' Report (July 2024). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.

Summary of Previous Review's Recommendations

The key recommendations of the 2019 reviewers' report were to replace faculty resources, to secure space for the program, and to engage in visioning around the prospect of an undergraduate major in social justice and a potential research center or institute. Dr. Dibavar's CLA position has brought a degree of time-limited stability to our teaching resources, supplemented by one course from Dr. El-Sherif's CLA contract and MOUs with other Humanities departments. The need for at least one permanent hire remains. The program now inhabits one wing of the 2nd floor of Chester New Hall, including office space for faculty and TAs. Our Academic Department Manager and Administrative Assistant, who are shared with ECS, are nearby on the 3rd floor of CNH. Longer term visioning was disrupted by the pandemic but should be able to resume in 2024-25 as we continue to develop partnerships with Wilson College.

Summary of Program Current Program Review

Strengths

The reviewers noted several strengths of the GSJ program, including:

- a unique structure that embraces and encourages lived experience as knowledge, promotes decolonial and transnational feminisms, and champions equity-based pedagogies through alternative course and program offerings and assessments.
- Cross-disciplinary engagement of faculty members from almost every other discipline in Humanities and in Social Sciences, as well as Health Sciences and the Wilson College of Leadership and Civic Engagement, who teach GSJ courses and/or supervise GSJ graduate students.
- These instructors and supervisors are nourished by commend the program's commitment to justice, interdisciplinarity, community-engaged knowledge and learning, and to a wide array of empowerment practices that they take with them to enrich their home units.

In particular, we are pleased with the reviewers' comment that, "The impact of the GSJ program far outweighs its size and constraints."

Opportunities for Improvement and Enhancement, including appropriateness of resources

Recommendation #1:

Drs. Dibavar and El-Sherif are currently on 3-year contracts with GSJ, ending soon. We recommend finding ways to retain them on a permanent basis make concrete their responsibilities to GSJ. This could take the form of tenure-track positions cross-appointed with GSJ and another academic unit within the Faculty of Humanities.

Department's Response and Actions to be Taken:

Our highest priority is to see the creation of a tenure-line position in Humanities that includes contractual responsibilities to GSJ. Ideally, the search would be for a scholar who combines experience in research and teaching in transnational feminist and postcolonial studies, with possible connected expertise in one or more of the following areas: feminist critical thinking, decolonial theories, queer and trans studies, performance art and aesthetics, and critical (dis)ability studies, related to questions of social justice, political activism, global south, displacement, and migration. The ideal candidate would also have a demonstrated ability to secure research funding that could support GSJ students. Such a hire would not only secure teaching and supervision resources for GSJ, but could also complement the teaching and graduate supervision available in the home department through reciprocal agreements between the two units

Dean's Response:

I am always on the lookout for ways to shore up the teaching and supervisory resources of GSJ, and I am aware of the program's wishes for the same. The number of TT hires in the Faculty is expected to be very small over the next several years.

Recommendation #2:

Faculty affiliations are based on MoUs between their home units and GSJ. We recommend streamlining and formalize the MoU process so that it is not reliant on frequent negotiations between the GSJ director and unit chairs/directors, which are rotational positions. This would provide improved recognition and strengthen institutional support for GSJ and ensure stability of course offerings, supervision, and participation in GSJ's community.

Recommendation #3:

Create a GSJ Board of Studies to support and distribute the work of administering the program, which currently rests solely on the shoulders of the Director.

Department's Response and Actions to be Taken:

We see these two recommendations as linked because they both have to do with the stability of resources for teaching, student supervision, and committee service, all of which currently have a high degree of annual churn. The Director will begin implementing these recommendations in Fall 2024

Dean's Response:

The MOUs were helpful, and my understanding is that they need to be renewed. I raised this with the ADGSR several months ago and the Director of GSJ during annual review. I welcome the prioritization of renewal (and potential expansion) in the coming year. My only suggestion on this item is that the Director team up with the ADGSR. When we last worked on MOUs, the acting director found her requests to chairs to establish MOUs were aided by having the ADGSR's support and participation.

It's not entirely clear to me what the Board of Studies would do. I know the director already relies on the counsel and service of those who teach in the program. Would this be a formal name for that collective? If the Director believes a more formal structure would assist, I would request that Terms of Reference for the group be established and incorporated into the governance rules of the program.

Recommendation #4:

Reconsider the current staffing solution to have a dedicated GSJ administrator to address issues of workload and enhance administrative support for the director, affiliated faculty, and students.

Department's Response and Actions to be Taken:

It is obvious that our staff are over-extended. The fact that every faculty member has responsibilities to at least one other program/department often exacerbates confusion and inefficiencies. Furthermore, the fact that GSJ's staff share responsibility and space with the ECS department means that their duties sometimes spill over onto ECS staff. An increase of staff capacity would make the Director's work more practicable.

Dean's Response:

GSJ has never had a full-time staff administrator, as far as I am aware. Up until 2019, the staff role was shared with GPSJ. Unfortunately, I cannot invest in a full-time staff FTE in a program of this size. There are larger programs in the Faculty (including one Dept) that do not have a dedicated FT staff person.

I would recommend, however, that since ECS has a new ADM, it may be a good time to review the duties and structure of the team. I encourage the director to speak with her and share her concerns. I will also raise this issue with the Faculty's Director of Finance and Administration. She may also have some advice.

Recommendation #5:

Promote and support GSJ plans to nurture further institutional and curricular interactions with Wilson College and the Health Sciences Social Medicine and Global Health program to stabilize the program.

Department's Response and Actions to be Taken:

The Director has engaged in initial conversations with the Director of WC about a graduate seminar in community-engaged work that would serve both GSJ and WC. We will continue those conversations in the coming weeks. We are also keen to grow connections with Global Health and Social Medicine and will pursue this opportunity.

Dean's Response:

I have had some initial discussions with Dr. Anderson about both Wilson College and the emerging Social Medicine and Global Health initiative coming out of FHS. I would be happy to see connections grow. Dr. Anand in FHS is open to working with us, as she designs her new graduate diploma in Global Health and Social Medicine. When I last spoke to Dr. Anand, I mentioned GSJ as an interested and able partner. The two associate deans will be willing to help connect or explore these possibilities.

Recommendation #6:

Consider the creation of a Combined Honours in Social Justice Studies to bolster the undergraduate courses offered and open a different pathway for faculty renewal.

Department's Response and Actions to be Taken:

We have been daydreaming about this idea for several years. Rather than creating a new program, it might be more feasible to reorient the existing GPSJ program. The current GSJ Director has just started a term as Acting Director of GPSJ, which provides an opportunity to deepen familiarity with that program and explore potential expansions of synergies across the programs.

Dean's Response:

As Dr. Anderson notes, this idea has been floating around for a few years. She and the Director of GPSJ have worked on some recent curricular reform that brings their undergraduate offerings in closer contact, which I have supported.

I am anxious to see how the Wilson College Combined degree in Leadership and Civic Engagement fares. If we are able to attract 75 additional students a year to Mac who are interested in social change, that may help strengthen the rationale for a new Combined degree in Social Justice Studies. Unfortunately, comparator programs remain quite tiny at Ontario universities, as our recent environmental scan ahead of Wilson College planning illustrated.

Recommendation #7:

Address the gap in community-based learning expressed by students due to the cancellation of a core course that was unsustainable by adding an internship option to the MRP alternatives.

Department's Response and Actions to be Taken:

Our initial wariness is that building relationships with internship sites would be nearly as time-consuming as the unsustainable 707 partnerships were. The Director will seek advice from staff in the Humanities Careers & Experience office and from colleagues in the Office of Community Engagement to explore the feasibility of this recommendation.

Dean's Response:

I echo the director's hesitation here, though I think we all agree that it would be terrific for our graduate students to have internship opportunities. Our Humanities Student Experience Office is still trying to build a robust undergraduate internship option for students and has not ventured into graduate internships. What might be more fruitful is to wait for the report that is to be issued in August/Sept 2024 on graduate degree reform in Humanities. That report may give us some direction on internships. Funding/staff support will be an issue, as Dr. Anderson is well aware, but first I'd like to see what is recommended.

I know there are also discussions about graduate internships in SGS, though that unit also is limited by the current financial climate. In sum, this recommendation is something we aspire to, but at present we do not have the capacity to realize it. That may change as the conversations underway in Humanities and elsewhere on campus develop.

Recommendation #8:

Clarify and require student attendance at a select number of core unit events, such as public lectures, workshop, and colloquia to stabilize and foster the wider GSJ community and promote connections with the wider McMaster community.

Department's Response and Actions to be Taken:

This recommendation makes good sense. The Director will raise this with the affiliated faculty. Once we decide upon the appropriate way of implementing this requirement, we will make the appropriate program changes through the curriculum process.

Dean's Response:

I believe some graduate programs in Humanities have created a 'milestone' in their program structures that is based on participation in certain co-curricular events or trainings. Perhaps something similar could be done in GSJ to formalize attendance. That said, I also believe the previously mentioned Humanities grad reform report that will arrive in the next few months may have something to say about public lectures and professionalization workshops. I am hoping we will be able to consider some Faculty-wide initiatives that will build community without taxing each program with the responsibility of planning, hosting, staffing as many events on their own, which often draw small numbers.

Recommendation #9:

Provide all GSJ members (faculty, students, and staff) with feminist-principled anti-violence safety training on a regular basis that can be promoted widely to encourage further connections with the unit..

Department's Response and Actions to be Taken:

The GSJ program is keenly in favour of this recommendation; in fact, we made this request within our self-study.

The Director will connect with SVPRO with two goals: (1) determining whether SVPRO is able to provide some component of this training from within their resources (e.g. "responding to disclosures of sexual violence"); (2) identifying possible other providers of such training for the purpose of seeking a cost estimate.

Dean's Response:

I would second Dr. Anderson's suggestion that we try to use campus resources for such trainings. External consultants can be quite costly.

Implementation Plan

Recommendation	Action(s) to be Taken	Responsibility for Leading Action	Timeline for Completing Action
Hire a tenure-track colleague		Dean	
Formalize MOUs for teaching, supervision, and committee service	Map out teaching & service needs. Identify capacity of affiliated faculty. Complete MOUs.	GSI Director and ADGSR, in consultation with GSI-affiliated faculty and Humanities department Chairs	Fall 2024
Reconsider staff responsibilities	The concerns around inefficiencies should be raised with the Dept Manager of ECS and the Faculty's Director of Admin.	GSR Director in consultation with the Faculty DoFA and ADM in ECS	2024-25
Create and Expand partnerships with WC and Social Medicine programs	Firm up plans for WC graduate seminar on community-engaged work. Reach out to Social Medicine to begin exploring potential partnerships.	Director, in collaboration with OCE (K. Balcom) and WC (D. Abelson) Director, in connection with relevant FHS colleagues.	Fall 2024 2024-25
Consider Combined Honours BA in Social Justice Studies	Identify potential synergies within GPSJ, WC, other interdisciplinary minors	Director and Director of GPSJ with assistance if plans develop from the Associate Dean Undergrad St.	Fall 2024
Consider adding internship alternative to MRP	Initiate exploratory conversation with OCE and other relevant stakeholders	Director and ADGSR	Winter 2025
Clarify non-course requirements for graduate students	Consult with other grad directors, especially in light of pending report on graduate education in Humanities. Decide how to revise requirements. Make relevant curriculum changes.	Director and GSI Faculty	December 2024

Offer regular safety training	Identify providers and seek cost estimates. Secure funds for this training.	Director Dean / SGS ?	August 2024
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Quality Assurance Committee Recommendation:

McMaster's Quality Assurance Committee (QAC) reviewed the above documentation at the October 17, 2024, meeting. The committee recommends that the **MA in Gender & Social Justice** and the **Grad Dip (PhD) in Gender & Social Justice** graduate programs should follow the regular course of action with an 18-month progress report and subsequent full external cyclical review to be conducted no later than eight years after the start of the last review.

FINAL ASSESSMENT REPORT

Institutional Quality Assurance Program (IQAP) Review

Master of Financial Math

Date of Review: April 9-10, 2024

In accordance with the University Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response and assessments of the Master of Financial Math program. This report identifies the significant strengths of the program, together with opportunities for program improvement and enhancement, and it sets out and prioritizes the recommendations that have been selected for implementation.

The report includes an Implementation Plan that identifies who will be responsible for approving the recommendations set out in the Final Assessment Report; who will be responsible for providing any resources entailed by those recommendations; any changes in organization, policy or governance that will be necessary to meet the recommendations and who will be responsible for acting on those recommendations; and timelines for acting on and monitoring the implementation of those recommendations.

Executive Summary of the Review

In accordance with the Institutional Quality Assurance Process (IQAP), the Master of Financial Math submitted a self-study in March 2024 to the Vice-Provost and Dean of Graduate Studies to initiate the cyclical program review of its program. The approved self-study presented program descriptions, learning outcomes, and analyses of data provided by the Office of Institutional Research and Analysis. Appendices to the self-study contained the CVs for each full-time member in the department.

Two arm's length external reviewers and one internal reviewer were endorsed by the Dean, Faculty of Science, and selected by the Vice-Provost and Dean of Graduate Studies. The review team reviewed the self-study documentation and then conducted a site visit to McMaster University on April 9-10, 2024. The review included interviews with the Deputy Provost; Vice-Provost and Dean of Graduate Studies, Associate Dean, Grad Studies and Research, Director of the program and meetings with groups of current students, faculty, and support staff.

The Director of the program and the Dean of Science submitted responses to the Reviewers' Report (September 2024). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.

- Strengths:** The MFM program has several areas of strength that distinguish it from similar Master's programs at other universities and contribute to the achievement of McMaster's strategic priorities. The program has a very strong group of faculty teaching and supervising its students, and dedicated administrators supporting its continuing operations. The curriculum is well-thought out and comprehensive. A great strength of the program is its strong industrial content and its excellent relationship with its alumni and other contacts in the local financial industry. Students and alumni both commented on how this aspect of the program truly makes it stand out among its peers.
- Opportunities for Improvement and Enhancement, including appropriateness of resources:** The key area that the program needs to address is the level of faculty involvement, especially in light of the recent and prospective loss of teaching and administrative resources. Aside from this, the program could benefit from a review of its curriculum related to computational methods in finance, with a possible restructuring to add greater emphasis and more effectively teach applications of machine learning to finance and insurance. The program could also explore the possibility of adding some optionality to its curriculum, rather than having only a set of common required courses. Finally, the MFM could benefit from reviewing the expectations regarding computer programming skills for students entering the program.

Recommendation #1: We recommend continuing with the current admission requirements and encourage seeking ways to help streamline the interview process. Suggestions include i) having staff conduct short interviews to screen candidates to be selected for longer interviews with faculty; and ii) having candidates submit a short video recording where they outline their qualifications for the program and/or discuss some other topic.

Department's Response and Actions to be Taken: If the program were to have continued, it should have been possible to have staff pre-screen applicants for basic competency and communication skills. It is reasonable to have applicants submit 10-minute videos. In these videos, candidates could explain their reasons for applying to the MFM program, describe how it will contribute to the Canadian financial industry, and articulate why they prefer the McMaster program to other programs. This process would have helped us assess their ability to communicate effectively and their understanding of the program's value.

Dean's Response: We recognize the time commitment associated with screening potential students, and opportunities for streamlining the admissions process are welcome suggestions. If the program were to be continued, we would be supportive of initiatives such as video applications that enable initial screening of candidates. We would also further suggest that an evaluation rubric be created to assist staff with this process and to provide as much consistency in the evaluation as possible.

Recommendation #2: It may be useful to track student outcomes grouped by some variable(s) of interest such as undergraduate major or domestic/international status.

Department's Response and Actions to be Taken: The program can track student outcomes based on the area of their undergraduate studies, their performance in the program (academic) and their citizenship status. We are also able to track the outcome using the internship placements, internship evaluations plus employability post-graduation.

Dean's Response: The program has enjoyed a strong and on-going relationship with its alumni. While recognizing the need for confidentiality when tracking student outcomes across variables, knowledge of student outcomes is beneficial. McMaster's Alumni Office as well as the Institutional Research and Analysis (IRA) office may be positioned to help with analysis and insight of student outcomes.

Recommendation #3: Review the content of the computational courses in the program. Consider whether students would be better served with a full course on machine learning, deep learning, and data analytics offered in the Winter term, after they have learned foundational material in quantitative finance and statistics.

Department's Response and Actions to be Taken: If the program were to have continued, MFM 703 and MFM 713 could have been merged into a computational course offered in the winter semester. Non-MFM students may have been allowed to enroll if there were sufficient interest. MFM students would have completed an additional final project focused on success in the financial industry. Course materials would have been updated to reflect the combined curriculum.

Dean's Response: The Faculty of Science is supportive of moves to update program and curriculum content in all our graduate programs so that our students are best able to respond to industry and career needs. The Office of the Associate Dean (Graduate) would work with the program in updating and reviewing course and curriculum content. If the program were to continue, the addition of any new courses to the program curriculum would need to be carefully reviewed and weighed given additional teaching needs and balanced with current courses and cohort development.

Recommendation #4: Review the content and presentation of machine learning and data analytics throughout the program. Consider ways in which these tools and techniques could be incorporated into the Winter courses on Portfolio Theory and Optimization (MFM 711), Credit Risk Modeling (MFM 712), and Risk Management (MFM 714).

Department's Response and Actions to be Taken: MFM 703 and MFM 713 will continue to cover the core machine learning and data analytics used in financial applications. In MFM 711 deep learning settings can be developed to solve problems in portfolio optimization; they can be flexible enough to include several portfolios objectives such as Sharpe Ratio, mean-variance, and others. Regarding MFM 712 deep learning techniques and machine learning methods can be employed to assess credit risk. Neural networks and decision tree techniques can be applied to different problems in risk management (MFM 714).

Dean's Response: As with recommendation #3, the Faculty of Science is supportive of moves to update program and curriculum content in all our graduate programs so that our students are best able to respond to industry and career needs. The Office of the Associate Dean (Graduate) will work with the program in updating and reviewing course and curriculum content.

Recommendation #5: Consider whether the program could incorporate an elective course, particularly for students who have a strong foundation in one of the areas covered by the current required courses (e.g. a student with an undergraduate degree in statistics might be able to take an elective instead of the required course MFM 704 on the Statistics of Financial Data).

Department's Response and Actions to be Taken: While we appreciate the recommendation to offer elective courses for students with strong foundational knowledge, we believe that maintaining the core structure of the program serves the best interests of our students. Our discussions have highlighted several key considerations:

1. **Student Preference:** Most of our students prefer to take MFM 704 on the Statistics of Financial Data, even if they have a background in statistics. This preference is driven by their interest in the unique financial mathematics perspective the course offers and their desire to learn alongside their peers.

2. Course Atmosphere: Having a diverse cohort with varying levels of statistical knowledge enriches the classroom experience, fostering a collaborative learning environment where students can support each other.
3. Resource Constraints: Introducing electives would require significant changes to the program structure, potentially necessitating the removal of existing courses. Given the constraints on faculty and resources, this approach is not feasible at this time.

Dean's Response: Elective courses are acknowledged as an important way to provide flexibility and timeliness in course offerings. However, we support the program's decision not to add an elective course. As noted in the program response, cohort building includes students taking the same courses. Current financial and resource constraints also means that we are not in a position to add additional course options unless electives were drawn from other existing courses in Math and Statistics. We would also support the program looking at course options outside of the unit (i.e., Business) or elsewhere in Ontario via the Ontario Visiting Graduate Scholar program.

The review includes several recommendations around course content and offerings. If the program were to continue, we would also look to leverage the DeGroote School of Business' Master of Finance graduate program where there may be the opportunity to share resources and learning.

Recommendation #6: Given the structure of the program, we recommend investigating the use of integrated assessments across courses. For example, a project or assignment that integrates material from different courses and counts for part of the grade in those courses.

Department's Response and Actions to be Taken: A project that integrates material from different courses is the industrial project. The completion of the industrial project at the end of the program, requires a good understanding of topics and concepts from different courses. Other examples of such projects are already in place in other courses; for instance, in MFM 711 the course project integrates material from MFM 701. Had the program continued, additional integrated assessments between courses might have been explored.

Dean's Response: The MFM program already has several integrated assessment opportunities. The program would have been encouraged to explore other options had it continued.

Recommendation #7: Hire a new faculty member to replace Dr. Lozinski as director of the MFM program when he retires. This new position should begin as soon as possible (ideally by January 1, 2025). We reiterate that hiring this replacement is essential for the ongoing health and survival of the MFM program.

Department's Response and Actions to be Taken: We concur that a replacement for Dr. Lozinski is required for the survival of the MFM program. Unfortunately, current budget constraints have compelled a decision by the university to forego hiring such a replacement. As a result, the program will be suspended after the current cohort completes their studies in August of 2025.

Dean's Response: The Faculty Appointment Advisory Committee (FAAC) accepted applications for faculty (Teaching Stream) appointments during the spring of 2024, and the MFM program submitted a proposal for a hire. Given the current budget environment and the cost to the Faculty of Science in running the MFM program, the decision was made by the Dean of Science to pause intake to the program (starting fall 2025) and not hire into the MFM position. This decision to pause intake was a difficult decision but is reflective of the current fiscal environment faced by the Faculty and the

broader university. Current students in the program continue to receive full support and we have been in communication with them regarding the pause.

Recommendation #8: Investigate whether there are additional teaching resources that can be used to help the MFM program weather the loss of Professor Grasselli's contributions to teaching and supervision for the duration of his secondment to the provost's office. In particular, determine whether any of the resources the faculty receives as a consequence of this secondment can be directed to the mathematics department (and the MFM program in particular) to help mediate the impact of the absence of Professor Grasselli.

Department's Response and Actions to be Taken: While Dr. Grasselli has been seconded to the Provost's office as Deputy Provost, compensatory funds are provided to the Faculty. It would be reasonable to use some of these funds to supply a teaching resource to cover Dr. Grasselli's teaching responsibilities in the program. But with the exceedingly difficult financial situation that the Faculty is dealing with, that may not be something that can be arranged. Were the program to have continued, discussions regarding this would also continue.

Dean's Response: The Dean's office provides funds to Math & Stats to cover the cost of instructors to teach the classes Dr. Grasselli was responsible for.

Recommendation #9: Try to get more faculty involved in teaching in the program, which will allow for easier coverage of faculty absences due to sabbaticals or secondments, for example.

Department's Response and Actions to be Taken: Engaging more faculty in the Master in Financial Mathematics program is indeed an idea worth pursuing, especially to ensure consistent coverage during faculty absences. The program could leverage the interdisciplinarity DNA of our Department and expand faculty involvement.

Proposed Actions:

1. Exploration for MFM Program: We recognize the potential benefits of applying this recommendation to the MFM program. By considering faculty such as Katherine Davies, Sharon King-Yu, or Pratheepa as effective Statistics and Data Science instructors, we can enhance support and provide additional teaching resources within the MFM program.
2. Leverage Faculty Expertise: Identify opportunities to integrate faculty with diverse expertise in all programs, thereby enhancing cross-disciplinary learning and teaching efficiency.
3. Professional Development: Provide targeted professional development opportunities to potential faculty members interested in contributing to the MFM program.

Dean's Response: Faculty nimbleness in teaching is always encouraged and expected. While we recognize that not all faculty members would be able to teach specialized financial courses, there should be an ability for many faculty within the Math and Statistics Department to teach courses in statistics, numeracy, and emerging topics such as Machine Learning. Opportunities for drawing upon courses elsewhere in the university that cover topics that can be applied to the MFM program could also be explored. Leveraging these opportunities would ensure best use of instructional resources.

Recommendation #10: Evaluate the programming content of the MFM program, with a view to increasing the programming skills of graduates (particularly with regards to tools used in machine

learning and data analytics, e.g. python (numpy, pandas), and SQL). Set clear expectations for programming skills for students entering the program (either make these required for admission, or required before the program starts with references to some supplemental material provided to students who need to improve their programming skills between admission to the program and commencement of their course work).

Department's Response and Actions to be Taken: With our vision of modernizing to meet the contemporary coding demands of the industrial landscape, which is shifting towards a data-driven focus, we will integrate Python and PyTorch into each of our courses to maximize coding fluency and proficiency among all MFM candidates. We have already introduced a summer coding package and additional Python tutorials to ensure that all students are up to speed by the end of the first month of their entrance into the MFM program. We will continue to focus on producing data-proficient graduates in the MFM program. Course content has been standardized. Attendance is mandatory.

Dean's Response: The program has been proactive in increasing student's computational and programming skills. It has recognized that these skills are demanded in the workplace and have worked to ensure that students already in the program have these skills. As with recommendation #3, the Faculty of Science is supportive of moves to update program and curriculum content in all our graduate programs so that our students are best able to respond to industry and career needs, and the Associate Dean Graduate office will assist the program in updating its content.

Recommendation #11: Evaluate the structure and content of the weekly meetings with students regarding current issues in the financial industry. Consider ways in which the meetings could be re-organized in order to make them more beneficial for students (an internal frank and open discussion with current students and alumni regarding the strengths and weaknesses of these meetings may help in planning these changes).

Department's Response and Actions to be Taken: The recommendation is well taken. We will endeavour to broaden the variety of activities in the weekly meetings. Alumni and industry partners have expressed willingness to work with the students in this regard. Other formats and topics for discussion will be explored.

Dean's Response: The Dean's office fully supports opportunities to engage students and ensure that they are career ready upon graduation. If and when the program restarts in the future, we will look for how best to engage students and ensure that they receive information that is relevant to them. There may also be an opportunity for the Faculty's Science Careers and Cooperative Education (SCCE) office to provide support.

Recommendation #12: Consider turning MFM 712 into one or two half-courses (and consider combining MFM 703 and MFM 713 into a single course, more focused on machine learning and data analytics and their applications in finance).

Department's Response and Actions to be Taken: MFM 712 can be turned into one half-course, while the material of the other half could be moved to MFM 701 and the topics course as follows: some interest rate models (Vasicek, Hull White, CIR) can be covered in MFM 701, and more advanced topics in fixed income can be covered in the topics course, MFM 714, or in an elective course. MFM 703 and MFM 713 can be turned into a single two semesters course. But such significant changes will not be explored while the program is suspended.

Dean's Response: We thank the reviewers for these recommendations. If the program were not paused, the structure of courses could be reviewed, and program courses / offerings revamped. The Faculty of Science would be supportive of moves to update program and curriculum content in all our

graduate programs so that our students are best able to respond to industry and career needs within the context of limited financial resources to mount new courses.

Recommendation #13: Determine areas (such as in the computational courses and risk management course) where more content on insurance could be introduced into the program.

Department's Response and Actions to be Taken: We recognize the importance of integrating more insurance content into our program, and we have several strategies to achieve this goal:

1. **Leverage Undergraduate Program:** By leveraging our existing Undergraduate program in Actuarial and Financial Mathematics, we can incorporate relevant insurance topics into the MFM curriculum. This will provide students with a broader understanding of financial mathematics applications across different sectors.
2. **New Course with Industry Guest Speakers:** We are excited to introduce a new course in the Undergraduate Program, that will feature guest speakers from the insurance and financial industries. This course will provide students with practical insights and real-world applications, bridging the gap between theory and practice. MFM students could be offered access to this course.
3. **Seek Synergies:** Explore synergies between the MFM and AFM programs, identifying opportunities for collaboration and shared learning experiences. This approach will not only enhance the content on insurance but also foster interdisciplinary connections between financial mathematics and actuarial science.
4. **Curriculum Integration:** We have already started integrating more insurance-related material into the statistical course and the special topics course since this year. This approach allows us to gradually introduce essential insurance concepts to our students.

Dean's Response: The opportunity to leverage teaching and learning links with the undergraduate program in AFM would be of benefit to both the AFM and MFM programs and would be encouraged if the MFM program were to continue. If, however, new courses such as computation, risk management, or insurance were to be added to the MFM program, program leadership will need to think carefully about what courses are required versus elective and the ideas of cohort building that were previously raised in this review.

Recommendation #14: The program should consider establishing an Advisory Board consisting mainly of alumni and a diverse set of individuals, thus formalizing an important program support. The Advisory Board's role would be to perform functions that alumni are already doing on an ad-hoc basis, such as advising on curriculum, arranging, or serving as guest lecturers, and mentoring current students. A formal Advisory Board strengthens the consultative and inclusive aspects of assessing the program and implementing changes. Formalizing an Advisory Board can also benefit members of the board as a professional service activity that many employers demand of their employees. Furthermore, we think that key person risk can be reduced as the Advisory Board can serve as a vehicle to maintain and cultivate industrial contacts.

Department's Response and Actions to be Taken: This is a very good idea, and if the program were to continue, would be implemented for the betterment of the program. There are several appropriate alumni and industry partners who would be very happy to serve on such a committee, and who would provide invaluable guidance and insight. It was envisioned that such a committee would meet three times a year. The summer meeting would provide industrial expertise and insight on topics that should be included in the topics course, and other curriculum priorities from an industrial perspective.

The fall meeting would provide insights and guidance into industrial opportunities and industry site visits. The winter meeting would review the ongoing status of employment of the students and identify measures to be taken to secure appropriate industrial projects for those students who would not yet have appointments.

Dean's Response: When appropriately structured and utilized, an Advisory Board could directly support the program by providing a direct link between instructors and alumni. Given that program alumni are already highly engaged in the program, this would galvanize the relationship and would not require additional faculty resources.

Recommendation #15: Consider creating an Associate Director position that takes on some of the duties of the Program Director. This can help alleviate some of the pressure on the Director and partially mitigate key person risk.

Department's Response and Actions to be Taken: The decisions in the MFM program are taken in a collegial, conciliar fashion by the members of the academic committee. An Associate Director position can be created to help alleviate some of the pressure on the Director and partially mitigate key person risk.

Dean's Response: While Associate Directors can reduce some of the burden and duties associated with the position of the Program Director, there is the potential that it may reduce teaching roles. Of course, any reduction in teaching comes with the need for a sessional instructor or someone else to fill the teaching shortfall. The Dean's office would work carefully with the program if this role was to be considered in the future.

Recommendation #16: Evaluate the professional development content of the program, with a view towards strengthening the orientation towards the financial industry (particularly in terms of the preparation of resumes and cover letters). Look for opportunities to involve mentors with experience in the financial industry (faculty, alumni, etc.) in the professional development aspects of the program (for example, by having them provide comments on students' resumes and cover letters early in the program).

Department's Response and Actions to be Taken: It is a good idea to use the mentors in supporting students' efforts in producing strong resumes and cover letters. Alumni have also volunteered to do additional resume reviews and mock interviews. The use of these volunteer resources will be expanded in this fashion.

Dean's Response: Drawing on the experience of alumni to help support student development is beneficial to the students, and we would support this initiative. In addition, the Faculty's Science Careers and Cooperative Education (SCCE) office provides extensive support for students in developing student's career goals and tools. SCCE supports the career development of our graduate students by providing a number of workshops related to career development and growth. Workshops have included career advising, exploration, and information sessions, networking, cover letter and resume critiques, mock interviews, and more. Our Graduate Student Association group (SciGSA) also offers a career night for graduate students from across the faculty. While both of these are focused on the broader group of graduate students within the faculty, we are committed to creating and offering opportunities for graduate students to work toward employment opportunities and we continue to support the program in further advancing opportunities for career development of our students.

Recommendation #17: Include a brief information session on professional accreditations available in the finance industry in the professional development material.

Department's Response and Actions to be Taken: We can host information sessions led by top industry partners in Toronto's financial sector to inform MFM students about key professional accreditations they might consider adding to their MFM degree.

1. **CPA (Chartered Professional Accountant)**

- **Description:** The CPA designation is the standard accounting credential in Canada. It encompasses financial accounting, management accounting, and auditing. CPA Canada administers this certification, which is recognized across various sectors, including finance and business.

2. **CFA (Chartered Financial Analyst)**

- **Description:** The CFA designation is awarded by the CFA Institute and is widely respected in investment management and financial analysis. It focuses on investment analysis, portfolio management, and ethical standards. CFA charter holders are often employed in roles such as financial analysts, portfolio managers, and research analysts.

3. **CFP (Certified Financial Planner)**

- **Description:** Awarded by the Financial Planning Standards Council (FPSC), the CFP designation is for financial planners. It covers financial planning, investment planning, retirement planning, and estate planning. CFP professionals are equipped to help clients with comprehensive financial planning.

4. **CMA (Certified Management Accountant)**

- **Description:** The CMA designation, now part of the CPA designation, focused on management accounting. It emphasized strategic management and financial performance management, which are critical in guiding business decisions.

5. **FCSI (Fellow of the Canadian Securities Institute)**

- **Description:** This is a prestigious designation awarded by the Canadian Securities Institute (CSI). It recognizes advanced knowledge and experience in the financial services industry. FCSI is often held by senior financial professionals and advisors.

6. **CIIA (Chartered Institute of Investment Analysts)**

- **Description:** Now part of the CFA Institute, this designation focused on investment analysis and financial research. It was previously awarded by various national institutes, including the Canadian Institute of Financial Analysts.

7. **CIPM (Certificate in Investment Performance Measurement)**

- **Description:** Offered by the CFA Institute, the CIPM designation is focused on investment performance measurement and evaluation. It is valuable for professionals involved in performance analysis and reporting.

8. **FRM (Financial Risk Manager Certification)**

- **Description:** Offered by the Global Association of Risk Professionals, the certification proves the ability to assess, measure, and monitor risk in real-world situations. Those who earn the certification gain transferrable knowledge applicable across industries and functional roles. They are in a strong position to improve their job performance and advance their careers, while networking with a global

network of risk managers.

Dean's Response: While specific to the program (as opposed to the broader graduate student population as noted in Recommendation #16), the Dean's office would support information sessions such as these to further prepare our students for their careers over both the short- and long-term.

Implementation Plan

In the chart below, please outline the recommendations made by reviewers, briefly outline the actions you plan to take, who will be responsible for leading the action, and a timeline for completion.

Recommendation	Action(s) to be Taken	Responsibility for Leading Action	Timeline for Completing Action
1. We recommend continuing with the current admission requirements and encourage seeking ways to help streamline the interview process. Suggestions include i) having staff conduct short interviews to screen candidates to be selected for longer interviews with faculty; and ii) having candidates submit a short video recording where they outline their qualifications for the program and/or discuss some other topic.	If the program were to have continued, such streamlining initiatives would have been very welcome.	N/A	N/A
2. It may be useful to track student outcomes grouped by some variable(s) of interest such as undergraduate major or domestic/international status.	If the program were to have continued, we would have a summary report/Excel spreadsheet with student Data from the past few years, including and not limited to: Undergrad Degree, domestic/international status. We could have added Grades and performance in the program to the spreadsheet with the above information. Additionally, we would have added their	Hanadi Attar-Elbard	N/A

	internship or mentorship status during the program. We would have also followed up, post-graduation, on employment status (database already exists)		
3. Review the content of the computational courses in the program. Consider whether students would be better served with a full course on machine learning, deep learning, and data analytics offered in the Winter term, after they have learned foundational material in quantitative finance and statistics.	If the program were to continue, we could further integrate deep learning and elementary statistical methods our courses.	Anastasis Kratsios	N/A
4. Review the content and presentation of machine learning and data analytics throughout the program. Consider ways in which these tools and techniques could be incorporated into the Winter courses on Portfolio Theory and Optimization (MFM 711), Credit Risk Modeling (MFM 712), and Risk Management (MFM 714).	Explore deep learning techniques to solve problems in portfolio optimization.	All faculty	Winter 2025
5. Consider whether the program could incorporate an elective course, particularly for students who have a strong foundation in one of the areas covered by the current required courses (e.g. a student with an undergraduate degree in statistics might be able to take an elective instead of the required course MFM 704 on the Statistics of Financial Data).	If the program were to have continued, we would consider personalized academic advising for the minority of students with advanced statistical knowledge to explore opportunities for further specialization or independent study projects, ensuring that their educational needs	N/A	N/A

	are met without altering the program's core structure.		
6. Given the structure of the program, we recommend investigating the use of integrated assessments across courses. For example, a project or assignment that integrates material from different courses and counts for part of the grade in those courses.	If the program were to have continued, implementing integrated assessments across courses could be developed further.	N/A	N/A
7. Hire a new faculty member to replace Dr. Lozinski as director of the MFM program when he retires. This new position should begin as soon as possible (ideally by January 1, 2025). We reiterate that hiring this replacement is essential for the ongoing health and survival of the MFM program.	No action can be taken. Until the financial situation changes, we are unable to replace Dr. Lozinski	N/A	N/A
8. Investigate whether there are additional teaching resources that can be used to help the MFM program weather the loss of Professor Grasselli's contributions to teaching and supervision for the duration of his secondment to the provost's office. In particular, determine whether any of the resources the faculty receives as a consequence of this secondment can be directed to the mathematics department (and the MFM program in particular) to help mediate the impact of the absence of Professor Grasselli.	If the program were to have continued, discussions would be held with the Dean and the Chair regarding the appropriate use of the funds from Dr. Grasselli's secondment for covering his teaching responsibilities	N/A	N/A
9. Try to get more faculty involved in teaching in the program, which will allow for easier coverage of faculty absences due to sabbaticals or secondments, for example.	If the program continued, the above-mentioned initiatives would let us evaluate the feasibility of expanding faculty involvement and ensure that any changes align	N/A	N/A

	with our academic strategy.		
10. Evaluate the programming content of the MFM program, with a view to increasing the programming skills of graduates (particularly with regards to tools used in machine learning and data analytics, e.g., python (numpy, pandas), and SQL). Set clear expectations for programming skills for students entering the program (either make these required for admission, or required before the program starts with references to some supplemental material provided to students who need to improve their programming skills between admission to the program and commencement of their course work).	If the program were to continue, each course would have shifted largely to Python placing a strong emphasis on cultivating the deep learning skills of our students.	N/A	N/A
11. Evaluate the structure and content of the weekly meetings with students regarding current issues in the financial industry. Consider ways in which the meetings could be re-organized in order to make them more beneficial for students (an internal frank and open discussion with current students and alumni regarding the strengths and weaknesses of these meetings may help in planning these changes).	The program Director will reach out to select alumni and industry partners to arrange special one-off sessions to discuss appropriate industry topics. If possible, this may be done in smaller groups to better facilitate discussion at a personal level. The specific topics for discussion will depend on the particular knowledge of the volunteers that we recruit.	David Lozinski	We will pilot a couple of these in Fall 2024. The results will be reviewed, lessons learned, and additional sessions with appropriate modifications and improvements attempted in the winter term.
12. Consider turning MFM 712 into one or two half-courses (and consider combining MFM 703 and MFM 713 into a single course, more focused on machine learning and data analytics and their applications in finance).	Vasicek, Hull White, and CIR interest models from MFM 712 will be covered in MFM 701.	Traian Pirvu	Fall 2024

<p>13. Determine areas (such as in the computational courses and risk management course) where more content on insurance could be introduced into the program.</p>	<p>If the program were to have continued, implementing the above-mentioned strategies would allow us to enhance our curriculum further, equipping our students with the skills and knowledge needed to excel in both the financial and insurance industries. We will continue to include a module on insurance in the winter term.</p>	<p>N/A</p>	<p>N/A</p>
<p>14. The program should consider establishing an Advisory Board consisting of alumni and a diverse set of individuals, thus formalizing an important program support. The Advisory Board's role would be to perform functions that alumni are already doing on an ad-hoc basis, such as advising on curriculum, arranging, or serving as guest lecturers, and mentoring current students. A formal Advisory Board strengthens the consultative and inclusive aspects of assessing the program and implementing changes. Formalizing an Advisory Board can also benefit members of the board as a professional service activity that many employers demand of their employees. Furthermore, we think that key person risk can be reduced as the Advisory Board can serve as a vehicle to maintain and cultivate industrial contacts.</p>	<p>Had the program not been suspended, we would have certainly arranged to have established such an advisory board. We have many viable alumni and industry partners who would have been happy to sit on such a board, and who would have provided invaluable guidance and direction. It would be envisioned that the committee would meet three times a year, at a downtown location. Had such a committee been established, it would have been appropriate to</p>	<p>N/A</p>	<p>N/A</p>

	<p>budget for appropriate refreshments for the members at such a meeting. The most successful, but pricey, format may have been to gather committee members for a dinner at a downtown restaurant over which such matters could be discussed. But one agenda item at the first meeting of the board would have been to determine the optimal and most cost-effective format of such meetings.</p>		
<p>15. Consider creating an Associate Director position that takes on some of the duties of the Program Director. This can help alleviate some of the pressure on the Director and partially mitigate key person risk.</p>	<p>This could have been explored if the faculty group had been appropriately restaffed. But for the upcoming final year, the Director would simply be encouraged to better delegate many of the supervisory tasks.</p>	David Lozinski	Ongoing
<p>16. Evaluate the professional development content of the program, with a view towards strengthening the orientation towards the financial industry (particularly in terms of the preparation of resumes and cover letters). Look for opportunities to involve mentors with experience in the financial industry (faculty, alumni, etc.) in the professional development aspects of the program (for example,</p>	<p>Following the basic work on students' resumes by the SCCE Professional Development specialist, students' mentors would be asked to review and provide feedback to their mentees about their</p>	David Lozinski SCCE Professional Development specialist	Fall 2024

by having them provide comments on students' resumes and cover letters early in the program).	resumes. Additionally, another professional resume session would be arranged with an appropriate industry person associated with the program. The Director and the Professional Development specialist can also work with alumni and select industrial partners to create mock interview opportunities for the students, and/or "coffee chats" with alumni and other industry professionals.		
17. Include a brief information session on professional accreditations available in the finance industry in the professional development material.	Such an introductory session can be included in the professional development sessions run by David Lozinski.	David Lozinski	Fall 2024

Quality Assurance Committee Recommendation

McMaster's Quality Assurance Committee (QAC) reviewed the above documentation at the January 23, 2025, meeting. The committee recommends that the **Master of Financial Math** program should follow the regular course of action with an 18-month progress report and subsequent full external cyclical review to be conducted no later than eight years after the start of the last review.

FINAL ASSESSMENT REPORT

Institutional Quality Assurance Program (IQAP) Review

Anthropology (Graduate and Undergraduate programs)

Date of Review: March 5th and 6th, 2024

In accordance with the University Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response and assessments of the undergraduate and graduate programs offered by Anthropology. This report identifies the significant strengths of the program, together with opportunities for program improvement and enhancement, and it sets out and prioritizes the recommendations that have been selected for implementation.

The report includes an Implementation Plan that identifies who will be responsible for approving the recommendations set out in the Final Assessment Report; who will be responsible for providing any resources entailed by those recommendations; any changes in organization, policy or governance that will be necessary to meet the recommendations and who will be responsible for acting on those recommendations; and timelines for acting on and monitoring the implementation of those recommendations.

Executive Summary of the Review

In accordance with the Institutional Quality Assurance Process (IQAP), the Anthropology department submitted a self-study in February 2024 to the Vice-Provost Teaching and Learning and Vice-Provost and Dean of Graduate Studies to initiate the cyclical program review of its program. The approved self-study presented program descriptions, learning outcomes, and analyses of data provided by the Office of Institutional Research and Analysis. Appendices to the self-study contained the CVs for each full-time member in the department.

Two arm's length external reviewers and one internal reviewer were endorsed by the Dean, Faculty of Social Sciences, and selected by the Vice-Provost Teaching and Learning and Vice-Provost and Dean of Graduate Studies. The review team reviewed the self-study documentation and then conducted a site visit to McMaster University on March 5th and 6th, 2024. The review included interviews with the Deputy Provost; Vice-Provost Teaching and Learning and Vice-Provost and Dean of Graduate Studies, Associate Dean, Grad Studies and Research, Chair of the department, and meetings with groups of current students, full-time faculty and support staff.

The Chair of the Department of the program and the Dean of the Faculty of Social Sciences submitted responses to the Reviewers' Report (October 2024). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.

Strengths

- Students have positive evaluations of faculty expertise and attitudes and report good learning experiences
- Administrative staff at all levels are highly appreciated and recognized as engaged, effective and knowledgeable; their work is seen as an essential component of the reigning atmosphere of positivity in the department
- The positive department culture is also based on a sense of shared mission amongst faculty and support for student learning and social events to foster community
- The unique three stream approach at the undergraduate and graduate levels is both a strength and a challenge; it is working especially well at the undergraduate level. Students and faculty are aware of issues at the graduate level and engaged in discussion to address them.
- There are robust course offerings at the undergraduate level and evident student satisfaction with the three streams approach.
- There is a commitment to decolonization in the department including: decolonizing the curriculum (the Department established its own Equity Diversity Inclusion and Indigenous Strategies (EDIIS) committee in 2021 composed of faculty and graduate students to support faculty in developing syllabi and teaching strategies); intentions to attend to proper management of archaeological, bioarcheological, and ethnographic collections; commitment and action to renew relationships with local First Nations; and strong support for the new Indigenous Studies Department
- There is clear recognition and strong agreement on which central services issues are problematic for the department and individual faculty workload (MSAF, SAS, Communications, and Central Advising)

Opportunities for Improvement and Enhancement, including appropriateness of resources

- Lab Spaces are inadequate for teaching (hampering hands-on learning), include aged equipment, are inaccessible, and unsafe
- Archaeology stream has suffered significant faculty losses which has weakened teaching at graduate and undergraduate level and could impact the Department's reputation in this area
- Archaeological, biological, and ethnographic collections are inadequately, and in the case of human remains, unethically stored; there is great untapped potential for teaching in the labs once issues of space, associated resources, and management of collections are resolved.
- The three streams approach of our department is a unique strength and a challenge which requires periodic reflection and creative tinkering.

- Some challenges with ‘apprenticeship model’ (experiential education) of learning at the graduate level; appears to work better for bio-archaeology and archaeology than for sociocultural, with the creation of intellectual space for co-authored conference presentations and publications with the supervisor/lab group.
- Some student learning objectives may be left unmet with only 4 required courses in the PhD degree and no unifying mandatory Theory and Method course; the small number of courses offered each term may be inadequate to fulfill student needs.
- Directed reading courses which have become essential in delivering the graduate program curriculum, may in practice not meet student needs
- Greater cohort cohesion and stronger finish to the Honours degree might be accomplished by a required Honours Thesis or 4th year capstone

Summary of the Reviewers’ Recommendations with the Department’s and Dean’s Responses

Recommendation #1:

Undergraduate Program

1.a) Consider a required Honours Thesis or 4th year Capstone in the program that involves an independent research project.

1.b) Discuss moving forward with the idea of a 3 fields Food Studies minor

1. c) Explore ways to expand field schools including field schools in all three sub-disciplines, and look at alternate structures such as half-day field schools; or two-days a week field schools to increase accessibility for students with financial constraints who must work through summer months

Department’s Response and Actions to be Taken:

1.a) Honours thesis/4th year capstone: The department feels that we do not currently have the capacity for this option at the current time, particularly as it might undermine enrolments in our 4th year courses (which sometimes are underenrolled) and would be difficult to teach a course across the sub-disciplinary areas. Unlike some departments, we already have an ideal pathway involving independent studies and the Undergraduate Student Research Apprenticeship (USRA) program: students often take a reading course with a faculty member, then apply for a USRA with the scholarship as background. One option to be explored, however, is a six-unit two term independent study, term 1 being research, term 2 being writing of the thesis. (Such a model is fairly common in other programs)

ACTION: The undergraduate committee will explore the option of back-to-back independent studies and ways that faculty member may be able to gain credit for such work.

1.b) We agree with the reviewers that this is a good option to pursue.

ACTION: The undergrad chair, undergraduate administrative assistant and department manager are in the process of putting together a submission for this year's curriculum meeting. (While the title has not yet been decided, the minor may be called something like "Food, nutrition, and environmental health and well-being", as a way to include courses on food and nutrition, and environmental histories). This effort should help expand our course offerings, support existing courses (that can then be run on a more regular basis (e.g., Dr Yong's Cultural Politics of Food & Eating, ANTHROP 4CP3) and pick up students from across the faculty, and university, given McMaster's focus on health studies, and contemporary concerns for food security

1.c) While we recognize how expanding field schools would be a useful strategy, we are currently under resourced (in terms of faculty and budgets) for this to be developed in the immediate future, but are open for longer term discussion.

ACTION: Implement the new collaborative archaeological field school in 2024, with the aim of once again involving students from Wilfred Laurier to ensure sustainability. Revisit the possibilities of a bioarchaeology field school. Encourage discussions at the sociocultural scale for other experiential opportunities. Annual information session run by the faculty to help students find pertinent field schools and other forms of experiential education, drawing on our global network of connections in the academic and professional (CRM) realm.

This year's curriculum presentation includes the creation of an Anthropology BA(Hons) Co-Op degree, part of a co-op expansion program at the Faculty level. This process involves minimal extra work for the Department, but is envisaged as a key recruitment tool, providing paid internship opportunities for students over three terms of an expanded five-year degree. A Faculty of Social Sciences 'talent scout' is meeting with us in the winter term to detail professional connections within our field so that internships can be established for our students.

Dean's Response:

1.a: Independent Study. Given the resources constraints, it is simply not feasible to require an independent honours thesis or independent capstone research experience. A number of our programs offer capstone courses in which student undertake research projects either individually or in small groups. If the department judges it important to create additional research opportunities for students beyond those already available to students, I encourage the department to consider such an approach.

1.b: Agree.

1.c: Field school opportunities should perhaps be brought more explicitly within the framework of experiential learning, which then makes it more amenable to the support and assistance of the Faculty's Careers and Experiential Experience program. The creation of the co-op option within the Anthropology program will aid in this. But in addition to co-op, the Faculty has for many years offered internships opportunities and other placement opportunities for all undergraduate social science students. It will be important for Anthropology to work with the staff of the experiential learning office to identify placement opportunities in the community suitable for anthropology students.

Recommendation #2:

Graduate Program

2.a) Consider adding a required Theory and Method course to both MA Thesis and PhD degrees to address concerns about gaps in knowledge not filled by the apprenticeship model.

2.b) Consider designing a unique three-stream course, possibly team taught. Seek a model for team teaching to 'count' within workload model at the Department and University level.

2.c) Make modest but pointed revisions to the Comprehensive Exam process to ensure a consistent approach amongst faculty regarding list preparation, meeting time with committee beforehand, timely marking, and meaningful feedback. Ensure no student is made to write Comp 2 without adequate debrief and feedback on Comp 1

2.d) Look for ways within the apprenticeship model of teaching at the graduate level to level the playing field so that more graduate students have access to independent reading courses with their supervisors and faculty do not experience them as an invisible workload burden

2.e) Continue to press for funding for international students when supervisors do not have large external grants or lab-based projects (a situation more common in sociocultural anthropology

2.f) Continue the practice of early review of graduate program applications and early offers

Department's Response and Actions to be Taken:

2.a) A joint Method and Theory course, which would be required for all incoming graduate students, has long been discussed in the department. The department is in consensus that we do not wish to implement a joint Method and Theory course that would be required for all graduate students. We are confident that we have sufficiently integrated a three-fields approach to our best ability (wherein all our students become familiar with the kinds of questions, theories, methods, and approaches taken by the respective subfields) through other avenues in our graduate experience. For example, all first-year graduate students are required to attend our annual speaker series' colloquia, which feature a diversity of scholars from all three subfields from week to week. Further, all first-year students enrol in our required Professionalization Development Workshop, taught by the Graduate Chair. The workshop sees students building community, cohesion, and learning—through hands on activities and topical foci such as grant writing, preparing for conferences, networking, crafting a research proposal, conducting a literature review, and so on. In the context of the workshop, students are exposed to colleagues' subfield expertise and familiarized with the broad scope of three-fields questions, methods, and theories our department hosts. We do not wish to require a Theory and Method course for our graduate students considering the low number of courses (4 for PhD students, 6 for MA students) they must complete; the current model enables students to hone their theoretical and methodological interests in communities of practice that are situated more firmly in their respective subfields, which is crucial in a program with few required courses.

ACTION: No action.

2.b) We have been building up “three-stream” graduate courses over the past number of years and several of our offerings have been renamed or reorganized to attract a diversity of students from across the subfields. For instance, Dr. Brickley renamed her biological anthropology course more broadly to attract a wider audience of students: “Past Perspectives on Health”. As the reviewers point out, our “Writing the Field” course is quite popular among all subfield students. Bodies, Politics, Data has also regularly attracted students from across the three fields. Dr. Wissler will be initiating her three-stream quantitative course this year. While joint courses would be of potential value to the department, this would require team-teaching, for which there are currently limited material supports. For team-teaching to work, our faculty members would expect to receive full teaching credit for any team-taught course, given the time commitment, planning, design, and engagement required; we are confident this workload is equivalent to the time and energy given to a single instructor course and should be recognized as such.

ACTION: The department will explore how other departments do team-teaching (if they do). We will also consider capitalizing on the diversity of subfield approaches in the department by inviting colleagues to do brief guest visits to graduate classes, when relevant. In designing courses, all faculty members continue to be mindful of ways to ensure their course content is of interest and relevance to as many of our three subfield students as possible, within reason (given some graduate courses may feature specialized methods).

2. c) Our comprehensive exams were subjected to an intensive review in the past several years by our graduate committee. Many of the suggestions and improvements that emerged from that exercise are now embedded into the protocols and guidelines for comprehensive exams, clearly articulated in the Department Graduate Handbook. The graduate committee recently re-designed the comprehensive exams evaluation forms for supervisory committee members, making explicit the expected ‘type’ of feedback required for each component (Coverage of content/critical analysis, organization/structure, style, other comments). Beneath each of these sub-sections, the reviewer is provided with numerous prompts to aid them in providing meaningful and thorough feedback. In the 2023-24 academic year, two faculty members took well beyond the timeline of three weeks allotted to provide feedback on student exams; the two students in question did not receive feedback before beginning the second exam. On one occasion, a faculty member provided minimal and non-substantive feedback. In these cases, the graduate chair spoke with both faculty members to remind them of their obligations and departmental expectations for feedback and timeliness.

ACTION: The Graduate Chair will ensure that faculty members (supervisor and supervisory committee members) are providing timely and substantive feedback on: 1) Outlines for comps; and 2) Comprehensive exam evaluation forms. When new faculty members are hired into the department, the Graduate Chair will ensure they are briefed on the comprehensive exams process and expectations for timeliness and nature of feedback on outlines and exams.

2. d) While we understand student demand for independent study courses, given faculty workload

and increased demands on faculty members' time and energy, increasing the number of independent study courses is not possible. In a departmental discussion around the IQAP report, we have come to the consensus that independent study courses at the graduate level are meant to be 'stop gap' measures and measures of last resort if a student's specialist interests require individualized attention and cultivation in the context of such a one-on-one course. This will be clarified in upcoming edits to the department graduate handbook, so that equity concerns are addressed.

ACTION: The department will work towards clearer messaging around the value of taking a breadth of courses even if they are not exactly aligned with students' interests, something we believe to be true. Faculty members will continue to work to develop courses that enable students of all subfields to 'use' the assignments toward their own developing research interests or program milestones (i.e., comps, proposals, grants). There are rare occasions, given the stochastic and unpredictable nature of graduate admissions (and the potential for there to be, say, a single student in a subfield in any given year), where a student may need to, with the aid of their supervisor, explore options beyond an independent study to fulfill training needs for the subfield. For instance, our department will consider, in such rare cases, allowing an extra independent study in year one for such students, via a mechanism of the student enrolling in a pertinent undergraduate-level class and producing graduate-level assignments evaluated by the supervisor.

2. e) International funding has long been an issue in the department.

ACTION: We will continue to press for funding but are *very* cognizant of budgetary constraints. There was previously a welcome Faculty of Social Sciences international initiative to support one international student per year but that has been paused. Further, recent caps on international student study permits also constrain our ability to make progress on this front. We will continue to voice our concerns about the lack of international student funding in forums such as the Graduate Curriculum and Policy Committee (GCPC) and the Graduate Council. Given McMaster's emphasis on internationalization, we will continue to press the School of Graduate Studies (SGS) and the Faculty of Social Sciences (FSS) as to why funding international students is not a priority. The Graduate Chair will explore with other departments in FSS and beyond how they go about funding international students.

2. f) The early review of graduate program applications has been a remarkable success in the department and is being explored now in other departments.

ACTION: We will continue this practice, which was developed and implemented by our staff.

Dean's Response:

2.a: The department is committed to a three-field approach, has thought carefully about how to integrate it into its programming, and worked very hard to implement it effectively. I support the decision of the program to not pursue this specific recommendation.

2.b: It is infeasible and unrealistic to receive credit as a sole instructor when team teaching a course. Such an approach would double or triple the cost of offering a course. Team teaching does happen in a number of programs in the Faculty using a model in which faculty receive partial credit pro-rated relative to being the sole instructor for a course. Faculty sometimes express concern about how partial credit can be integrated into the overall accounting for educational contribution, it is easily handled by making multi-year commitments to a team-taught course, e.g., two-person teams teach

for an even number of offerings, those in three-person teams commit to three offerings, etc. Further, and more generally, the greater is the amount of team teaching in a program, the easier it is to accommodate such concerns.

2.c: The department has devoted considerable effort to its comprehensive exam process and the proposed actions should address the underlying concern.

2.d: Current resource constraints make it infeasible to offer a large number of independent study courses in which the faculty member receives full teaching credit. The department's approach is appropriate to explore alternative solutions when a student is faced with a need for training not offered through an existing course.

2.e: International funding for graduate students has been a challenge since such funding was discontinued by the province in the mid-1990s. As noted, the Faculty did introduce a very modest program of support for international students a few years ago. The resources devoted to that program were re-allocated starting last year to finance an increased funding floor for PhD students, which was judged by many in the Faculty to be a more pressing issue. It is important to also acknowledge that both the Faculty of Social Sciences and the School of Graduate Studies have increased support for international students in a less visible way through their allocation formulae for TAs and graduate scholarships. Both now include international students in a program's enrolment count used as a basis for allocating TAs and scholarship funding to programs. Hence, international students now attract both TA funding and scholarship funding to a program.

2.f: No comment.

Recommendation #3:

Faculty Hiring/Teaching/Workload

3.a) New hire in Archaeology in 2024-25

3.b) Explore the benefits and mechanisms of co-teaching / team-teaching as ways to meet the pedagogical goals around connections across and between the subfields.

3.c) Continue to press Deans and Central Services to address concerns with SAS, MSAF, Academic Advising, and Communications and identify aspects and burdens that are unique to social science classes and programs

3 d) Keep an eye on imbalances in graduate supervision loads and its impact on faculty and students; discuss as a department how to maintain good balance

3.e) Continue to devote time, energy and funds towards community building through events that engage all members of the department (faculty, staff, undergrads, and grads and postdocs)

Department's Response and Actions to be Taken:

3.a We absolutely agree that we need a hire in archaeology. With a recent loss of a critical faculty member to a spousal hire, an upcoming retirement, and various leave cycles, it is very likely the department will have *only one* archaeologist trying to maintain a popular and critical element of our program. This lack of archaeologists in the department is already undermining our pedagogical goals (and is a considerable threat to larger initiatives, such as the current CFI application.)

ACTION: The Chair will continue to push for this significant need to keep the archaeology program afloat.

3. b Co-teaching is indeed possible, although requires a sharing of credits. Such off-setting is possible (i.e. a trade off from year to year), but remains most achievable as a pairing of scholars, rather than a larger team (e.g. Iqbal/Stainova, Poinar/Prowse, Moffatt/Wissler, Carter/Roddick)

ACTION: Undergraduate committee will discuss options based on student needs, and faculty availability, through reference to existing university models. Our department manager and undergraduate chair will explore options across the University. We also look forward to guidance from the FSS Dean to assess how other disciplines make this work in an equitable fashion.

3.c Student Accessibility Services (SAS), McMaster Student Absence Form (MSAF), and Academic Advising are key labour concerns. Some of our faculty members balance almost 50% of their students in large classes having SAS accommodations. Ongoing conversations across the FSS make it clear that concerns around SAS, MSAFs and academic advising are widely acknowledged, and various efforts are underway to shift the heavy burden, including the investigation of new TA roles to lessen the burden. We hope these broader discussions filter down to us via Dean's Advisory Committee (DAC) and Undergraduate Academic Planning and Policy Committee (UPPC), as solutions for these issues cannot come soon enough.

ACTION:

None, other than a continuation in engaging wider discussions.

3.d. In a smaller department such as ours, imbalances are inevitable, given the stochastic and unpredictable nature of graduate admissions (i.e., there is no way to predict the balance of students from each given subfield who will be admitted in any given year). It should be noted that the current provincial budget model also requires departments to keep to a narrow corridor, which sometimes results in pressure for faculty members (even those with high supervisory/committee duties) to accept students. Further, the department has seen a shift in the quality of applicants in recent years, and, thus, we cannot assume a steady flow of high-quality applicants; thus, faculty members tend to accept strong students even in years when their load is high. The department aims to continue to prioritize junior faculty members for supervision opportunities, as historically this has comprised a key-component of tenure expectations. That said, with the noted increasing issues concerning the diminishing quality of graduate applicants, we will carefully monitor the situation moving forward, aware that we may need to revise tenure expectations regarding graduate supervision (i.e., taking a lesser quality student may lead to greater work responsibilities, negatively impacting other core tenure deliverables such as publications and grants). Further, within department mechanisms, the Chair is cognizant of differential supervisory and supervisory committee loads and can aim to distribute service duties within that context.

3. e. The department of Anthropology (like other departments across the faculty) continues to “bounce” back from COVID. We will continue to plan several events per term to continue to build a sense of community. In Spring 2023 and Fall 2024, we have already observed a significant uptick in a sense of community in the department. For instance, we have a very enthusiastic new student group of our undergraduate society (McMaster Anthropology Society), who are being closely supervised by the undergraduate chair, the Undergraduate Administrative Assistant, and the archaeology Instructional Assistant. Several events have been planned, which will build off a successful anniversary event in September. Some faculty members have started a small reading group stemming from their shared interests, and graduate students have recently initiated a brown bag lunch series and a writing group. **ACTION:** Continue what we are doing, with annual reflections, while also acknowledging that community creation is an organic affair, and that faculty, staff, and students alike may not always appreciate expectations to participate in social/academic events above and beyond expected workloads.

Dean’s Response:

3.a: The department has advocated very strongly regarding the need to hire an archaeologist as soon as feasible. The Faculty acknowledges this priority.

3.b: See previous response on the issue of team teaching. It is feasible and is done in many programs, but not in a model in which each instructor receives full credit as if serving as the sole instructor.

3.c: As the department notes, this is a problem across the Faculty (and the university). The Faculty has worked to provide support to instructors. A few years ago it hired a full-time staff person to provide support to instructors with particularly difficult accommodation cases. The Faculty established a working group last year to identify options for providing support to instructors in managing MSAF. The Faculty will be piloting the recommended program starting this winter term, creating a new, part-time staff position in departments to provide support managing MSAF requests for (primarily) large first- and second-year courses. Anthropology has expressed an interest in participating in the pilot program.

3.d: No comment.

3.e: The department has a strong, collegial culture. Like all departments, it has struggled with faculty presence in the department since the COVID pandemic. This reduced presence especially affects junior faculty and students. There is no simple, effective way to address this. Like others, it is experimenting with different ways to address this and departments in Social Sciences share information on strategies they are implementing and their effects. ON it part, the Faculty has supported these efforts by departments and programs.

Recommendation #4:

Teaching Labs

4. Renew and renovate Lab Space

Department's Response and Actions to be Taken:

We agree with the Reviewers' assessments of the poor quality of our lab space (an issue that has been raised in previous IQAP reviews). Given the flooding issues, it would seem critical to find more appropriate spaces for the archaeology labs and their associated collections. In both the bioarchaeology and archaeology labs there are underlying issues with the space itself. There are significant constraints impacting the pedagogy of cutting-edge teaching, where it is impossible to teach students appropriately in cramped, stuffy locations.

ACTION: There have already been some changes since the Reviewers visit. In Spring 2024, our bioanthropology teaching lab (CNH 407) received an upgraded touch display (75"), a built-in room PC, and a laptop device connection for external devices (though it was also noted that these developments also served to make a small space even more cramped, space being one of the key issues here). We also acquired a new document camera which is portable and mostly used in the Anthropology labs; our archaeology teaching lab (KTH B122) received an 86" upgraded touch display, a built-in Room PC, a laptop/device connection for external devices, new CAT 6 network lines, and wireless presentation last year. Both rooms are slated to receive new tables (with power) and electrical upgrades to help with safety, cable management and powering user devices. This is funded for fiscal year 2025 under FSS Teaching & Learning budget. An application is also in to cover additional microscopes, land-based recording/mobile internet/streaming equipment which could be used at field schools off site, 4 additional portable document cameras, Accessible signage for archaeology lab area was also part of the application.

These actions, however, are not impacting the critical problems with the space itself. Our large CFI application, if successful, is hoped to have major positive impacts on these matters, albeit indirectly as CFI's cannot be linked to undergraduate instruction. In short, were the grant be successful, space on campus where research labs currently exist would be vacated and returned to the FSS; in turn we hope that other improved spaces for our teaching labs could be provided within this context of spatial reconfiguration.

Dean's Response:

4. I am aware of the need to address deficiencies regarding the department's lab-based teaching spaces. As noted, the Faculty recently invested to upgrade the technology in the lab. More fundamental is the physical space, including both the size of the lab and its dated infrastructure. The Faculty is supporting a large CFI application to upgrade comprehensively the research spaces, especially those that support archaeological and bio-anthropology research. While this will not directly address the deficiencies in the teaching lab, it will reconfigure department space in a way that will facilitate re-location and updating of the teaching lab. This represents one important strategy. The Faculty will also work with the

department to develop an approach that could be pursued should the CFI application not be successful. The strategy must include both funding (e.g., through the upcoming capital campaign) and space options. The Faculty commits to addressing these problems.

Recommendation #5:

5. Teaching Collections - deal with collections with proper consultation with First Nations where possible and appropriate. This is an urgent area of improvement

Department's Response and Actions to be Taken:

The archaeological, ethnographic, and biological collections are in the process of being properly documented. Our new archaeology Instructional Assistant (with less than 6 months experience on the job) has already made significant progress in cataloging and organizing the collections. The reviewers also highlight concerns about human remains, which have no direct relationship to our undergraduate or graduate curriculum. Furthermore, the reviewers time in the laboratory was led by a new IA, who did not have the necessary background to explain the process associated with the Ancestors. We take the concerns expressed seriously.

Since at least 2004, successive Chairs of McMaster University's Department of Anthropology have attempted to initiate the repatriation/rematriation of Indigenous Ancestors, whose human remains had been held irreverently for decades. Starting in 2018, however, a new Chair of the Department of Anthropology reinvigorated this initiative, leading to a new Repatriation and Collections Committee (RACC) and an elaboration of the original 2004 Repatriation and Collections Committee policy statement. Since that time bioarchaeology colleagues along with a Six Nations (Haudenosaunee) colleague, working within Band Council have been documenting the Ancestors' remains. Approximately 60% of the Ancestors were documented before 2020, when our progress was stalled by the COVID-19 hiatus and the sad passing of our Band Council colleague in 2020.

Since that time, the revised policy statement has been reviewed (in 2022) by the McMaster Indigenous Education Council (IEC, which includes several Indigenous faculty members) and a funding application has been sent to the Provost and colleagues on the Joint Indigenous-Administrative Consultation Group (JIACG) Committee. Funding was granted by the Provost via a JIACG meeting in June 2023. In late summer 2023, a Haudenosaunee Traditional specialist was consulted about the Return of the Ancestors, which eventually resulted in their visit to Kenneth Taylor Hall B122 and a series of discussions about the next steps. In August 2024, most Ancestors were removed from Kenneth Taylor Hall and brought to Sustainable Archaeology McMaster. Those few remaining will also receive final documentation and come to Sustainable Archaeology McMaster, likely in October 2024. It is in this facility where the Ancestors are being bundled in natural muslin in preparation for their reburial. Reburial of the Ancestors will take place when the Haudenosaunee Traditional specialist feels the time is right, likely in spring 2025.

ACTION: Some of the requests for laboratory infrastructure has been packaged into a grant request that was submitted in summer of 2024. As noted above, most of the Ancestors have already been

located to a more appropriate location, and reburial is anticipated in the next year.

Dean's Response:

The department has been working assiduously on this matter for the last number of years. It has made considerable progress in the last couple of years, with support from the Faculty and university. At the moment, the expectation is that it will largely be resolved in the near future.

Implementation Plan

Recommendation	Action(s) to be Taken	Responsibility for Leading Action (specify the role(s) that will be responsible for each action item e.g. Program Chair.)	Timeline for Completing Action (indicate specific timelines (e.g. not 'ongoing') for action)
UNDERGRADUATE 1. A) Consider a required Honours Thesis or 4th year Capstone project.	The undergraduate committee will explore the option of back-to-back independent studies and ways that faculty member may be able to gain credit for such work.	The undergraduate chair in consultation with the chair and the dean.	Complete by Fall 2025, and if feasible, presented to the 2025 Undergraduate Curriculum committee.
1. B) Discuss moving forward with the idea of a 3 fields Food Studies minor	We will submit a proposal for the Fall 2024 Undergraduate Committee	The undergrad chair, undergraduate administrative assistant and department manager	To be fully approved by university curriculum committees by Spring 2025 and be available to interested student in Fall 2025.
1. C) Explore ways to expand field schools to include all three sub-disciplines; look at alternate course delivery structures to increase accessibility.	We will revisit the possibility of a bioarchaeology field school and explore experiential education possibilities in sociocultural side (including co-op options)	Department Chair	Complete by Spring 2026
GRADUATE 2. A) Consider adding a required Theory and Method course.	The department will not add a Theory and Method course.	N/A	N/A
2. B) Consider designing a unique three-stream course	-We will not at this time design a three-stream course	N/A	N/A

<p>(possibly team taught) and seek a model for crediting team teaching.</p>	<p>-We will ensure that our annual graduate curriculum/course offerings ensure a diverse and inclusive (to students across the subfields) suite of courses.</p> <p>The department will continue to ensure that all three subfields are well represented in the department seminar series/annual speakers invited to the department.</p>	<p>Graduate Chair will evaluate course offerings with an eye toward three fields accessibility and inclusivity annually during curricular planning.</p> <p>Speaker Series Committee</p>	<p>Implemented in Fall 2024 to begin in Fall 2025/Winter 2026.</p> <p>Implemented to begin in Fall 2024 with speaker invitations for Winter 2025</p>
<p>2. C) Ensure consistent approach in Comprehensive Exam process regarding list preparation, meeting time with committee beforehand, timely marking, and meaningful feedback. Ensure no student is made to write Comp 2 without adequate debrief and feedback on Comp 1</p>	<p>-All new faculty members will be briefed by the Graduate Chair in a one-on-one meeting about the processes, expectations, and nature of feedback expected on comprehensive exams.</p> <p>-Graduate Chair and Graduate Admin will keep close eye on the timely return of feedback on comprehensive exams. If the deadline is exceeded, the Graduate Chair will meet with the relevant faculty member to remind them of the expectations and obligations around comprehensive exams.</p> <p>-Should a faculty member miss deadlines or fail to provide substantive feedback more than</p>	<p>Graduate Chair will do this briefing to ensure all faculty members are up to speed on comprehensive exam expectations.</p> <p>Graduate Chair and Graduate Admin will track closely the return of evaluations from supervisors and committee members. If the feedback is not returned by the deadline, the Graduate Chair will immediately reach out to the faculty member in question.</p> <p>Graduate Chair and Department Chair will confer should this arise.</p>	<p>Implemented Fall 2024. We have one new faculty member who has not yet experienced the comprehensive exams process. Graduate Chair will debrief them in Fall 2024. Going forward, the Graduate Chair will debrief any future new faculty members in the Fall of their first year joining the Department.</p> <p>N/A</p>

	twice, the Department Chair and Graduate Chair will confer as to next steps, which may include removal from graduate committees.		
2. D) Look for ways for graduate students to have access to independent reading courses with their supervisors and seek a model for crediting faculty teaching	<p>-We do not wish to increase the number of independent study courses as we see them as ‘stop-gap’ measures rather than expected inclusions, in a student’s coursework.</p> <p>-Given our departmental discussion, faculty members will ensure consistent messaging around independent study courses and around the value of taking a breadth of courses in the department.</p> <p>-Individual students’ supervisors may elect to run an independent study. In some cases, as when a student is the only admittee from a subfield in any given year, the student’s supervisor will discuss with the Graduate Chair viable options to ensure sufficient training and exposure in the student’s areas of interest and study (e.g., taking an undergraduate course as an independent study, even beyond the typically permitted 1 independent study course).</p>	<p>N/A</p> <p>Departmental faculty members and Graduate Administrative Assistant to ensure messaging to new students</p> <p>Individual supervisor(s) and Graduate Chair will confer</p>	<p>N/A</p> <p>Beginning Fall 2024</p> <p>Late summer of each academic year</p>

2. E) Continue to press for funding for international students in all subfields.	<p>-We will continue to press for more funding for international students</p> <p>-We will explore how other departments in FSS and beyond may fund international students</p>	<p>Graduate Chair will raise at Graduate Curriculum and Policy Committee (GCPC) and Graduate Council. Department Chair will raise at relevant venues. Graduate Chair will confer with other Graduate Chairs and Graduate Dean.</p>	<p>Beginning Fall 2024</p> <p>Fall 2024 and Winter 2025</p>
2. F) Continue the practice of early review of graduate program applications and early offers	<p>-Practice will be continued, but with continued care. Early offers are contingent on graduate funding available. We estimate our budget every year based on WGUs and only receive our formal budget confirmation AFTER offers have gone out.</p>	<p>-Graduate Admin and Graduate Chair</p>	<p>Currently done and continuing.</p>
3. A) New hire in Archaeology in 2024-25	<p>We will continue to press the FSS Dean on this critical need.</p>	<p>Department Chair</p>	<p>Quarterly follow-ups with Dean until implemented</p>
3. B) Explore the benefits and mechanisms of co-teaching / team-teaching as ways to meet the pedagogical goals around connections across and between the subfields.	<p>-The department will explore how other departments (if they do so) implement team-taught courses at both the graduate and undergraduate level (see recommendation 2b), though we will not at this time be implementing a team-taught course. Should such teaching opportunities be properly and fully credited, we will reconsider this.</p>	<p>Chair, Graduate Chair and Department Manager</p>	

3. C) Continue to press Deans and Central Services to address concerns with Student Accessibility Services (SAS), McMaster Absence Reporting Form (MSAF), Academic Advising, and Communications. Identify aspects and burdens that are unique to social science classes and programs.	We will continue to work with the administration in the Faculty of Social Science on this need.	Department Chair, Undergraduate Chair, Department Manager.	Ongoing and while the implementation will be Faculty-wide, we are optimistic that some changes will be implemented by Fall 2025.
3. D) Keep an eye on imbalances in graduate supervision loads; discuss as a department how to maintain good balance	-Imbalances are observed, but deemed inevitable, given the nature of graduate admissions, faculty research leaves, administrative appointments, and the pressures of the corridor model -Department Chair will consider supervisory and committee workloads in determining distribution of other departmental service.	N/A Department Chair	N/A Fall 2025 initiation
3. E) Continue to devote time, energy and funds towards community building through events that engage all members of the department.	Several years ago, the department created a social committee as one of the department standing committees, provides \$2500 each year towards social events for all department members. Polls are done each year to solicit interest in potential social events.	Department chair in consultation with social committee.	Currently done and continuing.
4. Renew and renovate Lab Space	Some actions already taken (grants for small furniture and technology needs). If CFI is	Department Chair and Dean.	Unknown.

	successful, work with the dean to find more suitable laboratory spaces.		
5. Deal with collections with proper consultation with First Nations where possible and appropriate	Some of the requests for laboratory infrastructure has been packaged into a grant request that was submitted in summer of 2024. Most of the Ancestors have already been located to a more appropriate location, and reburial is anticipated in the next year.	Department Chair, Instructional Assistants, and repatriation/rematriation committee	Fall 2025/Winter 2026

Quality Assurance Committee Recommendation

McMaster's Quality Assurance Committee (QAC) reviewed the above documentation at the January 23, 2025, meeting. The committee recommends that the **Anthropology** undergraduate and graduate programs should follow the regular course of action with an 18-month progress report and subsequent full external cyclical review to be conducted no later than eight years after the start of the last review.

FINAL ASSESSMENT REPORT

Institutional Quality Assurance Program (IQAP) Review

Physics and Astronomy

(Graduate & Undergraduate Combined)

Date of Review: February 12th and 13th, 2024

In accordance with the University Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response and assessments of the Physics and Astronomy graduate and the undergraduate programs. This report identifies the significant strengths of the programs, together with opportunities for program improvement and enhancement, and it sets out and prioritizes the recommendations that have been selected for implementation.

The report includes an Implementation Plan that identifies who will be responsible for approving the recommendations set out in the Final Assessment Report; who will be responsible for providing any resources entailed by those recommendations; any changes in organization, policy or governance that will be necessary to meet the recommendations and who will be responsible for acting on those recommendations; and timelines for acting on and monitoring the implementation of those recommendations.

Executive Summary of the Review

In accordance with the Institutional Quality Assurance Process (IQAP), the Physics and Astronomy program submitted a self-study in December 2023 to the Vice-Provost Teaching and Learning and the Vice-Provost and Dean of Graduate Studies to initiate the cyclical program review of its program. The approved self-study presented program descriptions, learning outcomes, and analyses of data provided by the Office of Institutional Research and Analysis. Appendices to the self-study contained the CVs for each full-time member in the department.

Two arm's length external reviewers and one internal reviewer were endorsed by the Dean, Faculty of Science, and selected by the Vice-Provost Teaching and Learning and the Vice-Provost and Dean of Graduate Studies. The review team reviewed the self-study documentation and then conducted an on-site visit review to McMaster University on February 12th and 13th, 2024. The review included interviews with the Deputy Provost, Vice-Provost Teaching and Learning, delegate for Vice-Provost and Dean of Graduate Studies, Dean of Faculty of Science, Associate Deans of Undergraduate and Graduate Studies, Department Chair of the program and meetings with groups of current students, full-time faculty and support staff.

The Department Chair of the program and the Dean of the Faculty of Science submitted responses to the Reviewers' Report (June 2024). Specific recommendations were discussed, and clarifications and corrections were presented. Follow-up actions and timelines were included.

- **Strengths**

The Department of Physics and Astronomy is recognised across McMaster University as being a strong department in research and teaching. It has internationally recognised research faculty and a growing stream of teaching faculty who are leading the charge on implementing teaching innovation across all programs. As a small department with relatively low enrolment programs compared to other disciplines in the Faculty of Science, it faces budgetary pressure to grow its enrollment. The programs offered by the department are designed to meet this challenge through a combination of factors. First, the quality of the physics courses offered to students in the life sciences gateway in their first year is excellent. Using an active-learning pedagogy it showcases to students the strengths of physics training in terms of broadly applicable scientific skills. Next, the Medical & Biological Physics program, that students can enter in their second year, appeals to those with medical aspirations and is effective at attracting students who perhaps were not initially considering going into physics on entering University. Combined together these aspects are a program strength that ensures a consistent throughput of students into physics.

A second program strength is the excellent student experience that physics programs offer to those who choose it. We heard from students that a key factor in this is the smaller classes that they attend where they are able to get plenty of individual attention from instructors. While this appeal may counteract growth to enrolment, it is likely that there is still plenty of room in physics courses to allow for growth, but still provide the levels of attention that students currently enjoy.

Summary of the Reviewers' Recommendations with the Department's and Dean's Responses

1. Overall Recommendations

Recommendation #1.1: Work with the Faculty of Science to improve communication and messaging from Year 1 gateway into Year 2, use this to continue to grow enrollment. In conjunction with this explicitly find ways to provide more visibility to physics and the broad applicability of the skills that physicists develop during the Year 1 experiences.
Department's Response and Actions to be Taken: We will coordinate with the Associate Dean (Undergraduate) through the Academic Planning & Policy Committee to improve communication and messaging. We will also continue and look to enhance our outreach and inreach communication to provide maximum visibility to physics and the skills that we develop.
Dean's Response: The Faculty is committed to showcasing all of our Departments and Schools, while supporting enrolment of students in all programs. In particular, throughout the most recent high school recruitment cycle, and the Level 1 to Level 2 program selection periods this year, we have made increased efforts to work with the Department of Physics and Astronomy to amplify the various courses, learning experiences and overall programming. This has led to positive results in Level 1 confirmations (~10% increase relative to June 2023), and Level 2 program enrolment numbers (~30% increase relative to June 2023). We will continue to work with the Department to increase the visibility of all programs to our Science students.

Recommendation #1.2: To make the medical/biophysics program more viable and sustainable, provide more consistent funding to the medical physics experimental labs where important undergraduate experiential learning happens.

Department's Response and Actions to be Taken: We will request funding for medical physics labs in our budget submissions and also work with Nuclear Operations and Facilities to leverage funding opportunities that are beneficial to both parties.

Dean's Response: The Faculty of Science regularly supports Departments and Schools with funding that is needed for mission critical teaching and learning operations through our annual budget submission and consultation process. This includes funding to support materials and equipment that are needed for labs in the Department of Physics and Astronomy and involves a multi-year capital asset replacement plan in each academic unit. We encourage the Department to continue submitting these needs requests through the annual budget submission process, and to continue exploring other potential funding opportunities that can arise through other partnerships.

Recommendation #1.3: Keep growing the DataSci labeled courses as a way to increase enrollments in courses offered by the physics and astronomy department. Use such courses to help students understand the cross-disciplinarity of physics and its broad applicability. Developing skills to address real and often messy data provides great scientific training.

Department's Response and Actions to be Taken: We will be proposing a concurrent undergraduate certificate in Scientific Computing and Data Analysis during the next curriculum cycle, and will be working with departments across the Faculty of Science to identify and potentially cross-list or rename courses that would be appropriate for the DataSci label.

Dean's Response: We are thrilled to hear that this will be a proposal that is brought forward. Especially at a time where we need to increase the computational and data analysis skill sets of our Science students. We encourage the Department to consider inviting all Departments/Schools to the table as they draft the proposed Scientific Computing and Data Analysis certificate. Collaboration with other units will increase student access and interest across the Faculty, and will also add a breadth of course options from various Departments/Schools to the certificate course listings. The Office of the Associate Dean, Undergraduate will support all conversations, consultations and movement of this proposal through the governance process.

Recommendation #1.4: Continue to consider how to rebrand physics topics to attract students. The initiative to leverage current interest in all things "quantum" is a good example. Making connections with practical application in Quantum Materials and potential experiences with the on-site nuclear reactor alongside teaching innovation is an excellent avenue to continue exploring.

Department's Response and Actions to be Taken: We will be proposing a concurrent undergraduate certificate in "Quantum Materials, Information and Sensors" to increase visibility of our expertise in this area, and a second certificate in "Health Physics and Radiation Safety" which will be strongly tied to the reactor. We are also working with Nuclear Operations and Facilities to find ways to bring more students into the reactor and the other facilities they operate, either through larger classes or by having more experiments in our second and third year lab courses.

Dean's Response: The proposal of these concurrent certificates will be a great opportunity to amplify the broad applicability of the physics fields. We encourage the Department to consult with student stakeholders (junior and senior level students) within and outside of the physics programs as they work to create and name these certificates. It will be important that the naming and curriculum within resonates with students from the onset. We also recommend seeking input from the Dean's External Advisory Board or others who are connected in industry. The Office of the Associate Dean, Undergraduate will support all conversations, consultations and movement of this proposal through the governance process.

Recommendation #1.5: While not explicitly a program issue, graduate student funding impacts student experience and performance so strongly that it is difficult to disentangle from the program itself. To help meet the challenges of low levels of graduate student funding, we encourage a constant dialogue with students on this complicated issue.

Department's Response and Actions to be Taken: We discuss graduate funding with students individually during their pre-acceptance visits and when they receive their offer. The School of Graduate Studies provide annual letters to each student which lays out their funding for the year, by source (e.g. TA, department scholarship, research scholarship) and the dates on which it will be paid. Graduate funding is regularly discussed at department meetings, and the graduate student representatives summarize the conversation to their constituents. We will continue these discussions with our students. We are also looking forward to the results of a working group in the Faculty of Science who is developing recommendations about student funding (scholarship redistribution guidelines) and transparency across the Faculty.

Dean's Response: We acknowledge that student funding continues to be a central issue within our graduate programs across the university. The recently released report from the Taskforce on Graduate Funding seeks to address funding directly by offering a number of initiatives at the university and faculty levels. One of the recommendations from the Taskforce was the development of a faculty wide policy on redistribution guidelines so that students are clearly informed of how their funding is impacted if they receive a major award. A draft policy framework is currently being reviewed, with the policy setting out the maximum reductions in financial support by the supervisor and by the graduate program/department after the awarding of Merit-Based (competitive) Scholarships in the Faculty of Science. It is expected that this policy will be in place for the fall of 2025 intake cycle. Further, we will continue to review and address funding issues, including informing students of their funding package. Finally, we were pleased to hear that the Federal government has recently committed to increasing the number and value of graduate awards.

Recommendation #1.6: The Department should define the purpose and goals of the PhD comprehensive exam including any essential requirements. This can then be clearly communicated to students. Establishing the essential requirements will help to ensure that any student accommodations are reasonable and appropriate. To ensure that student support for the preparation of the comprehensive exam is uniform across the Department, clearly articulate what form this will take and how it will be deployed.

Department's Response and Actions to be Taken: We will look at our current documents around the comprehensive exam to find ways in which the communication could be clearer or perhaps done earlier. We are looking at improving the process of defining the essential topics for those research groups which do not currently have the same level of consistency (mainly biophysics & soft condensed matter) as others. We are searching for ways to ensure that student support for preparation is less dependent on the supervisor and research group, and more uniformly available across the department. Accommodations are individual and discussed with a student's SAS coordinator, but indeed having clearly defined requirements will help in determining the most appropriate accommodations.

Dean's Response: The Office of the Associate Dean (Graduate) will work with the program in identifying essential requirements and ensuring that the purpose of the comprehensive exam is clear. More broadly, student success among students needing accommodations is supported through McMaster's Student Accessibility Services (SAS). SAS has recently developed a new process map for graduate students seeking accommodation support. The new process will help to streamline accommodation requests through the development of a Graduate Student Academic Accommodation Plan, with consultation with the Associate Dean (Graduate), the Graduate Chair from the program, the supervisor and the student.

Recommendation #1.7: To broaden the number of graduate courses offered, explore ways to partner with other universities for virtual courses. Seek expert support (e.g. MacPherson Institute) to determine the optimal modes of delivery and pedagogical frameworks that give students the best learning experiences when students external to McMaster take your grad courses. Additionally, consider a modular approach to other non-Astro graduate level courses including core courses.

Department's Response and Actions to be Taken: We are rolling out hybrid learning in our Medical Physics graduate courses to support a suite of micro-credentials in that area. If successful, we will expand this option to our other graduate courses and work with our peer institutions to advertise these opportunities. We will discuss the use of modular courses in other areas beyond astronomy and theoretical physics.

Dean's Response: The Department's efforts to provide special topics courses to their students is acknowledged as an important way to provide flexibility and timeliness in course offerings. External to McMaster, opportunities for students to take courses through the Perimeter Institute and TRIUMF are critical and can continue to be leveraged, and the Ontario Visiting Graduate Student (OVGS) provides another option for students to access courses relevant to their studies beyond McMaster. The Faculty also supports opportunities to grow hybrid course options while recognize the need for student learning in a variety of situations and contexts, including the importance of in-person learning. Micro-credential course offerings have also emerged as opportunities, but their implementation and use must be structured in such a way as to ensure students continue to meet program requirements.

Recommendation #1.8: Leadership in EDI from the physics and astronomy department is excellent. However, the diversity within the Department is not uniform. To build on their excellent work in this area, the department is encouraged to develop a strategic hiring plan that aims to improve diversity in all research area sub-groups. Where it does exist, diversity clearly brings energy and a dynamic feel that is able to propel strategic curriculum improvements and develop innovative solutions to challenges that arise at the undergraduate and graduate levels. Additionally, a fully diversified department would improve student recruitment and experiences in all research areas.

Department's Response and Actions to be Taken: Tenure-track faculty hires are currently frozen, but when they resume, we will continue our intense efforts to diversify all our research groups. We note that our latest tenure-track hire, who should arrive in summer 2024, will bring more diversity to a group which until recently has been lacking in this area.

Dean's Response: We are pleased to hear that the reviewer's noted that EDI leadership within the department was excellent. This is reflective of broader attention and leadership in the EDII domain across both the faculty and university.

While faculty hiring is currently paused, careful attention is paid to EDII in any recruitment effort. Hire committee members receive training in EDII, each committee has an equity facilitator that has received advanced training, and committees work closely with the Equity and Inclusion Office to ensure EDII is front and center of any recruitment effort.

The Office of the Associate Dean of Science (Equity, Diversity, Inclusion and Indigeneity) (AD EDII) serves as resource for Employment Equity Facilitators, liaison with the Employment Equity program in human resources, and when needed provides consultation to search committees. The AD EDII meets short listed candidates during interview process, and provides feedback to Dean, which is included in the letter to Provost. EDII is also considered in Tenure/Permanence & Promotion process; Faculty by-laws were amended to included AD EDII as a non-voting, consultant in Faculty of Science Tenure/Permanence & Promotion committee.

EDII is also a priority in graduate recruitment so that diversity is reflected at all levels. The Faculty of Science has recently developed and shared its EDI in Graduate Admissions Best Practices document.

This document highlights ways that the graduate admission process can be made more equitable by breaking down barriers to entry for equity deserving groups (EDGs). The AD EDII office has regular meetings with graduate student leadership together with Office of the Associate Dean Graduate.

2. Program Recommendations

Recommendation #2.1: On the Indigenous side, Indigenous content has been added to the physics undergraduate programs in a level II course offering on Indigenous astronomy. Further expansion of content is encouraged with continued support from either the Indigenous community or from the creation of Indigenous positions at an appropriate level (research faculty, teaching stream, instructional assistant). Furthermore, the inclusion of Indigenous pedagogical approaches is an avenue to explore. This may be considered in partnership with others in the Faculty of Science since pedagogy can transcend discipline. It would be helpful to ensure that whatever pedagogical approaches that are included continue to be evidence-based and student-centric where possible.

Department's Response and Actions to be Taken: We will build on our relationships with local Indigenous communities to determine if there is an appetite for more jointly-created courses or other content. We are also happy to support any initiatives for creation of Indigenous positions, and to use our networks to identify and support appropriate candidates. We are also happy to be involved with and support the Indigenous priorities led by the Associate Dean EDII.

Dean's Response: The Department of Physics and Astronomy has created and nurtured exemplary partnerships with Indigenous communities and our colleagues within the Indigenous Studies Department. This is very nicely exemplified through the astronomy curriculum (e.g. ASTRON 2A03- Perspectives on Indigenous and Eurocentric Astronomy) and outreach activities (e.g. Celestial Bear on-campus and mobile planetarium Shows; panel discussions during the recent eclipse that were focused on eclipses and astronomy from indigenous perspectives).

Both offices of the Associate Dean's EDII and Undergraduate have been engaged in conversations with the Indigenous Education Council and the Indigenous Studies Department to discuss additional possible collaboration points between Science and Indigenous Studies curricula. This includes possible joint curriculum and programming. Both Offices are committed to expanding and supporting this important initiative across the Faculty of Science and are happy to support conversations that the Department will be engaged in moving forward.

Recognition of initiatives to grow awareness of Indigenous content will also be explored at the graduate level. The recent establishment of the Department of Indigenous Studies offers new opportunities for collaboration in this space.

A faculty member of Physics and Astronomy (R. Cockcroft) is a member of an *ad hoc* committee struck off Office of AD EDII working on priorities and possible framework for Indigenous priorities in the Faculty of Science.

Co-curricular development is an important priority that is being examined in multiple ways, and builds on reciprocal and respectful interactions with Indigenous colleagues on campus. We envision the Department of Physics and Astronomy to play significant roles in these efforts.

3. Admission Recommendations

Recommendation #3.1: Acknowledging faculty comments concerning burn-out – and the obvious energy and commitment needed to launch new initiatives along with the concerns about the stability of the Department – we recommend that the Faculty of Science articulate goals for the near term in terms of any enrolment growth.

Department's Response and Actions to be Taken: We are encouraged by the recent transparency from the Faculty of Science about enrolment targets and echo the reviewer's recommendation to continue this approach. Clear targets will allow us to more clearly evaluate the outcomes of new strategies and approaches.

Dean's Response: The Faculty recognizes that the challenges imposed by the COVID-19 pandemic has elevated the level of fatigue and even burnout for faculty, staff and students in the educational sector. From a curriculum and programming perspective, our Office of the Associate Dean, Undergraduate will continue to work towards supporting all faculty, staff and students, especially as it relates to course-related supports and advising. Through our Science Undergraduate Academic Planning and Policy Committee, we will also work with all Departments/Schools to advocate for additional supports that can be useful from other central University offices to better support our teaching and learning activities in Science.

The Faculty is committed to continually amplifying the innovations and strengths of all Science programs. Over the last year, we have worked to increase our connections to Departments/Schools so that we can better understand unit goals and gain real-time updates on programming that we can use to better leverage our recruitment activities both at Level 1 and Level 2. While working to maximize student recruitment for Physics and Astronomy, we have done so responsibly by working with Departmental leadership to maximize enrolment targets that will best ensure Departmental success. These practices will be continued as we move forward into upcoming academic years.

Recommendation #3.2: To further advise students in the life sciences gateway of the opportunities available in physics programs, we recommend a partnership between Physics and Astronomy faculty and the Faculty of Science advising group.

Department's Response and Actions to be Taken: We will coordinate with the Office of the Associate Dean (Undergraduate) to find the most appropriate ways to provide relevant information to the advisors and to reach the students in the life sciences gateway.

Dean's Response: The Physics 1A03 – Introductory Physics course is an excellent example of a curricular innovation that has changed the perspective of many science students towards the physics discipline as a whole. With its blended learning model, creative video demonstrations and activities, non-physics inclined students who enroll at McMaster through the Life Science Gateway, have the opportunity to learn about the applications of the physics discipline to the real world in innovative and fun ways. From a recruitment perspective, we are already sharing with incoming high school students that this is the one physics course to consider taking in the event that they choose not to complete Grade 12 physics, as we believe that the 1st year team has done a tremendous job covering both Grade 12 and Introductory Level 1 content.

Beyond level 1, our advisors and recruitment team already direct Life Science Gateway students who have completed Physics 1A03 and who have become physics-inclined, towards Level 2 Physics programs. We will continue to work with the Department to amplify this effort. We are also happy to

work with the Department to develop digital media physics-specific marketing material, that can be then distributed through the Faculty and Department-specific social media platforms.

From a career opportunities perspective, attention will also be given to opportunities for graduate student careers (see responses regarding recruitment and retention in Recommendation #3.3). The Science Careers and Cooperative Education (SCCE) office provides extensive support for students in developing their career goals and tools.

Recommendation #3.3: Encourage the Department to reconsider recruiting its own undergraduates at the graduate level. There are many benefits particularly if students have already had research experience at McMaster and can build on the connections already established to hit the ground running. It may also be helpful to explore support for graduate student recruitment at the Faculty of Science level, perhaps with a Faculty of Science recruitment event to target McMaster undergraduates. This could be tied in with the Faculty's accelerated MSc initiative.

Department's Response and Actions to be Taken: We have seen an increase in the number of our own undergraduates who stay at McMaster for graduate school, and we note that we do not actively discourage faculty members from keeping their students here. We will watch the accelerated MSc initiative with interest, and we could discuss what Faculty recruitment events could support the department. Those events would need to target students with a BSc in physics or related field. Other than students in Engineering Physics, all other students with an appropriate background for our program are already part of the Department of Physics & Astronomy.

Dean's Response: The recruitment and retention of our undergraduate students into our graduate programs has emerged as an important option given benefits to students and faculty alike. The recently approved accelerated MSc pathway elsewhere in the Faculty provides an example by which recruitment of our own students can be furthered without additional financial resources. Recruitment strategies used by other departments within the Faculty have been shared during Graduate Council meetings. The office of the Associate Dean (Graduate) will work with departments interested in developing similar pathways for their students.

The Office of the Associate Dean, Undergraduate is committed to collaborating with the Office of the Associate Dean, Graduate to further amplify Physics-specific graduate programs within the Faculty of Science, especially as students seek support from our Academic Advisors regarding their trajectories beyond their time as McMaster Undergraduates.

4. Curriculum Recommendations

Recommendation #4.1: Consider ways to provide formal course development time for teaching stream faculty. The modern teaching landscape is evolving rapidly. To remain at the forefront of modern, evidence-based, pedagogy requires time. This is difficult for teaching stream faculty because of their high course loads, even though they are the ones who have the most expertise in this area.

Department's Response and Actions to be Taken: We will work with MacPherson and our teaching-stream faculty to identify opportunities for funding to allow for course development and will also advocate for additional sessional instructors from the Faculty of Science when opportunities arise. If the department were able to maintain a complement of 4 teaching-intensive faculty, we would be in a better position to have the flexibility to offer teaching release for course development and other initiatives.

Dean's Response: The Faculty recognizes the incredible contributions of our teaching stream faculty towards driving innovations in our undergraduate curriculum and programming. The Office of the Associate Dean, Undergraduate is committed to supporting the applications of teaching stream faculty for any pedagogical research or teaching and learning projects that will provide additional resources and timing for these faculty members to engage in these activities. While this has been a long-standing support provided by the Office, most recent examples include supporting a cohort of Online Learning Fellows who have attained funding through the Office of the Vice-Provost Teaching and Learning (VPTL) towards the creation of online/virtual or hybrid course options. We have also supported 3 Leadership in Teaching and Learning Fellowship applications and look forward to supporting all of these faculty members as they explore and deploy these initiatives.

We recognize the time and commitment required for course development, especially with an increased emphasis on hybrid or on-line / virtual course offerings. Of course, any reduction in teaching comes with the need for a sessional instructor or someone else to fill the teaching shortfall.

Recommendation #4.2: Consider ways to lower the use of sessional instructors in favour of teaching stream faculty and/or instructional assistants. This will consolidate curriculum and teaching quality and allow for continued developments on the pedagogical front.

Department's Response and Actions to be Taken: We continue to advocate for additional teaching-stream faculty and instructional assistants in our budget requests and through the Faculty Appointment Advisory Committee process. We have just been approved for a one-year teaching-stream CLA, likely starting summer 2024.

Dean's Response: The Faculty encourages the Department to submit teaching -stream faculty requests as part of the formalized appointments process, through the Faculty Appointments Advisory Committee (FAAC). The Faculty continues to be proactive with the teaching and learning needs of our Departments/Schools and this past year, the FAAC has focused solely on teaching track hiring requests. P&A submitted a proposal for a hire. Decisions on what proposals (if any) are allowed to proceed will be made in the near future pending budget considerations. If Physics and Astronomy are allowed to hire, the expected start date would be in July 2025. While hiring is currently on hold given the current fiscal challenges, we have advocated for critical CLA renewals, and teaching stream hires to Office of the Provost.

Recommendation #4.3: Advertise the independent study course 4IS3, while concurrently looking to ways to fund more paid summer research options for undergraduates.

Department's Response and Actions to be Taken: We will find more ways to let students know about Physics 4IS3, including through our department newsletter and directed emails. This course will likely be included as an eligible course in the three proposed concurrent undergraduate certificates which should increase visibility. We have been successful in finding donor funding to support summer research options for students from under-represented groups and will continue to work on this area in the future. This summer, through further donor funds, Office of Undergraduate Research opportunities, MacWork positions and new Canadian Nuclear Laboratory Funding, we have increased the number of summer research opportunities for domestic students in the department, while also hosting international MITACs students. We are hopeful we can maintain this vibrant undergraduate summer research environment into the future.

Dean's Response: The Faculty is delighted to see efforts that the Department has placed on supporting our students as they seek to gain hands-on research opportunities throughout their undergraduate journeys. The Office of Undergraduate Research will continue to be a valued partner, as we continue to support and amplify these unique research experiences, and the Physics 4IS3 course as a whole, to physics students within the Faculty.

Recommendation #4.4: Continue discussions related to streamlining the 2nd year labs for more continuity in student experience after their 1st year. For example, 2B03 E&M is disconnected from the lecture; in contrast 1st year labs are well-timed with respect to the lectures. This may be as simple as explaining to students the pedagogical approach regarding the relationship between lecture courses and labs.

Department's Response and Actions to be Taken: The lab component of Physics 2B03 has recently been given instructional assistant support but the lecture component has not. As a first step, we can bring that IA into the lecture part of the course as well so that there is some continuity in instruction between both components of the course.

Dean's Response: Continuity in student experience between lectures and labs is an important part of course and curriculum planning for any program. We support the Department's plan to bring the IA into the lecture so that they can introduce connections that are made between lecture and lab components of the courses, but also encourage the Department to consider broader ways by which the lead faculty members can also interweave lab examples or insights into lecture material throughout the semester. Perhaps through touchpoints at certain key times in the semester, or even weekly "this upcoming week in lab" type discussions that can be highlighted in lecture at the end of any given week. In addition, the Department may want to consider reviewing the lab manual materials to see if there can be a way to reinforce the connections between and lab, and in particular, highlight introductions into how physics theory and practice are interconnected within the pre-lab introduction.

Recommendation #4.5: Consolidate and develop existing training for graduate students to translate the skills they learn in their graduate programs into employment opportunities.

Department's Response and Actions to be Taken: We will investigate the most appropriate and useful way for our existing informal training of graduate students in "soft skills" to be made available for all research groups in the department. We will re-start our graduate alumni career panel events (cancelled since the pandemic) to provide an opportunity for graduate students to learn from their predecessors' employment opportunities. SCCE is also working on an initiative called Advancing Tomorrow's Science Careers which also aims to provide graduate students with the general competencies they will need. The Faculty of Science occasionally run career events using alumni. We are involved in providing names of potential speakers and advertising the events to our students.

Dean's Response: The Faculty's Science Career and Cooperative Education office (SCCE) supports the career development of our graduate students by providing a number of workshops related to career development and growth. Workshops have included career advising, exploration, and information sessions, cover letter and resume critiques, mock interviews, and more. Our Graduate Student Association group (SciGSA) also offers a career night for graduate students from across the faculty. While both of these are focused on the broader group of graduate students within the faculty, we are committed to creating and offering opportunities for graduate students to work toward employment opportunities and will support P&A in further advancing opportunities for career development of our students.

5. Teaching and Assessment Recommendations

Recommendation #5.1: The Department should continue to engage with the Dean's office and other experts across campus to identify methods for consistent assessment of teaching quality. Combining such assessment with student experience surveys will formulate a more complete picture of teaching effectiveness.

Department's Response and Actions to be Taken: The department undertakes annual peer reviews of teaching for faculty members who are not yet full professors. These are performed by members of the departmental Tenure/Permanence & Promotion committee, and involve an in-class visit, a review of the faculty member's teaching portfolio, and discussion. The student experience surveys are not used to assess teaching effectiveness; they are provided to the faculty members for the purposes of feedback upon which the instructor may act should they so choose.

Dean's Response: We support the Departmental peer-review process undertaken by Physics and Astronomy. Through peer-review and consultation, the Faculty believes that this is the best opportunity for faculty members to engage in and cultivate thoughtful approaches to teaching strategies, practice and innovations. While recognizing the value of the peer-review process, we do continue to encourage instructional teams and the Department as a whole to still take written student feedback into consideration as part of ongoing course and curricular refinements. We also encourage the Department to engage in connections with the MacPherson Institute for any instructors or courses that are in need of additional supports.

Recommendation #5.2: The students in biophysics/soft condensed matter groups would benefit from a clearer definition of core topics for the background/foundational knowledge section of the qualifying exam. If possible, this material should be taken from a standard textbook or similar resource so as to be consistent with the experience of students in astronomy and quantum/hard condensed matter areas.

Department's Response and Actions to be Taken: We have started discussions to develop a core biophysics course for this purpose. Our goal is to have a course ready for curriculum approval shortly. This year the polymer physics course has been expanded to be a core course in soft condensed matter.

Dean's Response: We support the intent to provide consistent evaluations and experiences for students in Physics & Astronomy when and where appropriate.

6. Quality Enhancement Recommendations

Recommendation #6.1: Leadership in the Department of Physics might benefit from clarity around enrollment targets from the Faculty of Science. Efforts to increase enrollment require significant energy and effort on the part of faculty members whose primary responsibilities are research and teaching and who may also be experiencing post-pandemic fatigue. To ensure that requested effort is managed appropriately it is important to know what are sensible goals and what the consequences of reaching the goals will mean to the Department.

Department's Response and Actions to be Taken: We will continue to work with the Faculty of Science, particularly the Dean and Associate Dean (Undergraduate) to understand, influence, and respond to enrolment target changes.

Dean's Response: The Faculty is committed to continually amplifying the innovations and strengths of the Physics and Astronomy undergraduate programs. Over the last year, we have worked to increase our connections to Departments/Schools so that we can better understand unit goals and gain real-time updates on programming that we can use to better leverage our recruitment activities both at Level 1 and Level 2. While working to maximize student recruitment for Physics and Astronomy, we have done so responsibly by working with Departmental leadership to maximize sensible enrolment targets that will best ensure Departmental success. These practices will be continued as we move forward into upcoming academic years.

Recommendation #6.2: Those who manage physics programs need help from the Faculty of Science to get feedback from potential/past employers in the biophysics area to help ensure that the biophysics program is meeting student needs. This may be in the form of both focus groups and surveys. The former will help to cement ties with potential employers to ensure adaptability if needs should change.

Department's Response and Actions to be Taken: We have had preliminary discussions with the Science Careers & Co-Op office and alumni engagement officers about reaching out to appropriate employers, and will continue to pursue these efforts.

Dean's Response: The Science Career and Cooperative Education (SCCE) office has robust programming available to help support the student transition into the professional workforce. At the same time, there are new initiatives underway (e.g. Design Your Science Career and Advancing Tomorrow's Science Careers) that will further enhance the programming made available to students such that they can make more meaningful connections between their academic training and professional aspirations earlier on in their journeys. Paired with Career Advisors and various workshops and networking events, we encourage the Department to continue to work with the SCCE towards expanding its partnerships with the various physics-related sectors.

Recommendation #6.3: The Department should update and share their strategic hiring priorities with the Faculty of Science. Underlying goals to consider include maintaining momentum to continue the department's rejuvenation in the quantum condensed matter areas of the curriculum at both the undergraduate and graduate levels, as well as toward building an Indigenous scholar cohort within the University.

Department's Response and Actions to be Taken: The Department will finalize our nascent strategic plan over the next year, and will share it with appropriate stakeholders including the Faculty of Science.

Dean's Response: The Office of the Associate Dean, Undergraduate is happy to support the Department as it prepares and deploys the teaching & learning pillar of its strategic plan.

Implementation Plan

Recommendation	Action(s) to be Taken	Responsibility for Leading Action (specify the role(s) that will be responsible for each action item e.g. Program Chair.)	Timeline for Completing Action (indicate specific timelines (e.g. not 'ongoing') for action)
Work with Faculty of Science improve communication & recruitment between level 1 and level 2	Discuss strategies with Associate Dean (Undergraduate) Implement best strategies	Undergraduate Chair, Associate Dean (Undergraduate)	September 2024 September 2025
Provide more consistent funding to medical physics experimental labs	Include requests in department budget letters.	Department Chair	Recommendation suggests ongoing action.
Grow DataSci labelled courses	Launch Computational Science concurrent certificate Work with other departments to identify possible DataSci courses in their programs	Undergraduate Chair through APPC Associate Dean (Undergraduate)	September 2025 2026/27
Rebrand physics topics to attract students	Launch Quantum Physics concurrent certificate	Undergraduate Chair through APPC	September 2025
Constant dialogue with graduate students about funding levels	Continue current practice	Graduate Chair	Recommendation suggests ongoing action.
Establish essential requirements of comprehensive exams	Launch biophysics core course	Graduate Chair	September 2025
Partner with other universities for virtual graduate courses	Initiate discussion with peer institutions	Graduate Chair	Unknown – viability of interest from other institutions must be assessed.
Improve diversity in all research area sub-groups	Continue faculty hiring following SPS A1 and other best practices.	Department Chair; Dean	Unknown until faculty hiring freeze is lifted.

Quality Assurance Committee Recommendation

McMaster's Quality Assurance Committee (QAC) reviewed the above documentation at the September 19, 2024, meeting. The committee recommends that the **Physics and Astronomy combined undergraduate and graduate** program should follow the regular course of action with an 18-month progress report and subsequent full external cyclical review to be conducted no later than eight years after the start of the last review.