McMaster University

SENATE MINUTES

Wednesday, January 10, 2018 at 3:30 p.m.
In the Council Room (111), Gilmour Hall

PRESENT: Dr. Patrick Deane (Chair), Ms Anita Acai, Dr. Catherine Anderson, Dr. Vishwanath Baba, Dr. Sigal Balshine, Dr. Martin Beckmann, Mr. Cam Brandreth, Dr. Ana Campos, Dr. Lorraine Carter, Dr. Philippa Carter, Mr. Jason Chestney, Mr. Andrew Colgoni, Mr. Roger Coudrey, Dr. Ken Cruikshank, Dr. Nancy Doubleday, Dr. Ian Dworkin, Dr. David Farrar, Dr. James Gillett, Dr. Jerry Hurley, Dr. Maureen MacDonald, Prof. Judy Major-Girardin, Ms Beth Manganelli Staite, Mr. Sid Nath, Dr. Robert O’Brien, Ms Rina Patel, Ms Muffy Phull, Dr. Ishwar Puri, Mr. Aaron Roberts, Dr. Stephanie Ross, Dr. Aaron Schat, Dr. Susan Searls Giroux, Dr. Spencer Smith, Ms Moira Taylor, Dr. Brenda Vrkljan, Dr. Doug Welch, Ms Mary Williams, Ms Christi Garneau (Secretary of the Senate), Susan Welstead (Governance Advisor and Assistant University Secretary)

OBSERVERS: Ms Carolyn Brendon, Ms Esme Davies, Ms Andrea Farquhar, Dr. Jacy Lee, Ms Vivian Lewis, Ms Melissa Pagliaiungua, Mr. Sean Van Koughnett, Dr. Gary Warner

REGRETS RECEIVED: Ms Leah Allan, Dr. Rob Baker, Dr. Pamela Baxter, Dr. Lee Beach, Dr. Narat Charupat, Dr. David Clark, Mr. Gary Collins, Dr. Susan Denburg, Dr. Diane Enns, Dr. Meridith Griffin, Dr. Alison Holloway, Dr. Suzanne Labarge, Dr. Graeme Luke, Mr. Jim McCaughey, Dr. Anne Niec, Dr. Paul O’Byrne, Ms Melissa Pool, Dr. Jonathan Schertzer, Dr. Len Waverman

A. OPEN SESSION

OPENING REMARKS

Dr. Deane noted that the Province had given the go-ahead for universities to post the signed 2017-20 Strategic Mandate Agreements. McMaster’s agreement was now posted on both the President’s and Provost’s websites. The SMA laid out priorities, areas of strength, and enrolment projections for the next three years.

Federally it was anticipated that there would be some investment in the research enterprise soon.

Dr. Deane noted that the Prime Minister was on campus at that afternoon, having used the Burridge Gym to hold a town-hall meeting earlier that day.

It was thought that Mr. Trudeau’s visit for this purpose and also back in the fall, during Welcome Week, was attributable to McMaster’s growing position in Ottawa.
Dr. Deane then turned to the reports that appeared before winter break regarding anti-Semitic comments and activity attributed to current and former McMaster students in various online postings and fora.

As the University immediately made clear in a news announcement, McMaster was unequivocal in condemning acts of racism, discrimination and hatred, whether in the form of anti-Semitism or directed against any other groups. The social media posts at the centre of the controversy were currently being reviewed under the Code of Student Rights and Responsibilities, and the University was also working with McMaster Hillel and other affected groups to discuss appropriate responses, education and events.

Dr. Deane noted that the response builds on the ongoing work of the Equity and Inclusion Office, the President’s Advisory Committee on Building an Inclusive Community and other campus groups to raise awareness of and respond to racism and other forms of discrimination at McMaster, which has been and will continue to be an area of focus for the University.

The University cannot be immune to the political and social climate of the broader community, but, as an institution of higher learning, all its members have a responsibility to support and promote the shared goal of being an inclusive and respectful community, and to engage in discussion of even the most potentially controversial or divisive issues in a civil and constructive way, said Dr. Deane.

I  APPROVAL OF AGENDA – OPEN SESSION

Dr. Deane confirmed that no requests had been received to move any items from the Consent to the Regular agenda of the Open Session.

It was duly moved and seconded,

“that the Senate approve the Open Session agenda for the meeting of January 10, 2018 and that item II be approved by Consent.”

The motion was carried.

CONSENT

II  MINUTES

Motion:

that the minutes of the Open Session portion of the meeting held on December 13, 2017 be approved as circulated

Approved by Consent

REGULAR
III BUSINESS ARISING

There was no business arising for Open Session.

IV ENQUIRIES

There were no enquiries.

V COMMUNICATIONS

There were no communications to Senate since the last meeting which were not dealt with elsewhere on the agenda.

VI REPORTS FROM COUNCILS

a. Graduate Council (Appendix A)

i. Recommendation to Discontinue Part-Time Option for Master of Technology, Entrepreneurship and Innovation and Master of Engineering Entrepreneurship and Innovation Programs

Dr. Welch explained that the Faculty of Engineering was recommending that the part-time options for the Master of Technology, Entrepreneurship and Innovation and Master of Engineering Entrepreneurship and Innovation programs be discontinued since students who opted for the part-time versions were having difficulty completing the studies, and the Faculty’s capacity to offer high-quality part-time programs was at its limit with the recent increases in enrolment.

It was duly moved and seconded,

“that the Senate approve, on recommendation of Graduate Council, the discontinuation of the part-time options for the Master of Technology, Entrepreneurship and Innovation and Master of Engineering, Entrepreneurship and Innovation programs, effective September 2018.”

The motion was carried.
ii. **Cancellation of Financial Mathematics Specialization in Master of Science in Mathematics Program**

Dr. Welch explained that a Financial Mathematics specialization in the M.Sc. in Mathematics program was now redundant because of the introduction of the Master of Financial Mathematics program.

It was duly moved and seconded,

“that the Senate approve, on recommendation of Graduate Council, the cancellation of the Financial Mathematics specialization in Master of Science in Mathematics Program, effective September 2018.”

The motion was **carried**.

iii. **Change to Course Requirements and Calendar Copy for MTEI and MEEI Programs**

iv. **Change to Course Requirements and Calendar Copy for Master of Engineering and Public Policy Program**

v. **Change to Course Requirements and Calendar Copy for Master of Engineering Design Program**

vi. **New Program Calendar Copy for Master of Financial Mathematics Program**

vii. **Change to Course Requirements and Calendar Copy for Psychology, Neuroscience and Behaviour M.Sc. and PhD Programs**

Senate received the above-listed reports for information.

b. **Undergraduate Council** (Appendix B)

i. **Program Name Changes for Bachelor of Technology Programs**

ii. **Program Revisions and Name Changes for Honours Bachelor of Arts in Gerontology Programs**

iii. **Program Revisions and Name Changes for Honours Bachelor of Arts in Health Studies Programs**

iv. **Curriculum Revisions for Inclusion in the 2018-19 Undergraduate Calendar**

Senate received the above-listed reports for information.

VII **REPORT FROM THE COMMITTEE ON APPOINTMENTS** (Appendix C)

a. **Proposed Revisions to the Terms of Reference for Vice-Provost (Equity and Inclusion)**
Dr. Vrkljan explained that the selection committee for this new position had recommended some changes to the terms of reference previously approved. A major revision was the recommendation that the individual would not be required to be a faculty member, which meant that the title needed to be changed to “Associate Vice-President (Equity and Inclusion)” to conform with the University’s nomenclature, and that a statement on the term of office was no longer necessary. Other revisions would bring the terms up to date with policy changes that had occurred since the selection committee started its work.

It was duly moved and seconded,

“that the Senate approve, for recommendation to the Board of Governors, revisions to the terms of reference for the position Vice-Provost (Equity and Inclusion) as set out in Appendix C.”

The motion was carried.

VIII OTHER BUSINESS

There was no other business in Open Session.
December 2017

TO: University Planning Committee and Senate

FROM: Susan Searls Giroux
Vice-Provost, Faculty

Doug Welch
Vice-Provost and Dean of Graduate Studies

RE: 2015-16 and 2016-17 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.
2015 - 16 IQAP CYCLICAL PROGRAM REVIEWS

The following undergraduate programs were reviewed during 2015-16:

Honours Integrated Science (iSci)
Civil Engineering
Computer Science
Mechatronics Engineering
Software Engineering
Engineering & Society
Materials Engineering

2016-2017 IQAP CYCLICAL PROGRAM REVIEWS

The following programs were reviewed during 2016-17:

Undergraduate Programs
Art History
Economics
Physician Assistant Education Program
Studio Art

Graduate Programs
French M.A.

Joint Undergraduate and Graduate Reviews
School of Labour Studies (Labour Studies B.A., Honours B.A. and Work and Society M.A.)

The Final Assessment Reports for the reviews are attached.
FINAL ASSESSMENT REPORT

Institutional Quality Assurance Program (IQAP) Review

Honours Integrated Science (iSci)

Date of Review: March 3 - 4, 2016

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 Honours Integrated Science program delivered by the School of Interdisciplinary Science. 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 Cyclical Program Review of the Undergraduate

Honours Integrated Science Program (iSci)

In accordance with the Institutional Quality Assurance Process (IQAP), the iSci program submitted a self-study in February 2016 to the Associate Vice-President, Faculty to initiate the cyclical program review of its undergraduate 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, one from Ontario and one from British Columbia and one internal reviewer were endorsed by the Dean, Faculty of Science, and selected by the Associate Vice-President, Faculty. The review team reviewed the self-study documentation and then conducted a site visit to McMaster University on March 3 - 4, 2017. The visit included interviews with the Provost and Vice-President (Academic); Associate Vice-President, Faculty, Director of the School of Interdisciplinary Science and meetings with groups of current undergraduate students, full-time faculty and support staff.

The Director of the School of Interdisciplinary Science and the Dean of the Faculty of Science submitted responses to the Reviewers’ Report (July 2016, August 2017). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.
Strengths

In their report (May 2016), the review team highlighted the comprehensive and coordinated design and implementation of the program and emphasized the project based, integrated approach. They recognized that a foundation of the iSci program is its underlying philosophy and core set of pedagogical approaches that are shared by the instructional team and students. The program focuses on developing the student as a self-guided learner and creator of information and helps them develop a suite of skills and experiences that prepares them well for a range of professional opportunities. The core goals of the program are very successfully mapped to its articulated learning outcomes. The focus throughout the program on science literacy was identified as particularly unique and well done. Additionally, the reviewers commented on the strength of the instructional team (faculty and staff) both in terms of their formation of community scholars and in their commitment to the scholarship and practice of teaching and learning.

Areas of Improvement

The review team had no major concerns but did identify a potential threat to the stability of the program on several fronts. Specifically they were concerned about the leadership and governance of the program in the newly formed School of Interdisciplinary Science, the stability of the instructional team in terms of both faculty and staff, and the importance of the retention of the associated instructional spaces.

The Dean of the Faculty of Science, in consultation with the Director of the School of Interdisciplinary Science shall be responsible for monitoring the recommendations implementation plan. The details of the progress made will be presented in the progress report and filed in the Associate Vice-Present, Faculty’s office.
### Summary of the Reviewers’ Recommendations with the Department’s and Dean’s Responses

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Proposed Follow-Up</th>
<th>Responsibility for Leading Follow-Up</th>
<th>Timeline for Addressing Recommendation</th>
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<tbody>
<tr>
<td>iSci needs to appoint a faculty member from SIS to be responsible for the day-to-day operations of the program</td>
<td>The School of Interdisciplinary Science (SIS) was created on January 1, 2016 and with its creation, the iSci program was moved into SIS. From January – May 2016, the operational structure of SIS was established in a collaborative manner with those faculty and staff who had their appointments and positions moved into the School. The members of SIS voted to establish a structure including as Associate Director, Curriculum and Pedagogy and 3 Program Coordinators (iSci, Life Sciences and Medication Radiation Sciences and Medical Physics)</td>
<td>Dr. Maureen MacDonald, Director SIS</td>
<td>April 25, 2016: Retreat for SIS members to discuss proposals for operational structure and terms of reference for positions. April 2, 2016: Revised Terms of Reference for position of Program Coordinator iSci circulated to all members of SIS. May 20, 2016: Dr. Kim Dej elected as Associate Director, Curriculum and Pedagogy June 2, 2016: offer of Appointment of Program Coordinator iSci position to Dr. Carolyn Eyles June 13, 2016: Senate approval of appointment confirmed July 2, 2016: start of</td>
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<tr>
<td>Issue</td>
<td>Description</td>
<td>Resolution</td>
<td>Accountability</td>
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<td>iSci program enrolment should not increase.</td>
<td>We thank the reviewers for the recognition of the efforts made to refine the student selection process in iSci and agree that the efforts have resulted in improvement in the match between the students receiving offers and student success in the program. We are committed to offering a high quality, research project focused program and recognize the restraints in terms of enrolment. We have no intention of expanding beyond the 64 student capacity in each level of iSci but will work with enrolment management to explore the options and potential impacts of different enrolment options in the future.</td>
<td></td>
<td>Dr. Maureen MacDonald, Director SIS</td>
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<tr>
<td>iSci needs increased library support.</td>
<td>We recognize the tremendous benefits of the specialized support available to encourage the development of science literacy and communication skills in iSci. We are planning to build on this foundation of success to develop and integrate science literacy in all programs in SIS. As such, we are thankful for the initiative of the University Librarian to continue to provide access to the Thode Services Librarian and to support a 12 month contract for a School of Interdisciplinary Science Librarian through a successful Strategic Alignment Fund application.</td>
<td></td>
<td>Dr. Kim Dej, Associate Director, Curriculum and Pedagogy</td>
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**Final Assessment Report – Honours Integrated Science**

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<tr>
<th>A research project on computer science that involves basic programming should be component of the iSci curriculum</th>
<th>Explore the possibility of developing a computer science research project and to enhance the computer programming opportunities embedded in many aspects of the iSci curriculum.</th>
<th>Dr. Carolyn Eyles, Program Coordinator, iSci</th>
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<tbody>
<tr>
<td>Stability of the Teaching Team needs to be improved.</td>
<td>Part of the formation of SIS was stabilize the commitment of faculty associated with its academic programs. As such, several members of iCore have had their academic appointments</td>
<td>Dr. Maureen MacDonald, Director</td>
</tr>
</tbody>
</table>

support science literacy throughout all SIS programs including iSci.

-January 2017: initiate budget discussions with University Librarian and Dean of Science about feasibility for continued support of science literacy in SIS.

- May 2016: during yearly iSci program review meetings discuss the computational opportunities available in levels 1 and 2 and the provision of relevant data sets to increase integration of computational activities across topics.

-August 2016: form working group to explore computer science and computational opportunities.
transferred to the School. The Director of SIS, in consultation with the Associate Director, the Program Coordinators, and the School Administrator is looking to further stabilize the collaborative teaching commitments from other units in the Faculty of Science. Further stability to iSci teaching team will be considered in future requests for faculty positions.

<table>
<thead>
<tr>
<th>SIS</th>
<th>members transferred to SIS (Eyles, Harvey, Symons).</th>
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<tr>
<td></td>
<td>-January – July 2016: ongoing discussions between M. macDonald and Department Chairs and Directors about establishing more stability for teaching commitments from other units towards iSci.</td>
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<td>-July 2016 onward: Program Coordinator for iSci to develop 5 year plan for teaching in iSci</td>
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<td></td>
<td>-Fall 2016 develop 5 year strategic plan for hiring in SIS to systematically submit request to Faculty Appointments Committee for consideration.</td>
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</table>

iSci should expand its Community Engaged Learning (CEL) initiatives.

We thank the reviewers for highlighting the success of a number of the community based projects linked to iSci and agree with the suggestions to build on this foundation to expand the scope of community engaged learning initiatives.

| Dr. Kim Dej, Associate Director, Curriculum and Pedagogy | -January 2016 onward: communication with Dr. Sheila Sammon, Director of Community Engagement, on the topic of Community |

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Engagement, Student Leadership & Peer Mentoring in SIS.

-June 2016: Establishment of the Students as Partners Committee as outlined in the SIS Bylaws. This committee will assist in the identification and engagement of SIS students in community-based projects.
Dean’s Response, Faculty of Science:

The Dean thanks the review team for the report and notes that due to turnover in the Office of the Dean of Science, the response of the Dean has been considerably delayed. The Dean would also like to acknowledge that at the time of both the site visit and the preparation of the program response, she was in the role of Director of the School of Interdisciplinary Science (SIS) and therefore was responsible for the leadership of iSci and the associated IQAP review.

The Dean highlights that under the guidance of its new academic home in SIS, iSci has moved forward with a number of the recommendations including the appointment of a faculty member responsible for the day-to-day operations of the program (iSci Program Coordinator), provision of stability in some areas of the teaching team, particularly in the agreements with Departments in the Faculty of Science for the provision of TA’s and instructors and in the hiring and organization of laboratory and administrative staff.

The Dean also notes that the relatively high cost of the program for the number of students served, the year over year declining application rates and the fairly high degree of attrition out of the program (and the difficulties in accommodating these students in other programs due to the unique course structure in iSci) present ongoing concerns to be addressed by the leadership of iSci and SIS.

The Dean encourages the continued expansion of innovations in teaching and learning in iSci to other programs in the Faculty of Science and other Faculties at McMaster; however, also encourages the program to be open to adjustments to their delivery model, resourcing, use of space and collaboration, particularly with the other programs in SIS.

Quality Assurance Committee Recommendation

McMaster’s Quality Assurance Committee (QAC) reviewed the above documentation and the committee recommends that the program 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
Civil Engineering
Undergraduate Program

Date of Review: March 31 – April 1, 2016

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 programs delivered by the Department of Civil Engineering. 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 Cyclical Program Review of the Undergraduate Civil Engineering Program

In accordance with the Institutional Quality Assurance Process (IQAP), the Department of Civil Engineering submitted a self-study in January 2016 to the Associate Vice-President, Faculty to initiate the cyclical program review of its undergraduate 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 all course outlines associated with the program and the CVs for each full-time member in the department.

One arm’s length external reviewer from Ontario and one internal reviewer were endorsed by the Dean, Faculty of Engineering, and selected by the Associate Vice-President, Faculty. The review team reviewed the self-study documentation and then conducted a site visit to McMaster University on March 31 – April 1, 2016. The visit included interviews with the Provost and Vice-President (Academic); Associate, Faculty, Dean and Associate Dean of the Faculty of Engineering, Chair of the department and meetings with groups of current undergraduate students, full-time faculty and support staff.

The Chair of the department and the Dean of the Faculty of Engineering submitted responses to the Reviewers’ Report (October 2016). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.
The Final Assessment Report was prepared by the Quality Assurance Committee to be submitted to Undergraduate Council, and Senate (December 2016).

**Strengths**

In their report (September 2016), the Review Team noted several strengths of the Civil Engineering program:

- High quality undergraduate program
- Forward looking, and innovative with an emphasis on experiential learning
- Program of high value, attracts high-achieving students
- Highly motivated and knowledgeable faculty members
- Five new faculty members added since 2010
- Outstanding group of faculty
- Four endowed chairs and one Canada Research Chair
- The volume of research and publication is outstanding
- 30% of the students in all years of Civil Engineering are on the Dean’s Honour List

**Areas for Improvement and/or Enhancement**

In their report, the reviewers noted that despite improvements over the past five years, there remains room for improvement in teaching effectiveness in some cases. Some instructors would benefit from workshops offered by MIIEETL on the newest pedagogical innovations for improving student engagement. Further, work is required to improve the communication skills of TAs, along with effort to improve the knowledge of some TAs in the courses to which they are assigned. Students would also feel better prepared for the job market if more opportunities were available to acquire facility in using analysis and design software and software related to computer graphics for civil engineers, especially AutoCAD. More instruction in the area of transportation is needed but this requires hiring of more faculty with this specialization. Finally, with an eye to future planning, the department’s enrolment has increased to saturation over the past five years. Further increases in student numbers would threaten the impressive improvements made over the past five years unless commensurate increases in faculty hires and physical space are provided. Laboratories and their equipment would need to be provided.

The Dean of the Faculty of Engineering, in consultation with the Chair of the Department Civil Engineering shall be responsible for monitoring the recommendations implementation plan. The details of the progress made will be presented in the progress report and filed in the Vice-Provost, Faculty’s office.

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

**Recommendations**

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<tr>
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</thead>
<tbody>
<tr>
<td>Attention should be paid to the drop in</td>
<td>Issue will be addressed through a memo to the</td>
<td>Department Chair</td>
<td>Over next 12 months, with continuing</td>
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<tr>
<td>Action</td>
<td>Responsible</td>
<td>Timeframe</td>
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<tr>
<td>Evaluate student performance from high school to Year 1 Engineering</td>
<td>Associate Dean, with a cc to the director of Level 1.</td>
<td>evaluation of effectiveness</td>
<td></td>
</tr>
<tr>
<td>Consideration should be given to establishing contact between the Department of Civil Engineering and the students in Year 1 of the undergraduate program through teaching of some of the course material in Year 1.</td>
<td>Chair to discuss possible increase in exposure of Civil Engineering to Level 1 students with Director, Level 1.</td>
<td>Department Chair Over next 12 months, with continuing evaluation of effectiveness</td>
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</tr>
<tr>
<td>Hires should be made to augment instruction in transportation planning and pavement design.</td>
<td>A Transportation Hire search will be conducted in 2016/17 for July 1/17 start.</td>
<td>Department Chair Over next 12 months</td>
<td></td>
</tr>
<tr>
<td>Consideration should be given to provide more opportunities for students to improve their knowledge of software tools related to analysis and design of civil engineering systems, such as Revit and SAP. Similar improved instruction should be given in the use of civil engineering graphics, such as plans and elevations, and in the use of computer graphics programs, such as AutoCAD.</td>
<td>The issue to be considered by the structural/geotechnical curriculum committee (where Revit, SAP and AutoCAD are most germane) with a general discussion at a future departmental meeting.</td>
<td>Department Chair Over next 12 months, with continuing evaluation of effectiveness</td>
<td></td>
</tr>
<tr>
<td>Attention should be paid to re-evaluating the Capstone project to allow more choice of topics.</td>
<td>Direction has been given to the capstone course instructors to expedite this point.</td>
<td>Department Chair Over next 12 months, with continuing evaluation of effectiveness</td>
<td></td>
</tr>
<tr>
<td>Instructors should be strongly encouraged to use the workshops and individual assistance</td>
<td>Encouragement to fully use MIEETL resources will be done now and over time by the</td>
<td>Department Chair Over next 12 months, with continuing evaluation of effectiveness</td>
<td></td>
</tr>
<tr>
<td>Offered by MIIETL to continue to develop their teaching effectiveness.</td>
<td>Department Chair</td>
<td>The department and Faculty should give attention to improving student awareness in Year 1 of the importance of oral and written language skills in all career options.</td>
<td>Issue will be addressed through a memo to the Associate Dean, with a cc to the Director, Level 1. Year 1 has enhanced reporting requirements of ENG 1P03 and 1C04 to include more report writing.</td>
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<tr>
<td>TAs should be strongly encouraged to improve these skills, as well as their teaching skills, through offerings at MIIETL and with the help of the School of Graduate Studies.</td>
<td>Department Chair</td>
<td>Improvements to the training of TAs will be expedited at the start of the 2016/17 academic year through a mentoring program and workshop offerings. We will also initiate a formal exit evaluation for TAs at the end of each term.</td>
<td>Department Chair</td>
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<tr>
<td>Student evaluation of individual TA performance should be undertaken by all instructors</td>
<td>Department Chair</td>
<td>The evaluation process for individual TA performance will be expedited for the start of the 2016/17 academic year</td>
<td>Department Chair</td>
</tr>
<tr>
<td>Consideration should be given to the optimum number of students to be accepted into Civil Engineering programs.</td>
<td>Department Chair</td>
<td>Ongoing discussions will continue on this issue with the Associate Dean’s Office, in the context of lab space, TA resources, technician resources and other constraints</td>
<td>Department Chair</td>
</tr>
<tr>
<td>Attention should be paid to providing a more advocacy-based approach in finding appropriate co-op positions</td>
<td>Department Chair</td>
<td>Issue will be addressed through a memo to the Associate Dean with a cc to the Manager of the Engineering Co-op and Career Services office.</td>
<td>Department Chair</td>
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**Dean’s Response:**
As detailed in the Chair’s response, the recommendations in the review have led to a series of on-going discussions and actions within the Department, the major ones of which are the approval of a new Faculty position in Transportation, a discussion surrounding providing further opportunities for enhanced use of advanced software tools in the curriculum (e.g. advanced design and drawing tools), widening of the capstone project experience, increased interaction between instructors and MIETL, and enhanced training of TAs to improve the undergraduate experience. A number of these actions have been completed with the majority being address on an on-going basis. Several other actions, more appropriately addressed at the Faculty level (e.g. an enhanced co-op positions), are also on-going.

Overall, the dean is satisfied with the replies of the department to the concerns raised by the IQAP reviewers.

**Quality Assurance Committee Recommendation**

McMaster’s Quality Assurance Committee (QAC) reviewed the above documentation and the committee recommends that the program 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
Computer Science
Undergraduate Program

Date of Review: March 28 – March 29, 2016

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 programs delivered by the Department of Computing and Software. 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 Cyclical Program Review of the Undergraduate Computer Science Program

In accordance with the Institutional Quality Assurance Process (IQAP), the Department of Computing and Software submitted a self-study in January 2016 to the Associate Vice-President, Faculty to initiate the cyclical program review of its undergraduate 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.

One arm’s length external reviewer from the Ontario and one internal reviewer were endorsed by the Dean, Faculty of Engineering, and selected by the Associate Vice-President, Faculty. The review team reviewed the self-study documentation and then conducted a site visit to McMaster University on March 28 – March 29, 2016. The visit included interviews with the Provost and Vice-President (Academic); Associate Vice-President, Dean and Associate Dean of the Faculty of Engineering, Faculty, Chair of the department and meetings with groups of current undergraduate students, full-time faculty and support staff.

The Chair of the department and the Dean of the Faculty of Engineering submitted responses to the Reviewers’ Report (January 2017). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.
The Final Assessment Report was prepared by the Quality Assurance Committee to be submitted to Undergraduate Council and Senate (December 2017).

**Strengths**

The main strengths of the Computer Science program are the following:

- The program has a solid curriculum with a mixture of fundamental courses, experiential learning courses, and electives (10 open and 6 technical). The current curriculum was introduced in 2013/14. It helped reduce the Level 1 to Level 2 attrition from over 50% to about 3%. We expect that the 5 new experiential learning courses (called *practice and experience courses*) will have a major positive impact on the student learning experience. We are still in the process of finding the best way to deliver these innovative courses. The 16 open and technical electives allow our Computer Science students to develop a tailored program that is built on a solid computing foundation. We are encouraging our students to develop (1) program plans for combining computer science with their interests and career aspirations using the electives and (2) portfolios that showcase the work they produce by implementing their program plans.
- The program is attracting well-prepared and highly motivated students.

In their report (April 2016), the Review Team highlighted the additional following strengths of the program:
- The program’s “focused approach to training the practice of computer programming and software design”.
- The program faculty and staff are concerned with “how the [students] are taught and how they learn”.
- The experiential *practice and learning courses* that provide students with hands-on experience with computer programming are “well thought out and offers a forward thinking approach to engaging [the] students in their education”.
- The program prepares students both for employment immediate after graduation and for graduate studies in computing.
- The program faculty are actively reaching out to industry and local schools.
- The program is supported by a faculty that includes “some very strong researchers, in a variety of research areas”.
- The program faculty are rich in international diversity.
- The program has a deep candidate pool.
- The Computer Science program is being monitored by the same learning-outcomes process used for the Department’s Mechatronics and Software Engineering programs.

**Areas for Improvement and/or Enhancement**

The main areas for improvement of the program are the following:
• Some of the required courses in the Computer Science program must be combined with required courses of the Software Engineering program. In 2015/16 there were 11 of these combined courses of these combined required courses with 200-300 students. Not only are these courses very large, they include two very different cohorts of students. The CS students have a higher admission average than SE students, take three computing courses in Level 1 versus the single course SE students take in Level 1, and have a lower course load than SE students (5 versus 6-7 course per term). As a result, the CS students are under challenged, while the SE students are over challenged. This is directly reflected in the course evaluations: An instructor who teaches a combined required course nearly always receives a significantly higher rating from the CS student than from the SE students with a CS Question 1 mean that is often 1 – 2 points higher than the SE Question 1 mean. 7 of the 11 combined required CS and SE courses will be taught separately in 2017/17 at the price of hiring more sessional lecturers.

• The Department’s undergraduate student to faculty ratio is 34.4. As a result, nearly all the courses in the CS program are large. The combined required CS and SE courses mentioned above usually have about 240 students; uncombined CS required courses have about 80 students; and most technical electives have about 50 students.

• The department does not have a sufficient number of technical electives in the application areas of computer science. The department does not have the expertise in the Department faculty to teach important application courses like computer graphics, machine learning, and artificial intelligence, nor does the Department have the teaching capacity to deliver a larger number and range of technical electives.

• The student experience is being diminished by the large number of courses that are being taught by sessional lecturers: 6 required courses and 6 technical electives in the CS program will be taught by sessional lecturers in 2016/17.

The Review Team noted some other following areas for improvement in the program:

• The main areas for improvement expressed in the report are the “lack of applications of computing topics” and research activities to “entice and attract students to seek graduate studies”.

• The program should provide the students more opportunities to do cutting edge research as part of their undergraduate experience.

• The preparation of the Computer Science students is not in alignment with the preparation of Software Engineering students, which causes a “limit to the depth that more advanced material can be covered for computer science students.”

• The heavy use of sessional lecturers “on an ad hoc basis signals a unit that is stretched and has challenges in teaching its programs.”

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

Recommendations
<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Proposed Follow-Up</th>
<th>Responsibility for Leading Follow-Up</th>
<th>Timeline for Addressing Recommendation</th>
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</thead>
<tbody>
<tr>
<td>More of an effort to include undergraduate students in research, coupled with more incentives to attract students into graduate studies.</td>
<td>The Faculty is working on this for all of its undergraduate programs. We are working on implementing a portfolio program for Computer Science students, which could include a research component when appropriate.</td>
<td>CAS Associate Chair for Undergraduate Studies.</td>
<td>March 2017</td>
</tr>
<tr>
<td>A more visible and prominent approach to internationalization</td>
<td>The Faculty is working on this for the entire Faculty. We could include an internationalization component in the CS portfolio program that capitalizes on the rich international diversity of the CAS faculty and the high number of foreign students in McMaster’s CS program. (25% of the CS students entering Computer Science 1 next fall are from outside of Canada).</td>
<td>CAS Associate Chair for Undergraduate Studies</td>
<td>March 2017</td>
</tr>
<tr>
<td>The enrolment is capped at 50 students for CS. If the department wishes and has the resources an increase in the number of CS students may be appropriate</td>
<td>We do not have the teaching capacity to raise the Computer Science enrolment without decreasing the enrolment of our other undergraduate programs. We would like to put our Computer Science and Software Engineering programs into balance by increasing the CS intake per year from 50 to 90 and decreasing the SE intake per year</td>
<td>CAS Chair</td>
<td>March 2017</td>
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<tr>
<td>Recommendation</td>
<td>Description</td>
<td>Status</td>
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<tr>
<td>A recommendation in the previous cycle was to align the CS curriculum more closely with the SE curriculum. This remains an issue.</td>
<td>The CS and SE curricula have been as closely aligned as they can be at Levels 2 – 4. Alignment is needed at Level 1, but this is impossible since SE students begin in the Engineering 1 program.</td>
<td>Done</td>
<td></td>
</tr>
<tr>
<td>A comment that has been raised repeatedly by faculty is the lack of sufficient teaching assistant support. This appears to be an area where a modest investment in additional teaching assistants would ease the stresses of holding large classes.</td>
<td>The Faculty has significantly increased the Department’s TA budget so that we will be able to hire 115 graduate and 52 undergraduate TAs in 2016/17. (We hired 103 graduate and 27 undergraduate TAs in 2015/16). It will be very challenging to find appropriate students to fill all of these TA positions. For that reason, a further increase of the TA budget will likely not have much of an impact.</td>
<td>Done.</td>
<td></td>
</tr>
<tr>
<td>The use of sessional instructors on an ad-hoc basis should be closely monitored to ensure quality and consistency.</td>
<td>Every sessional lecturer will be assigned a full-time faculty member of the Department to serve as a teaching mentor. Moreover, the Department’s Undergraduate Curriculum and Policy Committee will monitor the delivery of the courses at the end of each term and give feedback to the sectional lecturers.</td>
<td>CAS Chair September 2016</td>
<td></td>
</tr>
</tbody>
</table>

Programming courses: This has already been done.

Done
should be sectioned so that CS students could be instructed at their appropriate level.

done for the 7 of the 11 combined required Computer Science and Software Engineering courses. To section the remaining 4 courses would require hiring 4 more sessional lecturers so that we have 26 instead of the current 22.

Faculty Response:

As detailed in the Chair’s response, the recommendations in the review have led to a series of discussions within the Department of Computing and Software (CAS) and the Faculty focused on such items as reduction of class sizes or splitting of the current combined CompSci and Software Engineering course, expansion of the program due to its high demand, the incorporation of undergraduate students in research, internationalization, TA support, and issues with a large number of sessional instructors. The vast majority of the recommendations are currently being addressed or have been completed by the Department and include such items as the splitting of combined CompSci and Software Engineering courses and closer monitoring of session faculty to ensure a high quality of instruction. Unfortunately, some of the recommendations, such as increasing the alignment between the Level 2 CompSci and Software Engineering student backgrounds, cannot be implemented due to the common Engineering 1 entry year at McMaster.

Overall, the dean satisfied with the replies of the Department to the concerns raised by the IQAP reviewers.

Quality Assurance Committee Recommendation

McMaster’s Quality Assurance Committee (QAC) reviewed the above documentation and the committee recommends that the program 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
Mechatronics Engineering
Undergraduate Program

Date of Review: March 31 – April 1, 2016

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 programs delivered by the **Department of Computing and Software**. 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 Cyclical Program Review of the Undergraduate Mechatronics Engineering Program**

In accordance with the Institutional Quality Assurance Process (IQAP), the Department of Computing and Software submitted a self-study in January 2016 to the Associate Vice-President, Faculty to initiate the cyclical program review of its undergraduate 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.

One arm’s length external reviewer from the United States and one internal reviewer were endorsed by the Dean, Faculty of Engineering, and selected by the Associate Vice-President, Faculty. The review team reviewed the self-study documentation and then conducted a site visit to McMaster University on March 28 – March 29, 2016. The visit included interviews with the Provost and Vice-President (Academic); Associate Vice-President, Faculty, Dean and Associate Dean of the Faculty of Engineering, Chair of the department and meetings with groups of current undergraduate students, full-time faculty and support staff.

The Director of the program and the Dean of the Faculty of Engineering submitted responses to the Reviewers’ Report (January 2017). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.
The Final Assessment Report was prepared by the Quality Assurance Committee to be submitted to Undergraduate Council, and Senate (December 2017).

**Strengths**

In their report (April 2016), the Review Team highlighted the following strengths of the program:

- The program is in line with the university’s priorities (identified in the President’s letter), and in particular, *interdisciplinarity* (which is one of the components of the first priority) is one of the main characteristics of the program.
- The program is very popular. Very strong students are admitted to the program (as evident from high admission requirements) and they continue to excel academically (as evident from the Dean’s/Provost’s honor list as well as students’ GPA).
- Within each department (and in particular Computing and Software Department), the professors involved are aware of the program details, as far as their department is concerned.
- The Chair of the Computing and Software Department is familiar with all components of the program (including the courses offered by other departments). The Chair is aware of most of the strengths of the program, and some of its weaknesses.
- Learning outcomes (set by CEAB) are measured in great detail, and the results of all measured attributes are very encouraging.
- The professors teaching the courses are, in general, doing a great job in delivering the course material and motivating the students.
- The program includes some of the most popular courses among the students (especially due to their relevance to the current job market).
- Accessibility of open labs for those students who are interested to work on hands-on projects.
- The Department of Computing and Software has plans to address some of the weaknesses of the program.
- The Computing and Software Department has good initiatives for the students (in all programs), in line with the university’s priorities.

**Areas for Improvement and/or Enhancement**

The Review Team noted some areas for improvement for the program:

- Some of the courses delivered by different departments overlap significantly.
- A lack of mechanical system design courses was noted.
- Additional foundational software courses, including algorithms and data structures, and supporting foundations for the current operating systems course would be considered very valuable, while the value of the thermodynamics course as students currently have to take it was questioned.

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

<table>
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<tr>
<th>Recommendation</th>
<th>Proposed Follow-Up</th>
<th>Responsibility for Leading Follow-Up</th>
<th>Timeline for Addressing Recommendation</th>
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</thead>
<tbody>
<tr>
<td><strong>1.</strong> A committee consisting of the representatives from four departments involved in offering the program should be created to govern the program and address its weaknesses. The Associate Chairs for Undergraduate Programs of the four departments would be the most appropriate representatives to serve on this committee.</td>
<td>The committee of the undergraduate associate chairs exists “automatically” informally; the CAS department is communicating with all involved departments to establish further enhancements to the governance of the Mechatronics programme.</td>
<td>CAS Chair and CAS Associate Chair for Undergraduate Studies</td>
<td>September 2017</td>
</tr>
<tr>
<td><strong>2.</strong> The departments involved in mechatronics course offerings should take action to address the overlap between some of the courses.</td>
<td>CAS Chair will work with the chairs of other department to ensure better communication between instructors of mechatronics courses. Also mechatronics curriculum committee will revisit the course description to avoid unnecessary overlap between courses.</td>
<td>CAS Chair and CAS Associate Chair for Undergraduate Studies</td>
<td>September 2017</td>
</tr>
<tr>
<td><strong>3.</strong> In order to further grow the program (if such growth is of strategic interest to the university), more resources will be needed in some labs.</td>
<td>CAS Chair submitted a request to the Faculty of Engineering of additional funds of about $309K to renew and expand the labs. An increase by 20 places for Fall 2017 is currently in the works.</td>
<td>Dean’s Office and CAS Chair</td>
<td>September 2017</td>
</tr>
</tbody>
</table>
4. A better management of space allocated to the labs, students and professors will become increasingly important in the near future. Therefore, it is recommended that the department revisits its current space allocation priorities.

CAS Chair has developed a space allocation policy and is negotiating with the faculty concerning space for the growth in the Mechatronics Engineering programme.

CAS Chair

5. It is desirable to have a mechanism in course evaluation process to separate the results obtained from mechatronics students (it would be good to do the same for all different programs whose students attend the same class).

Some courses are already split into separate sections (2S03) or in the process of being split (MECHENG 2B03). We plan to incrementally assign separate course numbers also for courses that are still co-taught.

CAS Associate Chair for Undergraduate Studies.

September 2017

6. To evaluate the effectiveness of some initiatives such as mentorship program and involving the undergraduate students in research activities, it is important to come up with some measurable success criteria.

The mentoring program for Computer Science students has not been very successful thus far due to a pronounced lack of participation by the students. A mentoring program for Mechatronics students is desirable, but careful consideration is needed to find ways to better engage the students and to provide effective mentoring given that the Department’s faculty workload is already excessive. We need to develop a successful pilot program for Computer Science before developing such a mentor program for Software Engineering.

CAS Chair

June 30, 2017
7. There are two specific areas of interest among the students in the program: one is more related to mechanical design and the other related to algorithms and data structure. It would be good to consider two options for the program, with two sets of core courses (and/or elective courses) in focused areas for each.

| CAS undergraduate curriculum committee will be considering this suggestion. However, the lack of teaching resources within the department might be an obstacle to implement this suggestion. |
| Associate Chair for Undergraduate Studies. |
| September 2017 |

8. It is recommended that the professors explain to the students, in the beginning of the semester, how the content of the course they teach is related to the objectives of the program.

| The department is working on designating some courses taken by Mechatronics Engineering students as “home courses”, where the instructors have responsibility to communicate programme-level information to the students. |
| CAS Associate Chair for Undergraduate Studies. |
| June 30, 2017 |

9. Given the heavy load of collecting and evaluating CEAB attributes, it is recommended that two professors be involved in the process.

| Assessing graduate attributes is really part of the duties of the individual instructors. The Associate Chair for Undergraduate Studies is supported by the Continuous Improvement committee in the process of aggregating and interpreting the amassed information. |
| Done. |
|  |

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Final Assessment Report – Mechatronics (UG)
10. Plagiarism workshops should be held (perhaps at the university level) upon the admission of students, and serious sanctions should be considered for this type of offence.

We agree.

Associate Dean for Undergraduate Studies

11. It is recommended that the department creates two mailing lists: one for more important messages (such as the ones concerning the program/class updates) and one for less important ones (such as information on social events). The list for less urgent emails should have an opt-out link.

This will be considered as part of the ongoing restructuring of communication with the Mechatronics Engineering students and of the department web offerings. In partnership with CAS student associations, clubs, and societies, we are rethinking how to communicate and better engage students.

Mechatronics Coordinator, Undergraduate Advisor for Mechatronics Engineering, and CAS Chair

December 2016

12. The design and maintenance of the department website needs to be improved.

This will be considered as part of the ongoing restructuring of communication with the Mechatronics Engineering students and of the department web offerings. In partnership with CAS student associations, clubs, and societies, we are rethinking how to communicate and better engage students.

Mechatronics Coordinator, Undergraduate Advisor for Mechatronics Engineering, and CAS Chair

December 2016

Faculty Response:

As detailed in the Chair’s response, the recommendations in the review have led to a series of discussions within the Department focused on inter-departmental co-ordination, course overlap, space considerations for growth, section splitting for some courses, the inclusion of more mechanical design/algorithm courses, and enhanced communication with the students. Many of these initiatives have been addressed or are on-going.
Overall, the dean satisfied with the replies of the Department to the concerns raised by the IQAP reviewers.

**Quality Assurance Committee Recommendation**

McMaster’s Quality Assurance Committee (QAC) reviewed the above documentation and the committee recommends that the program 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
Software Engineering
Undergraduate Program

Date of Review: March 31 – April 1, 2016

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 programs delivered by the Department of Computing and Software. 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.

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Executive Summary of the Cyclical Program Review of the Undergraduate Software Engineering Program

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One arm’s length external reviewer from the Ontario and one internal reviewer were endorsed by the Dean, Faculty of Engineering, and selected by the Associate Vice-President, Faculty. The review team reviewed the self-study documentation and then conducted a site visit to McMaster University on March 31 – April 1, 2016. The visit included interviews with the Provost and Vice-President (Academic); Associate Vice-President, Faculty, Dean and Associate Dean of the Faculty of Engineering, Chair of the department and meetings with groups of current undergraduate students, full-time faculty and support staff.

The Director of the program and the Dean of the Faculty of Engineering submitted responses to the Reviewers’ Report (January 2017). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.
The Final Assessment Report was prepared by the Quality Assurance Committee to be submitted to Undergraduate Council and Senate (December 2017).

**Strengths**

In their report (April 2016), the Review Team highlighted the following strengths of the program:

- The attrition rate for students in the program is relatively low
- “The Department has been successful in recruiting a number of new faculty members with diverse backgrounds”
- The newly introduced “practice and experience” courses and the capstone project course contribute to a strong experiential learning experience
- The program provides a strong background in hardware-oriented programming skills
- The students are exposed to large variety of programming languages and platforms
- The class rooms and laboratories are well equipped and maintained
- The technical and administrative staff are providing excellent support for the
- The Department has created a Continuous Improvement Committee for monitoring the Software Engineering and Mechatronics Engineering programs

**Areas for Improvement and/or Enhancement**

The Review Team noted the following areas for improvement in the program:

- The learning outcomes at the program level based on CEAB Graduate Attributes and Indicators are too generic and should be specialized for the Software Engineering program
- The differences between the Computer Science and Software Engineering programs are not clear to students
- Software Engineering students entering Level 2 have less knowledge of programming than Computer Science students entering Level 2. Software Engineering students have noticed that they are thus less prepared than Computer Science students in the courses that combine both groups of students
- The program lacks courses, such as web computing and mobile computing. In the application domain
- The required database course should be moved from Level 3 to Level 2
- It is not clear where software maintenance and re-engineering is covered in the program
- The curriculum map does not distinguish between different levels of design content across the curriculum
- Measurement of teamwork is not adequately addressed
- The co-op program is not utilized in assessing learning outcomes
- The increasing enrolment, very high student to faculty ratio, use of a large number of sessional lecturers, and combining courses with Computer Science and Mechatronics Engineering students have negatively impacted the student learning experience
- There is not sufficient office space for sessional lecturers
• The Department does not have a curriculum committee dedicated to the Software Engineering program

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

Recommendations

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1. The review team encourages the Department to refine the current program learning outcomes into more program-specific learning outcomes. More specific program learning outcomes will enable the Department to better focus its curriculum development as well as allow students to better understand the differences between different Software Engineering program options and the difference between the Software Engineering program as a whole and other related programs, such as Computer Science and Computer Engineering.</td>
<td>Learning outcomes are addressed on two levels. <em>Learning objectives</em> are the targeted course-level learning outcomes; they are the components of the pre- and post-conditions for individual courses. <em>Graduate attributes and indicators</em> are the targeted program-level learning outcomes; the graduate attributes are the same for all Canadian engineering programs, while the indicators are the same for all McMaster engineering programs. Rather than introducing a third level of program-specific program-level learning outcomes, we need to develop a tighter mapping between the program-level indicators and the course-level learning objectives.</td>
<td>CAS Associate Chair for Undergraduate Studies</td>
<td>June 30, 2017</td>
</tr>
<tr>
<td>2. The Department may consider adding a list of recommended courses in computer technology and</td>
<td>This recommendation is not feasible since students are admitted into the Engineering 1 program from high school and not directly into the Software Engineering program.</td>
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<tr>
<td>Recommendation</td>
<td>Implementation</td>
<td>Signatory</td>
<td>Date</td>
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<tr>
<td>3. The Department may consider adding a list of recommended course electives for first year students who are interested in choosing Software Engineering as their degree program, e.g., COMP SCI 1JC3 and COMP SCI 1XA3.</td>
<td>This recommendation is not feasible since Engineering 1 students have no room in their schedules to take technical electives.</td>
<td></td>
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<tr>
<td>4. The Department may consider making the Database course available (as a mandatory course) even earlier than third year, e.g., the second half of Year 2. If this is not feasible, consider integrating a basic introduction to the use of databases in a second year practice and experience course, e.g., SFWR ENG 2XB3. The Database course should remain a mandatory component of the Software Engineering program.</td>
<td>Although it would be desirable to have the required databases course in Level 2, this is not feasible since none of the courses currently in Level 2 can be easily moved to later levels. The suggestion by the reviewers to incorporate an introduction to databases in the SFWRENG 2XB3 (Software Engineering Practice and Experience: Binding Theory to Practice) is the most promising way to move the subject of databases earlier in curriculum.</td>
<td>CAS Associate Chair for Undergraduate Studies</td>
<td>June 30, 2017</td>
</tr>
<tr>
<td>5. The Department may consider adding courses on Web-based and mobile software engineering to the curriculum, while moving some of the advanced hardware-oriented programming courses to electives</td>
<td>The Embedded Systems program is being eliminated as a separate program. Software Engineering students who are interested in embedded systems will be able to take the current embedded systems courses as electives. As a rule, we are making the specialized Computer Science courses, including COMPSCI 4WW3 (Web Programming) mandatory.</td>
<td>CAS Associate Chair for Undergraduate Studies</td>
<td>June 30, 2017</td>
</tr>
</tbody>
</table>
(or mandatory courses in the embedded systems option).

<p>| 6. The Department may consider strengthening the treatment of fundamental concepts and methods used in Software Maintenance and Reengineering, e.g., by revising the course description for SFWR ENG 3XA3 to explicitly include this topic. | We agree that the treatment of software maintenance and re-engineering should be strengthened and the best vehicle for doing this is SFWRENG 3XA3 (Software Engineering Practice and Experience: Software Project Management). | CAS Associate Chair for Undergraduate Studies | June 30, 2017 |
| 7. The Department is encouraged to provide students with opportunities to gain experience with diverse programming languages and platforms in senior program years, wherever possible. | We agree with this recommendation | CAS Associate Chair for Undergraduate Studies | June 30, 2017 |
| 8. The Department may consider defining more detailed, program specific learning outcomes that refine the general CEAB graduate attributes. A refined curriculum map may indicate what learning outcomes are introduced, further developed, and specialized in which | See recommendation 1 above | | |</p>
<table>
<thead>
<tr>
<th>9. The Department may consider adding assessment strategies for teamwork to project-based courses, potentially using the tool of an “Engineering logbook” or a similar mechanism for assessing team collaboration and communication</th>
<th>We agree that the Department should develop better means for assessing teamwork on projects. The suggested logbook idea, that is currently used in courses such as SFWR ENG 3A04, could be implemented by making logbooks an integral part of all Software Engineering courses</th>
<th>CAS Associate Chair for Undergraduate Studies</th>
<th>June 30, 2017</th>
</tr>
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<tbody>
<tr>
<td>10. The Department may consider the opportunity of assessing the competencies of students participating in the Co-Op program, for example by adding structured questionnaires for work terms supervisors (employers) and students at the exit points of each Co-Op term</td>
<td>This is a good suggestion, but it needs to be investigated and implemented at the Faculty level</td>
<td>Faculty of Engineering Associate Dean, Academic</td>
<td>June 30, 2017</td>
</tr>
<tr>
<td>11. The Department may consider a Design learning outcome for its HCI course</td>
<td>We agree that the post-condition of SFWR ENG 4HC3 (Human Computer Interfaces) should include a design learning objective</td>
<td>CAS Associate Chair for Undergraduate Studies</td>
<td>June 30, 2017</td>
</tr>
<tr>
<td>12. Given the increasing enrolment, upcoming retirements and the need to reduce class sizes, the Department should continue to recruit new faculty members. Specifically, the</td>
<td>The Department intends to hire as many faculty members, including teaching professors, as the Faculty will authorize</td>
<td>CAS Chair</td>
<td>The period of 2017-2019</td>
</tr>
<tr>
<td>Department may consider attaining permission to hire one or two teaching professors, as they can be assigned a higher course load</td>
<td>The Department recognizes that it needs to increase the diversity of its faculty, especially with respect to women. Three of the last five faculty hires in CAS were women. The Department is dedicated to continuing hiring in this direction</td>
<td>CAS Chair</td>
<td>On-going</td>
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<tr>
<td>13. The Department is encouraged to continue recruiting faculty members that increase the diversity of its faculty complement, e.g., gender minorities and faculty with diverse backgrounds</td>
<td>14. The Department may consider exploring options to increase the availability of spaces for meetings between sessional instructors before and after class. Perhaps a keycard reader can be installed in the shared sessional office, so that sessionials do not depend on a single shared physical key to access the shared office</td>
<td>As the number of sessional lecturers has increased, the need for space for them has also increased. CAS, and the Faculty as a whole, is very short of space. Nevertheless, we will work to provide our sessional lecturers adequate space for their needs</td>
<td>CAS Administrator</td>
</tr>
<tr>
<td>15. The Department may consider creating and communicating a Web site that maintains detailed information on the software and (drop in) laboratories available to students</td>
<td>This facility already exists. See <a href="http://www.cas.mcmaster.ca/support/">http://www.cas.mcmaster.ca/support/</a>.</td>
<td>16. The Department is encouraged to continue their efforts</td>
<td>We agree. Our hiring plan for 2016-2017 includes the hiring of a senior faculty with the</td>
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<td>in recruiting faculty members with scholarly interest in practical / application-oriented aspects of software engineering research and teaching</td>
<td>proposal characteristics</td>
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<tr>
<td><strong>17.</strong> Measures should be taken to reduce class sizes and limit the number of temporary teaching staff (sessionals) in delivering courses</td>
<td>We have reduced the number of required Software Engineering courses combined with required Computer Science or Mechatronics Engineering courses from 13 to 6. This has significantly reduced the average size of the required Software Engineering courses at the cost of increasing the number of courses taught by sessional lecturers. Reducing the intake of students into the Software Engineering program is not an option that the Faculty is able to consider at this time, so the only solution to this problem is to hire more faculty members</td>
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<tr>
<td><strong>18. The Department is encouraged to expand its current mentoring program (for Computer Science students) to students in Software Engineering</strong></td>
<td>The mentoring program for Computer Science students has not been very successful thus far due to a pronounced lack of participation by the students. A mentoring program for Software Engineering students is desirable, but careful consideration is needed to find ways to better engage the students and to provide effective mentoring given that the Department’s faculty workload is already excessive. We need to develop a successful pilot program for Computer Science before developing such a mentor program for Software Engineering</td>
<td>CAS Chair</td>
<td>June 30, 2017</td>
</tr>
<tr>
<td><strong>19. The Department should develop a</strong></td>
<td>We agree: the Department should develop renewed</td>
<td>CAS Chair</td>
<td>June 30, 2017</td>
</tr>
<tr>
<td>Mission Statement / Vision Document for its Software Engineering Program, Including Specific Program Learning Outcomes</td>
<td>Mission and Vision Statements for Each of Its Undergraduate and Graduate Programs</td>
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<tr>
<td><strong>20. The Department Should Develop Detailed Descriptions for All Program Courses Including Course-Specific Preconditions and Postconditions (Learning Outcomes). These Should Be Mapped to the Program Specific Learning Outcome</strong></td>
<td>This has been done. What remains to be done is to harmonized the pre- and post-conditions across the program and to improve the mapping of the program-based indicators to the course-based learning objectives</td>
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<tr>
<td><strong>21. Encourage Instructors to Incrementally Incorporate Innovative Methods for Learning and Teaching, with an Emphasis on Multimedia and Flip-Classroom Teaching Methods, in Order to Decrease Faculty Teaching Load and Increase Classroom Attendance</strong></td>
<td>The previous and current CAS chair has been actively encouraging the CAS instructors to work with McMaster’s Paul R. MacPherson Institute for Leadership, Innovation and Excellence in Teaching to improve their teaching and to experiment with new teaching formats</td>
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</tr>
<tr>
<td><strong>22. Establish an Industrial Advisory Board with Broad Representation from Different Software Engineering Related Industries to Advise the Department on Trends, Curriculum and Strategic Planning</strong></td>
<td>The Department is interested in establishing an Industrial Advisory Board with broad representation throughout the computing related industries</td>
<td></td>
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<tr>
<td><strong>23. The Department May Consider Strengthening the</strong></td>
<td>We agree</td>
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</tbody>
</table>

**CAS Associate Chair for Undergraduate Studies**

**June 30, 2017**
<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>24. The Department should create a curriculum committee with dedicated focus on the Software Engineering program and its options.</td>
<td>Our department faculty is too small to support a separate curriculum committee for each of our three undergraduate programs.</td>
</tr>
<tr>
<td>25. The Department may strengthen the role of employer and alumni feedback to Continuous Improvement Committee and the Continuous Improvement process.</td>
<td>See recommendation 23</td>
</tr>
<tr>
<td>26. The Department may find a way to make aggregate, anonymized data from course evaluations available to members of the Continuous Improvement Committee.</td>
<td>This will require significant care in order to protect instructors’ privacy. It does not appear that per course data can be provided.</td>
</tr>
<tr>
<td>27. The Department may enhance the way it is communicating software/extracurricular lab services and opportunities to students.</td>
<td>Communicating effectively with students is becoming increasingly more difficult. For example, email is not an effective way to reach most students. In partnership with CAS student associations, clubs, and societies, we are rethinking how to better engage and communicate with students.</td>
</tr>
</tbody>
</table>

CAS Associate Chair for Undergraduate Studies
June 30, 2017

CAS Chair
June 30, 2017
Faculty Response:

As detailed in the Chair’s response, the recommendations in the review have led to a series of discussions within the Department and Faculty focused on such items as reduction of class sizes, being aware of the differences in level 2 between the Computer Science (CompSci) students and Software Engineering (SE) students combined courses, the enhancement of such items as teamwork and mapping/tracking of learning outcomes, the establishment of an Industrial Advisory Board, and issues with a large number of sessional instructors. The vast majority of the recommendations are currently being addressed by the Department and include such items as the splitting of combined CompSci and Software Engineering courses, the on-going development of a more comprehensive curriculum map, and the hiring of teaching-track faculty. Unfortunately, some of the recommendations, such as increasing the course entry requirements to the Software Engineering program cannot be implemented due to the common Engineering 1 entry year at McMaster.

Overall, the dean satisfied with the replies of the Department to the concerns raised by the IQAP reviewers.

Quality Assurance Committee Recommendation

McMaster’s Quality Assurance Committee (QAC) reviewed the above documentation and the committee recommends that the program 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.
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 programs delivered by the Engineering and Society Program. 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 Cyclical Program Review of the Engineering and Society Program

In accordance with the Institutional Quality Assurance Process (IQAP), the Engineering and Society Program submitted a self-study in January 2016 to the Associate Vice-President, Faculty to initiate the cyclical program review of its undergraduate 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.

One arm’s length external reviewer from Quebec and one internal reviewer were endorsed by the Dean, Faculty of Engineering, and selected by the Associate Vice-President, Faculty. The review team reviewed the self-study documentation and then conducted a site visit to McMaster University on March 31 – April 1, 2016. The visit included interviews with the Provost and Vice-President (Academic); Associate Vice-President, Dean and Associate Dean of the Faculty of Engineering, Faculty, Chair of the department and meetings with groups of current undergraduate students, full-time faculty and support staff.

The Director of the program and the Dean of the Faculty of Engineering submitted responses to the Reviewers’ Report (January 2017). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.
The Final Assessment Report was prepared by the Quality Assurance Committee to be submitted to Undergraduate Council, and Senate (December 2017).

Strengths

In their report (April 2016), the Review Team highlighted the following strengths of the program:

- The Engineering and Society program appears to play a hidden role in reducing attrition and attracting and retaining female engineering students in particular.
- The real value in the program appears to be the strong community that students feel within Engineering and Society.
- Engineering and Society alumni and students at all levels expressed a high level of satisfaction with the coursework.
- The teaching team is small but made up of a dedicated group of individuals who enjoy teaching their classes

Areas for Improvement and/or Enhancement

The Review Team identified the following areas for improvement:

- Students requested targeted feedback on writing assignments
- The curriculum between courses should be differentiated more than it currently is
- The administrative load on the program coordinator is exceptionally heavy

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

Recommendations

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Proposed Follow-Up</th>
<th>Responsibility for Leading Follow-Up</th>
<th>Timeline for Addressing Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop a better process to aid students in self-selecting the Program</td>
<td>A number of ideas were brainstormed with the review team and the results are included in the Reviewer’s Report. A committee should be struck that includes the core stakeholders of the program to review these ideas and implement new admission policies</td>
<td>Director of the Engineering and Society Program</td>
<td>The policies for admission will have to be reviewed and approved and should be in place for the 2018-2019 academic year</td>
</tr>
<tr>
<td>Training of the undergraduate TAs to better prepare them for</td>
<td>Development of a mandatory writing workshop for TAs</td>
<td>Director of the Engineering and Society Program</td>
<td>A student will be hired in the summer of 2017 to work on many tasks</td>
</tr>
<tr>
<td>Marking and providing feedback to writing assignments</td>
<td>One of which is the development of the material for the writing/grading workshop. The first workshop is to be delivered in September 2017</td>
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<tr>
<td>Differentiating content between courses to remove the overlap</td>
<td>A retreat by the E&amp;S instructors in June 2016 began to address this problem. All of the instructors submitted a synopsis of their course that detailed the topics covered, videos show, assignments, projects and field trips. Some corrections were made immediately but as an ongoing process it was proposed that each instructor provides an annual overview of their course in order to track any changes and avoid duplication.</td>
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<td>Increase the Administrative Support</td>
<td>This process began in the summer of 2016 and is proposed to continue indefinitely</td>
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<td>Currently there is one program coordinator for both Engineering &amp; Society and Engineering and Management. Hiring of a half or full-time administrative person to share the load for both of these programs is necessary to ensure the high standards that have already been set</td>
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<td>Director of the Engineering and Society Program</td>
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<tr>
<td>I fully support this recommendation by the review team. I have broached this topic with the Director of Administration and Finance as well as the Associate Dean (Academic). It is an ongoing process and I will continue to lobby for more support</td>
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<tr>
<td>Additional common space for the program would allow for a central space for studying and locating events and speaker series.</td>
<td>With the opening of the Gerald Hatch Centre, the Associate Dean's office and the Student Support Staff will be moving out of JHE A214 and could allow for</td>
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<tr>
<td>Director of the Engineering and Society Program</td>
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<tr>
<td>The Director will speak to the Director of Administration and Finance and request more space. The Hatch Centre will be opening in the Summer/Fall of</td>
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<tr>
<td>Recommendation</td>
<td>Response Description</td>
<td>2017 and all space allocation will be made well ahead of that time</td>
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<tr>
<td>Appointing an Assistant or Associate Director to the Program to help support the administrative side of the program</td>
<td>A conversation with the Dean, Associate Dean and Director of Finance will have to occur in order to determine the feasibility of this recommendation and to delineate the responsibilities and compensation if this proposal moves forward</td>
<td>This initial meeting with the indicated parties can take place in Spring of 2017.</td>
<td></td>
</tr>
<tr>
<td>Support by a Program Committee</td>
<td>The current Program Committee has not been active in over 13 years. The recommendation in the Reviewers report is to bolster the committee with more alumni, industrial partners and members of the university outside of Engineering</td>
<td>Director of the Engineering and Society Program</td>
<td>Recruitment of new members to the Program Committee will occur in the first half of 2017 and the first meeting will be held in the second half of the year.</td>
</tr>
<tr>
<td>Work with Engineering Co-Op and Career Services (ECCS) to articulate the particular values the E&amp;S students bring to the table</td>
<td>Meet with the Manager of ECCS to discuss the E&amp;S brand and how we can differentiate these particular students from other streams of engineering</td>
<td>Director of the Engineering and Society Program</td>
<td>Program Coordinator</td>
</tr>
</tbody>
</table>

**Faculty Response:**

As detailed in the Director’s response, the recommendations in the review have led to a series of discussions within the program and Faculty focused on developing and encouraging students to self-select the Engineering & Society option, TA training to aid in the assessment of written assignments, reducing overlap between the Engineering & Society inquiry courses, and an increase in the level of administrative support to the program. Actions concerning several of the recommendations are ongoing (e.g. TA training) with the remainder of the recommendations scheduled to be discussed and addressed during the 2017 calendar year, in conjunction with the Dean and Associate Dean (Academic).

Overall, the Dean is satisfied with the replies of the Program to the concerns raised by the IQAP
reviewers.

Quality Assurance Committee Recommendation

McMaster’s Quality Assurance Committee (QAC) reviewed the above documentation and the committee recommends that the program 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.
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 programs delivered by the Department of Materials Science and Engineering. 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 Cyclical Program Review of the Undergraduate Materials Engineering Program

In accordance with the Institutional Quality Assurance Process (IQAP), the Department of Materials Science and Engineering submitted a self-study in January 2016 to the Associate Vice-President, Faculty to initiate the cyclical program review of its undergraduate 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.

One arm’s length external reviewer from the United States and one internal reviewer were endorsed by the Dean, Faculty of Engineering, and selected by the Associate Vice-President, Faculty. The review team reviewed the self-study documentation and then conducted a site visit to McMaster University on March 28 – March 29, 2016. The visit included interviews with the Provost and Vice-President (Academic); Associate Vice-President, Faculty, Dean and Associate Dean of the Faculty of Engineering, Chair of the department and meetings with groups of current undergraduate students, full-time faculty and support staff.

The Director of the program and the Dean of the Faculty of Engineering submitted responses to the Reviewers’ Report (January 2017). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.
The Final Assessment Report was prepared by the Quality Assurance Committee to be submitted to Undergraduate Council, and Senate (December 2017).

Strengths

In their report (April 2016), the Review Team highlighted the following strengths of the program:

• International reputation, especially in the areas of thermodynamics and phase transformations

Areas for Improvement and/or Enhancement

The Review Team provided seven suggestions for improvement. Details of these suggestions are provided in the chart below.

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

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Proposed Follow-Up</th>
<th>Responsibility for Leading Follow-Up</th>
<th>Timeline for Addressing Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>In order to recruit more talented students, incorporate more challenging and qualitatively advanced topics in the introductory 1M03 class</td>
<td>This topic has been discussed in the past during MSE departmental meetings. We will continue to identify possible topic areas.</td>
<td>MSE Chair and instructors of 1M03</td>
<td>Fall term 2016</td>
</tr>
<tr>
<td>Build on the interdisciplinary nature of Materials Science by offering elective courses from other departments</td>
<td>This recommendation has also been discussed during departmental meetings and efforts are already underway to offer a broader range of electives. For example, a course on photovoltaics from Engineering Physics has recently been added to the list of approved technical electives.</td>
<td>MSE Chair</td>
<td>On going</td>
</tr>
<tr>
<td>Develop a vision for the future of biomaterials within the MSE department</td>
<td>This topic will be addressed in the MSE hiring plan for 2016-17</td>
<td>MSE Chair</td>
<td>August 2016</td>
</tr>
<tr>
<td>Institute a plan to optimize the effectiveness of teaching assistants</td>
<td>The following changes will be implemented: 1) Based on a suggestion from the</td>
<td>MSE Chair and Associate Chair of Graduate Studies</td>
<td>On going</td>
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</tbody>
</table>
IQAP review team, evaluations specific to TAs will be conducted in each course at roughly the midpoint of the term. Any TA who is found to be inadequate will meet with the Chair and Associate Chair for Graduate Studies to discuss plans for improvement.

2) Although we try to align TA expertise with classes, we endeavour to improve this process in the future.

3) Hire more undergraduate TAs by allowing faculty members to transfer fourth year PhD students to RA funding.

Develop a clear picture of in-course students’ participation in the co-op program

The IQAP review team noted that the MSE participation in the co-op program was substantially less frequent than in other departments and they suggested this may be affecting our recruiting ability. However, we have researched the participation rate in more detail. For the incoming second year class in 2016-17, 35 students out of 44 total have listed co-op as their degree choice. Further, it appears that many students in MSE participate in internships, but do not officially enrol in the co-op program due to the prohibitively high cost. Thus, we conclude that
students are well aware of the co-op opportunity, but simply elect not to participate. We will pursue no follow up at this time.

Enhance the opportunities for structured oral presentations

This topic has been discussed at our recent annual Grad Attributes meeting. With respect to oral presentations, in the future we will provide clear and consistent expectations to our students throughout our curriculum. In addition we will attempt to identify additional courses in which oral presentation can be implemented.

Make a plan for a new foreign exchange program to replace the one with Grenoble

We are currently investigating an exchange program with the University of Lorraine and Ecole de Mines de Nancy

MSE department

Fall term 2016

Faculty Response:

As detailed in the Chair’s response, the recommendations in the review have led to a series of discussions within the Department focused on TA effectiveness, recruitment into the Materials Science and Engineering program from Engineering I, enhancing the number of technical electives outside of the Department, and development of a strategic vision for biomaterials within the Department of Materials Science and Engineering. At this time, the Department is addressing all of the recommendations made in the report and a significant number have been completed.

Overall, the dean satisfied with the replies of the Department to the concerns raised by the IQAP reviewers.
Quality Assurance Committee Recommendation

McMaster’s Quality Assurance Committee (QAC) reviewed the above documentation and the committee recommends that the program 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
Art History

Date of Review: February 6 – 7, 2017

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 Art History undergraduate programs delivered by the School of the Arts. 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 Cyclical Program Review of the Undergraduate Art History Program

In accordance with the Institutional Quality Assurance Process (IQAP), the School of the Arts (Art History) submitted a self-study in December 2016 to the Associate Vice-President, Faculty to initiate the cyclical program review of its undergraduate 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, one from Ontario and one from Pennsylvania and one internal reviewer were endorsed by the Dean, Faculty of Humanities, and selected by the Associate Vice-President, Faculty. The review team reviewed the self-study documentation and then conducted a site visit to McMaster University on February 6 – 7, 2017. The visit included interviews with the Provost and Vice-President (Academic); Associate Vice-President, Faculty, Director of the School and meetings with groups of current undergraduate students, full-time faculty and support staff.

The Director of the School and the Dean of the Faculty of Humanities submitted responses to the Reviewers’ Report (August 2017). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.
Strengths

In their report (March 2017), the Review Team noted that the Art History program is a remarkably strong, dynamic, coherent and intellectually vibrant program with high self-expectations, as serious work ethic, strong commitments to excellence in teaching and research and an impressive reach beyond its core faculty and students enrolled in their courses. The report also notes that faculty and staff outside Art History have high praise for the department and that student and alumni praise is overwhelming. Further highlights identified in the report include:

• Faculty teaching informed by grant-funded research
• Innovative curriculum including pioneering instruction of first year course offered online, and broad offerings of non-western and western courses
• High-quality mentoring of in-course students and considerable success in placing students in well-ranked graduate programs, often with funding, as well as arts-related career trajectories

Areas of Improvement

In their report, the Review Team identified some recommendations for areas of improvement including creating a stronger alignment with the Museum and departments and Schools across campus. Further recommendations are outlined below.

• Continue to strengthen the diverse curricular offerings, in the short term, by drawing from community resources, hiring high-quality Sessional instructors who are a distinct asset to the program
• Continue to foster commitment of alumni and community donors to the Friends of Art History with a longer-term, ambitious goal of raising money to support opportunities for the program

The Dean of the Faculty of Humanities, in consultation with the Director of the School of the Arts shall be responsible for monitoring the recommendations implementation plan. The details of the progress made will be presented in the progress report and filed in the Vice-Provost, Faculty’s office.

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

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Tenure-track hire of a specialist in Contemporary Art and Artistic practices</td>
<td>Request that the Faculty of Humanities consider a tenure-track appointment in Art History of a specialist in Contemporary Art and Artistic practices. This position would result in</td>
<td>Drs. Angela Sheng and Alison McQueen</td>
<td>Submit request March 2018</td>
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<tr>
<td>Undergraduate courses that could be cross listed with several other programs including: Indigenous Studies, Communication Studies and Multimedia, History, English and Cultural Studies, as well as potentially graduate courses in Gender Studies and Feminist Research</td>
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<td>Develop an Experiential Learning course to heighten visibility of the internships that have previously been taught as Applied Humanities 3W03 and 4W03 courses</td>
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<tr>
<td>Develop a Level III course entitled Applied Art History for program students through which they would register to undertake experiential learning including: internships (such as at the McMaster Museum of Art, the Art Gallery of Hamilton, and other arts institutions in the region), internships at Heritage Sites, and Historical Societies, and other such possibilities reviewed and approved by program faculty. Students would have the possibility of enrolling in this course in the Fall, Winter, Spring or Summer sessions.</td>
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<tr>
<td>Drs. Angela Sheng and Alison McQueen</td>
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<tr>
<td>Submit new course proposal to the School of the Arts in September 2017, for consideration by the Faculty of Humanities Undergraduate Curriculum Committee in fall 2017</td>
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<td>Increased to $5,000 departmental funding for outside lectures, student field trips to museums, or academic related purposes</td>
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<td>Request an increase to $5,000, prioritizing for visiting speakers and field trips to museums, from the budget allocated to the School of the Arts; and align with amount allocated to Visiting Artists for the Art program</td>
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<td>Dr. Angela Sheng</td>
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<td>November 2017 submit request for the increase to take effect for the 2018-19 budget cycle</td>
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<tr>
<td>Audio-visual needs of</td>
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<td>Request, through the</td>
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<td>Drs. Angela Sheng and</td>
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<tr>
<td>January 2018 submit</td>
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<td>the Art History program should be met, with adequate budget to ensure there are sufficient classrooms with AV equipment to support the program, which has distinct needs based on its object-based teaching, and that courses in the Art History program are given priority access to the classrooms that have the necessary equipment</td>
<td>School of the Arts, that the Faculty communicate the distinct audio-visual needs of the Art History program to the head of University Technology Services, and request that adequate budget be assigned to keep classroom AV equipment maintained and renewed in a sufficient number of classrooms. Request, through the School of the Arts, that the Faculty communicate to the head of the Registrar’s office that Art History courses be given priority access to those classrooms.</td>
<td>Alison McQueen</td>
<td>assessment of current classroom audio-visual infrastructure, focusing on classrooms in which Art History courses have, historically, most commonly been taught (Togo Salmon Hall B-105, B-106, and B-128) as well as the seminar room in Wilson Hall (1212) that will be replacing the room previously used by the program for its seminars (Togo Salmon Hall 321).</td>
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<td>Increase to library funding, specifically for database subscriptions and book purchases</td>
<td>Request an increase to library funding for book purchases, particularly for new and recently developed courses in Art History that are being developed with the intent of continuing to foster the western and non-western curriculum in the program. Request the library fund new database subscription access to Hathi Trust.</td>
<td>Drs. Angela Sheng and Alison McQueen</td>
<td>Submit request to Wade Wyckoff and Janice Adlington in Collections Development at Mills Library in February 2018.</td>
</tr>
<tr>
<td>Introduce an annual undergraduate conference or symposium in Art History and Visual Culture</td>
<td>The Art History faculty appreciate the suggestion, which indicates that the External Reviewers’ regarded the work of Art History students at McMaster as being of a very high calibre,</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
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</table>
worth of public presentation. The faculty see the potential value of an annual conference or symposium, however due to the limited faculty complement they do not see it as realistic to undertake such a venture, particularly as any such symposium could only be a forum for papers by a select number of students, best developed over the course of more time than a three-unit course allows.

| Take full advantage of the relationship between the Art and Art History programs | Discuss with the Art faculty their willingness to accommodate one or two Art History students in select Art classes (enrolment permitted, and determined in collaboration with Art faculty). With support from faculty in the Art program, develop a new Level III course entitled Inquiry, Art making and Art History. Program students would attend selected Art courses and participate in art making and produce two written papers that would be graded by Art History faculty. The initial paper would focus on a selected art work, examining its context in history, medium, and why the | Dr. Angela Sheng | During 2017-18 to schedule discussions to result in a course proposal for curriculum submission in September 2018 |
student is interest in the object and its aesthetics. At the end of the term the student would submit a longer paper that would outline how the experience of art making has informed how they have a deeper analysis of the same art work than they did previously.

Take full advantage of the relationship between the Art History Program and the McMaster Museum of Art

The Art History faculty have been very forthcoming with support for the museum in various ways, they have offered regular contributions to exhibitions and curatorial expertise, in addition to offering teaching resources including course outlines. The Art History faculty have been disappointed and dismayed over decisions taken without consultation with them and the many ways in which they have had a negative impact on the Art History program and the Faculty of Humanities. The Art History faculty propose:

1) That all future curatorial and directorial appointments to the McMaster Museum of Art include a commitment that the

Drs. Angela Sheng and Alison McQueen request the support of the Office of the Provost and Vice-President Academic, to which the Director of the MMA directly reports.

2017/18
The Dean thanks the Review team, the Director of SOTA and the faculty members in the Art History program for their thorough and constructive approach to the review. Like the reviewers, the Dean was particularly struck by the willingness of sessional instructors, current students and alumni to become actively engaged in the visit of the review team.

Dean's Response, Faculty of Humanities:

The Dean thanks the Review team, the Director of SOTA and the faculty members in the Art History program for their thorough and constructive approach to the review. Like the reviewers, the Dean was particularly struck by the willingness of sessional instructors, current students and alumni to become actively engaged in the visit of the review team.
The reviewers clearly identify this very small program as surprisingly strong, and as having forged a distinctive identity for itself by encouraging its students to engage with non-western art. The program has had a very good relationship with the Art Gallery of Hamilton, and the increased involvement of their curators in teaching in the program has greatly strengthened opportunities for students. As will be noted in the response, the relationship between the program and our own Museum of Art has been somewhat more strained; the dean notes that he learned from the reviewers that our institution is not alone in facing this kind of situation. Nevertheless, it is to be hoped that the program and the museum can find some opportunities to collaborate in the next few years; the reviewers offer several constructive comments on how such collaborations might be encouraged.

The Dean generally supports the attached response of the School of the Arts and faculty members in the program, and will continue to work to sustain this program.

**Quality Assurance Committee Recommendations**

McMaster’s Quality Assurance Committee (QAC) reviewed the above documentation and the committee recommends that the program 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
Economics Program (Undergraduate)

Date of Review: March 20 – 21, 2017

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 Economics program delivered by the Department of Economics. 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 Cyclical Program Review of the Undergraduate Economics Program

In accordance with the Institutional Quality Assurance Process (IQAP), the department of Economics submitted a self-study in January 2017 to the Associate Vice-President, Faculty to initiate the cyclical program review of its undergraduate 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 from Ontario and one internal reviewer were endorsed by the Dean, Faculty of Social Sciences, and selected by the Associate Vice-President, Faculty. The review team reviewed the self-study documentation and then conducted a site visit to McMaster University on March 20 - 21, 2017. The visit included interviews with the Provost and Vice-President (Academic); Associate Vice-President, Faculty, Chair of the Department of Economics and meetings with groups of current undergraduate students, full-time faculty and support staff.

The Chair of the department and the Dean of the Faculty of Social Sciences submitted responses to the Reviewers’ Report (June 2017). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.
Strengths

In their report (April 2017), the Review Team acknowledged the program’s “excellent reputation in Canada and internationally”. The Review Team’s report also recognized the balancing act between serving a huge number of level 1 – 2 students from across the University and providing a strong two-track Honours and Specialist Honours program to the majors. Several strengths of the program were highlighted in the report:

• Excellent reputation in Canada and internationally
• Highly qualified and productive faculty and staff
• Large service teaching, good accessibility
• Wide variety of specialized courses in upper years
• Streaming in Honours to prepare students both for graduate school in economics and other options post degree (e.g. employment, other graduate programs)
• Alignment with FWI and University objectives
• Efficient and collegial department administration and staff provide a “great teaching and learning experience”

Areas of Improvement

The Review Team’s report identified the following areas for improvement:

• In-program Math requirements
• Admission requirements and procedures for Honours (specifically with regard to Math)
• Expansion of Honours Econometrics requirements
• Introduction of mandatory Communications course (2nd year)
• Coordination of sections in multiple-section courses and coordination of grades in related courses

The Dean of the Faculty of Social Sciences, in consultation with the Chair of the department shall be responsible for monitoring the recommendations implementation plan. The details of the progress made will be presented in the progress report and filed in the Vice-Provost, Faculty’s office.
<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Proposed Follow-Up</th>
<th>Responsibility for Leading Follow-Up</th>
<th>Timeline for Addressing Recommendation</th>
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<tr>
<td>The Department and Faculty should consider options for softening the GPA requirements for transfer students who have difficulty getting into the Honours program due to low first-year grades</td>
<td>The department currently has in place a mechanism for informal assessment of students who lie marginally below the Faculty of Social Sciences (FSS) cut-off for admission to Honours. The UG Chair reviews their grades and based on performance in six key Economics courses, determines whether they are a good prospect despite an overall GPA that is below the usual cut-off. We will review whether this process is working well by follow-up on the subsequent performance of the students who have been affected by the policy.</td>
<td>Undergraduate Chair</td>
<td>Next 3 years for tracking follow-up</td>
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<td>Grade 12 Calculus should be made an admission requirement for each undergraduate Economics program. Students who do not have that credit should be allowed to satisfy the requirement by taking the university’s high school equivalent Math course in the first term of their second year</td>
<td>The department is considering three responses to this recommendation. First, it could require that Grade 12 Calculus be completed by the end of second year, probably by students taking a McMaster Math course (1F03) that is equivalent. Second, there are close relationships between calculus and marginal analysis in economics. With fairly modest resources, the department could offer an “Introduction to Calculus Applications in Economics” course that could introduce the basics of calculus with examples tailored to the specific learning objectives of our students. Third, it is also investigating the option of Direct Admission into Economics, rather than through first year admission to the FSS. With Direct Admission, the requirement could be implemented at the high school level.</td>
<td>Undergraduate Chair</td>
<td>Next year for the first change and then ongoing for resource intensive second change. Next 3 years for Direct Admission discussion and possible implementation</td>
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<td>The in-program Math requirement in the two Honours streams should be strengthened to require at least 3 further units of Math at</td>
<td>The department is considering adding Econ 3G03 to the requirements for the Specialist stream of Honours. It is also investigating other potential Math courses that could be added to requirements. The first best option would be to expand our in-house offerings in introductory mathematical economics and require something like 3G03 for all Honours, given sufficient</td>
<td>Undergraduate Chair</td>
<td>Next 2 years</td>
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<td>university level</td>
<td>resources. We could do this and also add 3G03 to the Specialist requirements.</td>
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<td>Econometrics I (3U03) and Applied Econometrics (3WW3) should both be required courses in the two Honours streams. Econometrics I should be a pre-requisite for Applied Econometrics</td>
<td>The department is first exploring the option of making Econ 4G03 (Econometrics II) a requirement for all these students. Second, to offer 6 units of Econometrics for all Honours students, the department would require additional resources to teach more sections of 3U03. Third, a related issue of heterogeneity of student preparation in 3WW3 could be addressed by offering 2B03 in both terms (i.e., an additional section) and requiring that all Honours take 2B03 (and not SocSci 2J03). This would require a modest amount of teaching resources. In an ideal world, we would undertake all three responses.</td>
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<td>The department should consider mounting a required Communications course in second year of all Economics programs. Students should be taught both oral communication and writing skills in this course</td>
<td>The challenge of offering a required Communications course is one the department is keen to undertake. It fits with current University initiatives (e.g., the Programming in the Arts &amp; Science Faculties (PASF) Report) and has considerable support within the Department. There is strong sentiment for Economics-related writing, rather than a general Faculty (or Faculties) wide offering. This would require 4 or 5 additional classes (class size 20 – 25) for intensive writing and communication training and could possibly be framed within the department as part of the 2D03 Economic Issues offering. Since existing resources are already stretched to the limit and since such a major new initiative would not be appropriate for Sessionals and/or PhD Students, an adequate response would need new teaching resources over the long-term.</td>
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<td>The Department should devise formal methods to ensure that a common set of core topics are taught at an appropriate level in all sections of multi-</td>
<td>As implied by the report, there is already some informal coordination in a number of multi-sectioned courses. As the report proposes, the department will move to more formal coordination. As an immediate first step, the Chair, in collaboration with the UG Chair, will ask the most senior instructor (or the closest full-time faculty member) to serve as coordinator for each such course. The main tasks will be to</td>
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| Department | Next 2 years, although possibly longer if new resources are available and the recommendation to expand to 6 units is implemented for all Honours |
| Undergraduate Chair | Next 3 years, depending on resource availability and hiring priorities within FSS. |
section courses. There should be more coordination amongst instructors of different sections of core courses. One approach is to assign one of them to be a course coordinator. Where possible, the coordinator should be a permanent (tenured/tenure-track or teaching stream) faculty member.

| An effort should be made to keep grade distributions of related sections of courses from becoming excessively different from one another. While for small courses, this may be possible, for large courses with similar students there is no reason to expect them to diverge significantly. | The department agrees that grade distributions should not be excessively different within courses at the same level (1 – 4). It will strengthen existing measures to improve outcomes in such cases. There is currently a policy in place that publishes (to all instructors) grade distributions for the preceding academic year by level. The Chair and UG Chair will further monitor submitted grade distributions prior to approval and, when necessary, meet with individual instructors to discuss reasons for any grade distributions that depart significantly from the norms. | Undergraduate Chair | Immediate, effective Fall 2017 |

| All Honours students should have tutorials in one level 3 Econometrics courses | The department already offers tutorials in all level 3 Econometrics courses | Undergraduate Chair | Undergraduate Chair |
Dean’s Response:

The reviewers emphasized that the program has an excellent reputation nationally and internationally and that it provides students with an excellent teaching and learning experience. The report also emphasized that the program faces challenges teaching large numbers of first and second year students from outside its program while simultaneously meeting the needs of program students majoring in economics. It endorsed the department’s recently adopted two-stream approach within the Honours program that allows greater customization to address the distinct needs of those students planning to pursue graduate study in economics or a related field and those seeking employment directly after completion of their degree. The reviewers provided a number of concrete recommendations to further improve the program, most of which are consistent with changes already underway within the program.

The ideas embodied in some of the recommendations are already in place in some form (e.g., softening GPA requirements for promising transfer students with low first-year grades outside economics, tutorials in third-year econometrics), though perhaps they are not as explicitly developed as they can be. A number of the recommendations have no meaningful resource requirements (e.g. common set of core topics in multi-section courses, more coordination among instructors in core courses, ensuring greater consistency in grade distributions among multi-section and/or related courses), and the department indicates in its response that it is moving quickly to implement these recommendations for the coming academic year.

Implementation of a number of recommendations; however, require resources and/or working with the Faculty to change policies/regulations within its undergraduate program. The department’s undergraduate program resource requirements are distinct within the FSS given the large amount of out-of-faculty teaching performed by the department. Resource challenges are particularly acute at the moment because of an unusually large number of recent retirements and resignations, some planned but others unexpected. The FSS has worked with the department to address these challenges through new hires in each of the last two years and further hires planned for the coming year (2017-18). These efforts, however, do not fully address the resource challenges and the FSS will continue to work with the department on these issues within the context of the FSS’s own resource constraints.

For each of the recommendations that would create resource demands or require changes to program policies (e.g. Grade 12 calculus program requirement; requirement of 3 additional units of math for honours students; additional econometrics requirement for honours students; a new required communications course), the departmental response offers multiple options to address the underlying issue raised by the reviewers, options that have graduated requirements for resources or policy changes (in each case, the first best option is most resource intensive but it is possible to make some progress without large resource investments). The
Dean’s office will work with the department to assess how best to use existing and available new resources to achieve the underlying program improvement prompting the recommendations.

Quite apart from any resource requirements, this set of recommendations raises a few issues for the program and other changes to undergraduate programs. First, full implementation would create 9 new units of required courses within the honours program. This is a non-trivial change to the undergraduate program requirements whose implications have to be carefully assessed. Second, the overall direction of the recommendations is to increase prerequisites, which is in tension with the overall thrust of the Warner and PASF reports, which strive to create greater flexibility. The recommendations, however, do reflect the evolution of the discipline and the expectations certainly at least for students continuing on to graduate school. The department will want to continue to assess the differing needs and goals of the students in the two streams of its honours’ program. Finally, the recommendation for a required communications course is consistent with the recommendations of the PASF report, though the IQAP reviewers stress the need for a course specifically about writing economics. This reflects a broader theme of ensuring that students gain greater writing abilities in the context of their specific areas of study.

Quality Assurance Committee Recommendation

McMaster’s Quality Assurance Committee (QAC) reviewed the above documentation and the committee recommends that the program 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

Physician Assistant Education Program

Date of Review: February 16 - 17, 2017

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 Physician Assistant Education Program. 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 Cyclical Program Review of the Physician Assistant Education Program

In accordance with the Institutional Quality Assurance Process (IQAP), the Physician Assistant Education Program submitted a self-study in January 2017 to the Associate Vice-President, Faculty to initiate the cyclical program review of its undergraduate 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 one from Ontario and one from Manitoba and one internal reviewer were endorsed by the Associate Vice President, Academic, Faculty of Health Sciences and selected by the Associate Vice-President, Faculty. The review team reviewed the self-study documentation and then conducted a site visit to McMaster University on February 16 – 17, 2017. The visit included interviews with the Provost and Vice-President (Academic); Associate Vice-President, Faculty, Dean of Faculty of Health Sciences, Associate Vice-President, Academic, Faculty of Health Sciences, Associate Dean, Faculty of Health Sciences and meetings with groups of current undergraduate students, full-time faculty and support staff.
The Assistant Dean of the program and the Dean, Faculty of Health Sciences, submitted responses to the Reviewers’ Report (May 2017). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.

**Strengths**

In their report (March 2017), the Review team highlighted that the Canadian Medical Association Conjoint Accreditation Service visit in October 2016 awarded a full program accreditation, indicating that the program met all the criteria, requirements and measures involved in delivering the CanMEDS-PA National Competency Profile. The reviewers report also acknowledged a number of program strengths including the admissions process, high pass rate on the national certification exam, curriculum development, and program emphasis on interprofessional collaborative learning.

**Areas of Improvement**

The reviewers’ report identified some potential areas for improvement, including support for students in second year clinical placements, increasing pharmacology teaching, and protection of confidential applicant information.

The Dean, Faculty of Health Sciences, in consultation with the Assistant Dean of the program shall be responsible for monitoring the recommendations implementation plan. The details of the progress made will be presented in the progress report and filed in the Vice-Provost, Faculty’s office.
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<tr>
<th>Recommendation</th>
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</table>
| The PAEP should investigate if the Admission Application’s Statement of Intent, review process is fair and ensures confidentiality where possible. Reviewing the subjective nature of application statement for candidate selection is recommended. | The PA program respectfully questions this recommendation as misinformation was passed along by the 1st year students. We have re-reviewed our process to ensure no breaches of confidentiality and have made the students aware during our most recent admissions process that confidentiality is protected (to reassure 1st year students). It should be reasserted that all confidential information (all identifiers) is removed from each applicant’s supplemental application. | Assistant Dean, Kristen Burrows  
Program Manager, Nancy Weller  
Chair of Admissions, Dr. Michelle MacDonald | N/A                                                                                                         |
| Posting an Admission Bulletin indicating that 98% of successful applicants hold degrees on admission. This notice may reduce the application numbers to a more manageable level, as Faculty indicated 700 applications for the 24 positions. | The program hosts an annual information night (also available online). The previous GPA class averages for admissions is disclosed to potential candidates. Consideration will be given to publishing GPA averages on the admissions bulletin, or disclosing class statistics on the programs website. | Assistant Dean, Kristen Burrows  
Program Manager, Nancy Weller | To be completed and available online by February 2018. |
| Attention to the diversity of the program’s student body and administrative tracking should be made to address the Ontario Equity and Inclusion Education Strategy. Including diversity demographics would be of value to the Ontario Government as the role Physician Assistants play in healthcare is studied. | Admissions information is collected by OUAC. Disclosure of diversity information is collected as part of the programs admissions process. One other Canadian PA program has done a diversity survey of its incoming graduates, which could be adapted to our program. The Ministry of Health and Long Term Care works closely with our program and only requests basic demographic information, such as age and gender. | Assistant Dean, Kristen Burrows  
Program Manager, Nancy Weller | N/A                                                                                                         |
The PAEP is a strong academic and clinical program using the recognized and respected Problem Based Learning approach. Several of those interviewed reported that the PBL cases were taken directly from the Undergraduate Medical Education Program. Students, PAEP graduates, and instructors suggested there is room to adapt some of those cases for the specific role PA play in Healthcare.

<table>
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<tr>
<th>The PAEP is a strong academic and clinical program using the recognized and respected Problem Based Learning approach. Several of those interviewed reported that the PBL cases were taken directly from the Undergraduate Medical Education Program. Students, PAEP graduates, and instructors suggested there is room to adapt some of those cases for the specific role PA play in Healthcare.</th>
<th>Medical Foundations cases are reviewed cyclically. Student and tutor feedback is reviewed annually regarding individual PBL cases. Tailoring cases to be more specific to the PA role will be integrated during the next review period for each medical foundations unit (MF1-MF3).</th>
<th>Assistant Dean, Kristen Burrows Academic Coordinator, Nancy Aza</th>
<th>MF1: August 2017 MF2: December 2017 MF3: April 2018</th>
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<tr>
<td>Ongoing and timely attention to the preparation of the PBL tutors will benefit the program.</td>
<td>The program continues to support and encourage faculty development. Tutors are also expected to pursue lifelong learning, and are made aware of PBL orientations. Consideration will be given to making orientation mandatory. There are no new tutors for the upcoming academic year. Current faculty are familiar with the PBL curriculum and involved in updates and changes.</td>
<td>Assistant Dean, Kristen Burrows Academic Coordinator, Nancy Aza</td>
<td><em>will be integrated when new tutors are recruited to the program.</em></td>
</tr>
<tr>
<td>Implement increased use of large group sessions to support the Pharmacology curriculum and knowledge.</td>
<td>This is a common issue identified in undergraduate medicine and PA education programs. This is a PBL curriculum, and pharmacology is integrated into each tutorial. The program has offered pharmacology large group sessions in this past, and the reviews are variable. We will continue to work with faculty trained in pharmacology to see if this process can be improved.</td>
<td>Assistant Dean, Kristen Burrows Academic Coordinator, Nancy Aza</td>
<td>Trial new large group sessions for the 2017-2018 academic year.</td>
</tr>
</tbody>
</table>
| PAEP Faculty members should perform Clinical Sites visits or connect with students more frequently during the Clerkship year. | 2nd year clerkship students have access to program faculty every 4 months when they are on campus for workshops. In addition, students can call or email at any time. Student-staff meetings are held after each campus visit (i.e. when students are on site for medical simulations).
Clinical site visits do not occur frequently as our students are placed with McMaster faculty as a condition of their core rotation requirements. Site visits and consultations are done when an issue is identified by student, faculty or site staff. | Assistant Dean, Kristen Burrows
Academic Coordinator, Nancy Aza | Ongoing |

| Reinforce information related to accessing wellness and mental health services for PAEP students. | A website link will be created through the students medportal account to ensure students have 24hr access to mental health and wellness information when not on campus. A paper handout will also be provided to students during their clerkship orientation session. | Administrative Assistant, Danielle Laffan | To be in place for class of 2018 (will start clerkship in September 2017). |

| The Program Reviewers support the need for a Medical Director to be recruited in support of the Program Director and program curriculum. This position is unique to the nature of the PA-MD model and provides support for site development, ensuring current material, and provides quality assurance. | Consideration has been given to a Medical Director position. Due to the political nature of the PA profession in Ontario, this position must be strategically staffed. A job description has been created and will be submitted for approval when the role is required. | Assistant Dean, Kristen Burrows
Associate Dean of Education, Dr. Alan Neville | Pending HR and program staffing requirements. |
Dean’s Response, Faculty of Health Science:

The Dean submitted a letter expressing his strongest support for the McMaster Assistant Education Program. The Dean’s letter acknowledged that the Physician Assistant Education Program is among the Faculty of Health Sciences’ most elite offerings and that the program trains an exceptionally talented group of students who upon graduation enter the workforce expertly equipped to support physicians in a range of health care settings and alongside physicians, nurses and other members of interprofessional health care teams.

Quality Assurance Committee Recommendation

McMaster’s Quality Assurance Committee (QAC) reviewed the above documentation and the committee recommends that the program 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.
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 Studio Art undergraduate programs delivered by the School of the Arts. 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 Cyclical Program Review of the Undergraduate Studio Art Program

In accordance with the Institutional Quality Assurance Process (IQAP), the School of the Arts (Studio Art) submitted a self-study in December 2016 to the Associate Vice-President, Faculty to initiate the cyclical program review of its undergraduate 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, one from Ontario and one from Ohio and one internal reviewer were endorsed by the Dean, Faculty of Humanities, and selected by the Associate Vice-President, Faculty. The review team reviewed the self-study documentation and then conducted a site visit to McMaster University on March 9 - 10, 2017. The visit included interviews with the Provost and Vice-President (Academic); Associate Vice-President, Faculty, Dean and Associate Dean of the Faculty of Humanities, Director of the School and meetings with groups of current undergraduate students, full-time faculty and support staff.
The Director of the School and the Dean of the Faculty of Humanities submitted responses to the Reviewers’ Report (August 2017). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.

Strengths

In their report (May 2017), the Review Team noted that the Studio Art program is distinct and differentiates itself by its promotion of stewardship and environmentally responsible teaching practices; that the program embeds environmental responsibility into all of its pedagogy and research and presents an impressive convergence of research and life skills through ecological concerns. Further highlights identified in the report included:

- McMaster’s position as one of only three Ontario Universities with an Art foundry
- Good retention rates directly related to faculty efforts to undertake individual, in-person portfolio interviews of all applicants
- Support received from the School of the Arts’ Pieczonka fund to purchase new kiln and support of Faculty of Humanities and Facilities Services to upgrade infrastructure of room housing kiln
- Experiential and collaborative learning opportunities
- Close affiliation with Multimedia
- Strong ties to the community
- Civic consciousness and recognition of diversity (mindful and responsive to gender parity and inclusivity)
- Shared critiques open to community and commitment to peer-to-peer learning
- Well planned progression in course development from Level 1 to Level IV
- Well considered, newly renovated workspaces
- Commitment and attention to health and safety
- Highly qualified art faculty and high level of student satisfaction with faculty
- Curriculum provides students with skills in research, materials, digital media and theory
- Commitment to material-based learning and digital skill building
- Program is strategic and forward thinking in responsiveness to its own history and environment
- Significant increase in enrolment since creation of the BFA program (66.2%)
- Significant increase in service exposure to art raising the Art profile across the University potential of proposed Certificate Program
- Rigor of Level IV is in line with best programs in Art on an international level

Areas of Improvement

In their report, the Review Team identified some recommendations for areas of improvement and enhancement as outlined below.
• The imminent termination of the 2.5 CLA and CLA technologist position and resulting destabilization is a matter of urgent concern
• Address the high workload demands on technologists and secure permanence of the second technologist position (currently a CLA contract ending in November 2017)
• Enhance faculty potential for research/creation by instituting regular artist in residence appointments, each lasting a term, with some teaching duties, to allow course release for faculty on a rotating basis
• Increase funding for the Visiting Artist program to $6000 in order to raise the stature of the artists invited
• Improve the program’s web presence
• Improve storage facilities, particularly in the sculpture area
• Improve communication with technologists regarding limits of assisting vs teaching and include them in policy making decisions
• Provide mentorship of faculty to move towards Full Professor
• Commit to improving the accessibility of facilities in any future renovations
• Continue to build greater synergy between art and the department of Communication Studies and Multimedia
• Address the physical constraints of the sculpture studio which are not well aligned with high enrolment caps for materials-based courses
• Improve student access to technical supervision (uneven response and difficulties with appointment booking system in sculpture)
• Provide access to small power hand tools outside of supervised hours
• Assess contact hours
• Acquire space to allow the entire Level IV cohort to have studios in one location
• Address the high teaching and administrative load currently placed on one of the permanent faculty
• University should provide matching funds for student fundraising for the SUMMA exhibition

The Dean of the Faculty of Humanities, in consultation with the Director of the School of the Arts shall be responsible for monitoring the recommendations implementation plan. The details of the progress made will be presented in the progress report and filed in the Vice-Provost, Faculty’s office.
### Summary of the Reviewers’ Recommendations with the Department’s and Dean’s Responses

<table>
<thead>
<tr>
<th>Recommendation</th>
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<tbody>
<tr>
<td>Abandon idea of a Masters program for now</td>
<td>abandon idea of a Masters program for now</td>
<td>all faculty and Director of SOTA</td>
<td>effective immediately</td>
</tr>
<tr>
<td>Establish a Certificate in Studio Art for Non-Majors (increase courses for non-majors)</td>
<td>Judy Major-Girardin is currently working to develop a certificate in Art for the School of the Arts as a whole. She and Sally McKay will begin work towards a Studio Art specific Certificate as well, with additional support from Briana Palmer.</td>
<td>Judy Major-Girardin Sally McKay Briana Palmer</td>
<td>Present Certificate in Studio Art as part of curriculum submission for fall 2017 to be Implemented in fall 2018.</td>
</tr>
<tr>
<td>Consider a non-degree 1 yr. post BFA program (Special Student or Post-Baccalaureate)</td>
<td>While we have explored similar options in the past, we discovered that the Ministry of Education will not fund a 5th year. Nevertheless, we will continue to explore ways of creating opportunities for BFA graduates.</td>
<td>All faculty</td>
<td>On-going</td>
</tr>
<tr>
<td>Increase funding for Visiting Artist program</td>
<td>We will inquire with the Director about possibilities for increasing funding for the existing visiting artist program</td>
<td>Judy Major-Girardin</td>
<td>Request 2017-2018</td>
</tr>
<tr>
<td>Increase support for faculty release time for creative activity and research</td>
<td>We welcome the reviewers’ suggestion to develop an artist-residency position that would enhance our Visiting Artist program and provide course release for faculty (as outlined in the report). We will begin analysis and develop a draft proposal for consideration by faculty, staff, Director and Dean.</td>
<td>All faculty and the Director of SOTA</td>
<td>if deemed feasible, implement plan in 2019-2020</td>
</tr>
<tr>
<td>Develop a stronger website presence and, if possible develop an independent Studio Art</td>
<td>We will initiate a discussion with Nathan Nash (Faculty of Humanities Recruitment Co-ordinator), Rita Crespo (School of the Arts Administrative assistant), faculty and the Director to assess institutional requirements for web presence, possibilities</td>
<td>Sally McKay</td>
<td>improvements to existing site by 2017-2018, new site established (if feasible)</td>
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<tr>
<td><strong>website linked to institutional website</strong></td>
<td>moving forward, and responsibilities for faculty and staff re: website implementation and maintenance</td>
<td>by 2018-2019)</td>
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<tr>
<td><strong>Upgrade computer and software</strong></td>
<td>A request for Piezoncka funding for a new computer and software was made to Executive Council in April 2017 by John Ford.</td>
<td>Judy Major-Girardin, Agata Derda</td>
<td>Funding approved June 2017 and new equipment anticipated for fall term 2017.</td>
</tr>
<tr>
<td><strong>Address imminent termination of CLA faculty position</strong></td>
<td>Propose a permanent faculty appointment to build on the investment and achievements in art service offerings.</td>
<td>Judy Major-Girardin in consultation with full-time faculty and the SOTA Director</td>
<td>Proposal in 2017/18 for implementation in 2018/19</td>
</tr>
<tr>
<td><strong>Permanent hire for 2nd studio technologist</strong></td>
<td>Faculty is actively pursuing the request for permanent hire for 2nd studio technologist</td>
<td>Judy Major-Girardin, Rose Mannarino, and the SOTA Director</td>
<td>November 2017</td>
</tr>
<tr>
<td><strong>Secure more physical space for storage of student work</strong></td>
<td>Faculty and staff are currently working to maximise effective use of existing space. We will also make a request for additional storage space based on the fact that during the renovation of our space we lost two storage sheds from the studio area, and our previous storage space in T-18 has recently been eliminated due to construction the new Living and Learning Centre. As noted in the report, our current lack of storage space is infringing on our pedagogy.</td>
<td>Judy Major-Girardin, Carmela Laganse</td>
<td>if feasible, implementation in 2017-2018</td>
</tr>
<tr>
<td><strong>Improve communication with technologists regarding limits of assisting vs teaching and include them in policy making consultation</strong></td>
<td>We have put new procedures in place to improve communication between faculty and staff, including bi-weekly meetings at which staff will be present when issues relevant to them arise</td>
<td>all faculty, technologists, and administrative coordinator</td>
<td>effective immediately, with ongoing commitment</td>
</tr>
<tr>
<td><strong>Provide mentorship of faculty to move towards Full Professor</strong></td>
<td>An initiative to explore promotion of one studio faculty member to full professor is already in progress</td>
<td>Director of SOTA</td>
<td>A decision on whether or not this case should proceed to the Faculty of Humanities at this</td>
</tr>
<tr>
<td>Commit to accommodating the disabled in future facilities enhancements</td>
<td>While reviewers did not indicate specific concerns in the report, we recognize the importance of accessibility as a priority. Several accessibility issues were addressed in our recent renovation: an elevator was installed, the main entrance is at grade level and our new washrooms are wheelchair accessible and gender neutral. In addition, we commit to enhancing accessibility of the physical space at every opportunity. Actions include a commitment to keep the entrances to the elevator clear, a request that the button access to doors to TSH east tower is maintained in good working order, and the prioritizing of accessible internal doorways and key swipe stations in any future enhancements to the facility.</td>
<td>all faculty and staff</td>
<td>immediate and ongoing</td>
</tr>
<tr>
<td>Create greater synergy between Art and the department of Communication Studies and Multimedia</td>
<td>We will continue to build on collegial relations instigated by Chris Myhr in his previous cross-appointed CLA position bridging Art and MM. While this faculty member now holds a tenure-track research position in Communication Studies and Multimedia he will be teaching Studio Art students and Multi-Media students in some cross-listed courses. Chris has volunteered to continue to act as a liaison between Art and Multimedia, and we welcome his contributions.</td>
<td>Chris Myhr</td>
<td>effective immediately</td>
</tr>
<tr>
<td>Address physical constraints in sculpture studio, class sizes too large for materials-based learning</td>
<td>We recognize the validity of this comment. While there is great pressure to maintain high enrolment caps, faculty and technologists are currently working to effectively maximize our use of space and equipment.</td>
<td>Carmela Laganse Michael Syms</td>
<td>immediate and ongoing</td>
</tr>
<tr>
<td>Improve student access to technical supervision</td>
<td>Faculty, technologists and the administrative coordinator are currently establishing new protocols to address this issue, including better communication between faculty, students and technologists around available assistance and more transparent scheduling processes.</td>
<td>all faculty, technologists and administrative coordinator</td>
<td>effective immediately, with ongoing commitment</td>
</tr>
<tr>
<td>Provide access to small power hand tools outside of supervised hours</td>
<td>Sculpture faculty and technologist will compile a set of tools that are deemed low risk and can be signed out by students for use outside of supervised hours and establish a protocol for access to these tools</td>
<td>Carmela Laganse Michael Syms</td>
<td>2017-2018</td>
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<tr>
<td>Acquire space to allow the entire Level IV cohort to have studios in one location.</td>
<td>Studio space for Level IV students is assessed annually based on the size of the cohort. Our priority is to keep the cohort together in one space whenever possible.</td>
<td>faculty teaching Level IV critique classes</td>
<td>immediate and ongoing</td>
</tr>
<tr>
<td>Address the high teaching and administrative load currently place on one of the permanent faculty.</td>
<td>The hands-on nature of an art program involving materials, processes, health and safety and time-intensive contact can create heavy teaching and administrative pressures. This is particularly evident with the Permanent Teaching Track appointment in Studio Art and is magnified in a program with only a handful of tenured faculty. The Director is currently working with the Teaching Track faculty member to explore reduced teaching (18 units)</td>
<td>Director of SOTA with Briana Palmer (supported by studio colleagues)</td>
<td>Reduced load of 18 units secured for 2017/18</td>
</tr>
<tr>
<td>University should provide matching funds for student fundraising for SUMMA</td>
<td>We will ask the director to consider a request to the Dean for matching funds.</td>
<td>Judy Major-Girardin</td>
<td>if feasible, to be implemented for Summa Exhibition scheduled for spring 2019</td>
</tr>
</tbody>
</table>
Dean’s Response, Faculty of Humanities:

The Dean thanks the Review team, the Director of SOTA and the faculty members in the Studio Art program for their thorough and constructive approach to the review.

The review team clearly identify the core strengths of this program and recognize its great value to students, the Faculty, university and community. The Dean noted that he appreciated in particular that they point to the way in which this program has created a distinct place for itself, by focusing on sustainable art practices, and by sustaining student access to the foundry.

The Dean supports the attached response of the School of the Arts and faculty members in the program, and will continue to work to strengthen this program, and to extend some of its benefits to students beyond the program.

Quality Assurance Committee Recommendation

McMaster’s Quality Assurance Committee (QAC) reviewed the above documentation and the committee recommends that the program 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.
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.A in French. 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

The French program submitted a self-study to the School of Graduate Studies February 2017. The self-study presented the program descriptions and learning outcomes, an analytical assessment of the program, and program data including the data collected from a student survey along with the standard data package prepared by the Office of Institutional Research and Analysis. Appended were the CVs for each full-time faculty member in the Department.

Two arm’s length external reviewers and one internal reviewer were endorsed by the Dean of the Faculty and selected by the Dean of Graduate Studies. The review team reviewed the self-study documentation and then conducted a site visit to McMaster University on April 6th and 7th, 2017. The visit included interviews with the Provost and Vice-President (Academic); Associate Vice-President and Dean of Graduate Studies, Dean of the Faculty, Chair of the department and meetings with groups of current students, faculty and support staff.

Strengths

The reviewers note the “very high satisfaction levels among its students”, the strength and innovative focus of the curriculum and diverse research activities which challenge and offer to students opportunities to enhance their learning of French/ Francophone cultures and literatures while deepening their professional capacity. The program was grateful for the Consultants’ high praise for our M.A. program’s 100% completion rate.
Here are other specific strengths of the program, highlighted in the report:

1. **Diversity in the curriculum**: various theoretical approaches (post-colonialism, psychoanalysis, queer theory, reader-response theory, Indigenous studies, women’s studies, structuralism and poststructuralism, among others), and diverse reading materials from the francophone world (France, French-Canada and Quebec, the Caribbean, North Africa and Sub-Saharan Africa and Asia).

2. **Interdisciplinarity in literary studies**: interconnections between literature and animal studies, science, arts, philosophy, among others).

3. **FRENCH 705 — Introduction to Literary and Critical Theory**: innovative, team-taught course in theory, textual analysis and research methods.

4. **Career training**: (in accordance with the guidelines of the Tri-Agency and the OCGS Taskforce on Professional Skills): organizing special events and workshops, advising M.A. students in terms of scholarship and grant writing, encouraging publications and participation in conferences, and building relationships between graduate students and MacPherson Institute for Leadership, Innovation and Excellence in Teaching.

5. **Annual graduate students colloquium**: creating a space to present progress and results of their current research, share conclusions and practice professional skills.

6. **Research, technological and pedagogical resources**: (an excellent French collection at Mills Library, the Lyons New Media Centre, the Lewis and Ruth Sherman Centre for Digital Scholarship, the MacPherson Institute for Leadership, Innovation and Excellence in Teaching).

7. **Quality of mentoring and training**: as well as of the supervision of Teaching Assistants provided by dedicated Faculty members.

8. **Inclusive system of governance**.

**Areas for Enhancement or Improvement**

In their report, the Reviewers identified areas for enhancement of improvement:

1. Hiring new Faculty members to compensate for retirements and thus to allow for offering more elective courses.

2. Expanding the use of technology in teaching.

3. Introducing more formative and less summative assessments of graduate students' work.

4. Providing greater funding for international students.
5. Providing M.A. students with access not only to teaching assistantship but also to research assistantship opportunities
Summary of the Reviewers’ Recommendations with the Department’s and Dean’s Responses

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<tr>
<td>Senior Administration Support for Departmental Mission and Faculty Resourcing</td>
<td>External reviewers acknowledged the key role the Department of French plays not only at the university but also as a French presence in a designated city required to offer services in French. Whereas it is at times a challenge to have the second official language given its due place within the university, it is often more difficult to do so with a reduction of close to 50% in faculty resources and this within the last three years. As the reviewers themselves noted, since 2014-15 the Department has been “drastically” reduced and is in need of new tenure-stream faculty or hires (p. 8, 10, 14). The Department has been very mindful of succession planning, and it has reinvented itself at both the undergraduate and graduate levels, and we have strengthened both our mission and our focus. We now need senior administrative support to allow the Department to address effectively the following recommendations.</td>
<td>Chair of the Department</td>
<td>2017-2020</td>
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   a) **Heavy workload.** External consultants affirmed that our 15-unit workload contrasts with 12 units in the majority of other French Departments of Ontarian Universities, all of whom recognize the French as a Second Language (FSL) factor. They also acknowledged the additional faculty contribution to the very successful team-taught course
(FRENCH 705) for which we receive no credit.

b) **Faculty Research Activities and Community Outreach.** The Department has excellent faculty and many would like to contribute to community organizations and build strong ties with Francophone West African, Vietnamese and Indigenous communities, while others would like to contribute to research institutes and interdisciplinary programs at the University. With all hands on deck strictly to mount our required courses, these opportunities have had to be set aside.

c) **Course electivity.** The Department is acutely aware of our graduate students’ strong request for more electives. It is their major complaint. Cognizant of the budgetary situation, we have introduced more undergraduate/graduate courses but this formula is limited by SGS and it doesn’t appeal to our Master and PhD students who wish for a more robust graduate experience. A new hire would enrich our curricular offerings at the undergraduate and graduate levels.

Building on our strengths and strategic focus on French/Francophone literatures and cultures and cultural diversity, the Department will continue to request hires in the following fields in order to address the gaps in our graduate and undergraduate curricula: French Literature (from Medieval to 19th Century); French/Francophone Cultural Studies and Teaching French as a Second Language. In response to greater collaboration with other Departments and Institutes across the Faculty, we see potential with the
Department of English and Cultural Studies. We share many common interests in the areas of World Literatures (African, Asian and Caribbean), Indigenous literature, as well as European literatures written in French/English. Greater cross-disciplinary institutional structure that would encourage more interaction would not only be unique in Canada, but it would also send a very clear message that McMaster University not only recognizes bilingualism but also truly embraces cultural diversity within its community and beyond.

### Curricular Improvements and Enhancements

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<tr>
<td>a) <strong>Major Research Paper (MRP) length:</strong> The Department of French is willing to increase the number of pages for our MRP requirement from 25-35 to 35-45 as this reflects our current practice in many cases.</td>
<td>Chair of the Department and Chair of Graduate Studies, with the participation of Faculty Members and Graduate Student Partners (the second phase of the Student Partners Program sponsored by the MacPherson Institute). starting in September 2017, with the goal of introducing changes into 2018-2019 curriculum.</td>
</tr>
<tr>
<td>b) <strong>Assessments:</strong> We appreciate the External Consultants’ interview with students and the suggestion that we place more weight on formative assessments rather than summative assessments. Given its importance for students, we shall include this issue at our Departmental meetings and retreat. We shall consult best practices and find ways to ensure a proper balance.</td>
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<tr>
<td>c) <strong>Technology:</strong> The Department will look at diversifying and increasing our use of technology.</td>
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<td>d) <strong>Website:</strong> We plan to work on updating and improving our website within the next academic year.</td>
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### Graduate Recruitment, Professionalization and a) **French Liaison Officer:** The Department is exploring the possibility of a French/Francophone liaison officer in | Chair of the Department and Chair of Graduate 2017-2019 |

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Final Assessment Report – French M.A.
### Space

order to develop stronger links with a host of schools, government and community organizations as well as improve our recruitment venues.

**b) Graduate Colloquium:** We shall continue to build on this “great strength” and welcome the participation of graduate students from neighbouring universities. We shall work with SGS and the Faculty to increase financial support for student travel and the invitation of eminent scholars and writers to our Distinguished Guest Speakers Series.

**c) Graduate Space:** Although we have lost a seminar room (TSH 501), upgraded with donor funding, we are pleased to see that our only remaining graduate seminar room (TSH 530) is being upgraded to add modern technology and new furniture. We are hopeful that a quieter heating/air conditioning unit can be installed in order to resolve the annoyance felt by everyone who utilizes this room. The External Consultants were pleased to hear that our Departmental library, currently used by our Graduate Students for their office hours, their oral defense, Club de français meetings, among others, would remain within the Department. However, this is no longer the case and it has been designated as a shared space. The Department will follow the recommendations of the External Consultants to see if any space in the Wilson Building can be made available to our graduate students, given that the university received warm support from the Deputy Minister of Francophone Affairs for the funding of the

### Studies

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### Research and Travel Funding & Related Opportunities

- **a) Funding support to enhance recruitment.** We concur with the External Consultants’ recommendation that the Department would benefit from more funding support to attract strong candidates who might not only garner scholarships and awards but also consider applying for our doctoral program.

- **b) International Scholarships, Bursaries and Awards for the French Graduate program.** Additional funding for international students from SGS or other Offices (Research or Provost) would be greatly welcome all the more so because the Department receives many applications from West Africa and these students often require more financial support. With such an investment, the reputational gain of the institution would be seen over time.

- **c) M.A. Research Assistantships.** We welcome this suggestion and hope that there is funding available to offer these opportunities to our graduate students.

### Departmental Structure

The Department is keen on creating an Academic Planning Committee, the terms of which will focus on strategic planning, hiring, budgets and fundraising. Plans are already underway to draft the terms of this Committee and discuss them at our next Departmental Retreat and meetings, so that we can implement it as early as next year.
Dean’s Response, Faculty of Humanities

The review team clearly identify the core strengths of the program, particularly the high quality of the student experience, and the commitment of faculty members. The Dean supported the response of faculty members in the Department.

He added one comment about the Department’s response. The Department focuses a little too much of its response on the need for additional tenure track faculty hires. In his reading of the report, the reviewers actually do not make such a recommendation, although they are concerned about future retirements. They do note the dramatic loss of faculty complement and some its impact. In terms of the graduate program, the reviewers note that the current supervisory assignment per faculty member is sustainable, and might even allow for some growth of the graduate program.

The Dean would not be so concerned with the focus on hiring, except that he would hope the Department would consider some other suggestions made by the reviewers for dealing with the current faculty complement:

1. That the Department offer more 600 level seminars to students, to offer students more choice. Any limit set by SGS focuses only on the proportion of courses that students can take as part of their degree, not the number that the Department can offer. The Department has small undergraduate and graduate enrolments: other Departments offer many of their fourth year/MA seminars in this format, so as to give students at both levels more choice. As it stands, my understanding is that the Department has created only two 600-level courses, neither of which appears to be on offer in 2017-18.

2. That the Department explore collaborations with other Departments in the area that have small graduate programs, to look for potential opportunities to share supervisory resources in a reciprocal manner. Other Departments have at least involved individual faculty members from other institutions in their graduate programs.

3. That the Department explore collaborations with Linguistics and Languages, in the hopes of supporting a visiting professor or even a cross appointment in applied French linguistics.

The Department has been responding effectively to the review of its undergraduate programs, and the Dean looked forward to working with them to enhance their high quality MA program.

Quality Assurance Committee Recommendations

McMaster’s Quality Assurance Committee (QAC) reviewed the above documentation and the committee recommends that the program should follow the regular course of action with an 18-month follow-up 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

School of Labour Studies (Labour Studies, BA and Honours BA, Work and Society M.A)

Date of Review: March 30 - 31, 2017

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 delivered by the School of Labour Studies. 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 Cyclical Program Review of the Undergraduate and Graduate Programs in the School of Labour Studies

In accordance with the Institutional Quality Assurance Process (IQAP), the School of Labour Studies program submitted a self-study in February 2017 to the Associate Vice-President, Faculty to initiate the cyclical program review of its undergraduate 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, one from Ontario and one from British Columbia and one internal reviewer were endorsed by the Dean, Faculty of Social Sciences, and selected by the Associate Vice-President, Faculty and Associate Vice-President and Dean of Graduate Studies. The review team reviewed the self-study documentation and then conducted a site visit to McMaster University on March 30 - 31, 2017. The visit included interviews with the Provost and Vice-President (Academic); Associate Vice-President President, Faculty, Associate Vice-President President and Dean of Graduate Studies, Associate Dean, Grad Studies and Research, Dean, Faculty of Social Sciences, Director of the School of Labour Studies and meetings with groups of current undergraduate students, full-time faculty and support staff.
The Director of the School and the Dean of the Faculty of Social Sciences submitted responses to the Reviewers’ Report (May 2017). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.

**Strengths**

In their report (May 2017), the Review team stated that they found the School of Labour Studies to be a vibrant centre of innovative teaching, productive faculty, dedicated support staff and enthusiastic students. The reviewers highlighted the following strengths of the program:

• This is a Program that has healthy and steady enrolments for their BA and MA degrees; and the PhD has a good number of applications for the first year.
• There is a good record of student success at BA and MA levels; student placements seem to have gone well.
• There is a positive record of completion rates.
• The faculty all have good all-round records: teaching, publications, research, funding, administration, supervision, and engagement in current issues.
• There is a continuing and positive alumni connection thanks to the administrative staff in the School.

**Areas of Improvement**

The review team had no major concerns but did identify some minor suggestions for alterations and a few observations on the program as a whole.

**Undergraduate:**

As we expected, the Reviewers had suggestions to make regarding our course offerings. We welcome such suggestions from these seasoned researchers and teachers and we are already in the process of addressing them. At our mini retreats at the beginning of May, we discussed our undergraduate program from top to bottom, and, as a start, have agreed to change the titles, content and scheduling of our first year courses for the 2018-19 academic year. (It is too late to make such changes for the 2017-18 academic year.) Moreover, with regard to their suggestions regarding offering courses – existing and new – with more labour studies content, e.g., collective bargaining, employment standards, and the like, we are very enthusiastic about the possibilities that such courses hold for us in terms of meeting student interest and in terms of how they could assist students in later employment.

In making such recommendations the Reviewers were aware of the difficulties we have in providing our students with a rich and diverse range of courses. Speaking to an issue that also has profound implications for our graduate programs, the Reviewers note our faculty complement is such that we are strained to offer even the bare minimum of required courses at each level, each year. As the Reviewers write: “Some students noted they were doing joint majors not single majors in Labour Studies, precisely because they did not feel there were enough course options for a single major.” One of their “solutions” to this set of problems, they write, “is the addition of courses taught by other units to the Labour Studies list of courses.” While this “solution” is worthy of discussion, we would point out that our
undergraduate students already have this option, hence, it is not clear if the Reviewers, in making this suggestion, were contemplating that we reduce the number of required courses of our degrees. To date we have not considered this to be a desirable fix for this ongoing issue which in some ways produces a chicken and egg situation: we can not increase the number of our undergraduate courses because we do not have the student enrolment numbers but we do not have the student enrolment numbers because we do not attract enough students. At bottom, we are an interdisciplinary program and would welcome, with open arms, pedagogical and institutional/administrative arrangements with other Departments and Faculties if such arrangements promised to strengthen and deepen our programs without weakening and/or watering down our core mission to study and understand the changing worlds of work.

Graduate:

While our MA in Work and Society was also reviewed very positively, as with our undergraduate programs, there were a number of suggestions regarding changes to our course content and offerings. Consistent with comments from our undergraduate students, our graduate students spoke of their desire for courses with more ‘labour studies’ content. The Reviewers wonder if this comment stems from students having “fairly traditional definitions of labour studies.” Regardless, they recommend that any revisions/additions to our graduate curriculum include “the development of a graduate ‘foundation’ course, with more material on existing labour problems, policies, and legislation.” With regard to this recommendation, we can reply that the Reviewers seem to have missed the change we made last year that increased the number of required Work and Society courses from three to four precisely to expose our MA students to more “labour studies” content. That said, we will keep this recommendation in mind when we next refresh our course offerings.

The biggest issue raised by the Reviewers was, as with the undergraduate programs, the rather limited number of courses offered each year. For the Reviewers, this problem, like the similar problem noted for the undergraduate programs, stemmed directly from the too few faculty members available to offer more courses. Their primary solution to hire more faculty will be addressed below. Additional fixes, they wrote, could possibly be found in developing courses, e.g., methods courses, with other Departments within and outside Social Sciences. Labour Studies faculty discussed this option at our May retreat and it is one option that will pursued. Another possibility, the Reviewers wrote, was to become involved with online courses.

We are prepared to investigate each of these options. With regard to online courses, we believe that the online option is more applicable to undergraduate education. That said, we are generally quite skeptical of such courses given the research that shows poor completions rates. With regard to being able to offer our graduate students a wider range of graduate courses, we cannot do so with our present faculty complement. This leaves adding courses from outside Work and Society. This is something that we already do – both at the MA and in our new PhD program. As the Reviewers write, however, “the problem with this recommendation in terms of electives is that other units have course caps which means that LS MA students sometimes cannot secure spaces in them, and they do not know this until a couple of weeks into the term.” This is not a new problem for our Work and Society students and
requires a solution. The Reviewers rightly note that the “solution should come at the chair and administrative level.”

The Reviewers make other recommendations geared toward augmenting the richness and attractiveness of our MA and PhD programs. One is to open our supervisory roles and responsibilities to faculty beyond Labour Studies. This would, the Reviewers argue, serve to expose our students to the knowledge and expertise of such faculty while simultaneously lessening the burden of supervision at both the MA and PhD levels. The other recommendation was to give some thought to the development of an “Executive program, credit and/or non-credit, for trade unionists and perhaps others in various social movements.

The first of these recommendations has already been a subject of discussion among Labour Studies faculty. We continue to wonder about the perception of an academic unit that farms out PhD supervisory responsibilities to other faculty members. With regard to the development of an “Executive MA in Labour Studies, we, like the Social Sciences as a whole, need time to further discuss what would constitute a major departure from our established mandates.

Finally, the Reviewers indicate that the relative controversy regarding the name of our program should be resolved by changing the MA in Work and Society to MA in Labour Studies. In our May retreat we decided to follow that recommendation.

The Dean of the Faculty of Social Sciences, in consultation with the Director of the School of Labour Studies shall be responsible for monitoring the recommendations implementation plan. The details of the progress made will be presented in the progress report and filed in the Associate Vice-President, Faculty’s office.
# Summary of the Reviewers’ Recommendations with the Department’s and Dean’s Responses

<table>
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<th>Recommendation</th>
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<td>Review 1st year courses for topical interest and content</td>
<td>Issues discussed at May mini retreat and recommended changes will be implemented</td>
<td>First year course instructors; Undergraduate Committee Chair; Director</td>
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<tr>
<td>Add “labour studies” content to current courses at both undergraduate and graduate levels</td>
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<td>Undergraduate and Graduate Committee Chairs</td>
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<tr>
<td>Add new courses with “labour studies” content, e.g., labour policy</td>
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<td>Undergraduate and Graduate Committee Chairs</td>
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<tr>
<td>Change name of MA in Work and Society to MA in Labour Studies</td>
<td>Issue discussed at May mini retreat and recommended change will be implemented</td>
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<td>Expand space to accommodate School of Labour Studies</td>
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<td>Senior Administration and School of Labour Studies enter discussions to promote Labour Studies</td>
<td>Forward this recommendation to Senior Administration</td>
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<tr>
<td>Additional Faculty Resources</td>
<td>Forward this recommendation to Senior Administration</td>
<td>Director</td>
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</table>
Dean’s Response, Faculty of Social Sciences:

Overall, the reviewers provided a resounding endorsement of the programs, while noting some areas for improvement and recommending some specific actions to undertake in response. The reviewers emphasized the pioneering nature of Labour Studies’ educational programs both nationally and internationally, and that the school continues to enjoy a leadership role internationally within labour studies. They also noted the dedication and commitment of faculty and staff in the School, which has been instrumental to maintaining strong programs over the last few years during which the School has experienced the loss of senior faculty through resignations and retirements. This commitment is exemplified by its openness to the recommendations of the reviewers and the speedy implementation of a number of them, which were discussed and approved at the School’s May retreat.

The response by the School makes clear that it is taking the recommendations seriously and developing concrete, feasible plans for responding as soon as is feasible to those recommendations that are under its full control, and that it will work with the Faculty of Social Sciences (FSS) and the university on those recommendations that require broader consideration and action. The Dean’s response focuses on those observations and recommendations in the reviewers’ report that call for consideration and action by the Faculty of Social Sciences.

Recommendation: The School and McMaster recruitment officials should discuss how to acquaint high school students with the degree because labour studies is not a ‘teachable’ subject in high schools.

This past year, with support from the Provost, the FSS (joint with Humanities) hired a recruitment coordinator, for which high school outreach is a central element of the Faculty’s recruitment strategy. Beginning this fall, the Dean would encourage Labour Studies to work with the recruitment coordinator to develop ways to highlight the program and the kinds of career opportunities it offers graduates as part of the high school outreach.

Recommendation: With the new PhD program there will be a need for more TAships; these provide invaluable experience for graduate students at both the MA and PhD levels.

The FSS recently adopted a new, needs-based approach to allocating TA resources to departments and schools. Labour Studies’ TA allocation for 2017-18 explicitly took into account the new Ph.D. program, and in the future the TA allocation will automatically adjust to reflect the enrolment of graduate students in the MA and Ph.D. graduate programs.

Recommendation: Labour Studies might consider adding “adjuncts with dissertation/MRP supervisory privileges” to its list of faculty, although the listed ‘Associate members’ of the School may serve this purpose; the parameters to these privileges can be listed elsewhere.

The FSS is happy to work with Labour Studies to examine the role such appointments could play in strengthening the MA and Ph.D. programs.

Recommendation: There is a request for more physical space for the program, particularly in light of the coming Ph.D. program. It was not clear to us that a final decision had been made on the use of seemingly available space on the 7th floor. We would encourage this expansion so that the Ph.D.
program can begin with the possibility of more space for graduate students and perhaps a lounge and meeting room that comes under Labour Studies’ jurisdiction.

With good reason, a number of observations and recommendations in the report centre on the theme of faculty resources. The School is small ---even in 2014 the total faculty complement was 5.35 FTE faculty members; further, it has experienced losses and turnover in the last few years as senior faculty have retired or resigned to take up positions at other institutions. This challenge will continue into the future – within the next few years it is expected that the two remaining senior faculty with roots dating back to the founding of the School will retire. This creates challenges of both quantity and historical continuity.

Since its founding, the School has had a strong preference for its faculty to hold joint appointments between Labour Studies and a disciplinary department in the FSS. Indeed, last year marked the first full-time appointment to the School. Because most Labour Studies faculty hold joint appointments, discussion of the faculty complement can be quite confusing when using headcounts, as the review did. For the sake of clarity, here is the recent history of the FTE faculty complement for the School:

2014-15: 5.35 FTE (4.35 tenure stream; 1.0 teaching stream)
2015-16: 4.85 FTE (2.85 tenure stream; 1.0 teaching stream; 1.0 CLA)
2016-17: 5.55 FTE (3.55 tenure stream; 1.0 teaching stream; 1.0 CLA)
2017-18: 5.30 FTE (4.30 tenure stream; 1.0 teaching stream)

This coming year, therefore, the FTE faculty complement is only 0.05 FTEs below it size in 2014. So the faculty complement effectively has been restored to its 2014-15 level. This situation is not accurately represented in the report, which relies on faculty headcounts rather than FTE counts.

This is not to deny that Labour Studies faces legitimate challenges with respect to faculty resources. It does face real challenges offering courses beyond those required for program completion and, as the review notes, the proposal for the Ph.D. program called for an increase of faculty FTEs as the Ph.D. program grows, which will be a challenge in the current fiscal environment. The FSS will continue to work with Labour Studies to address these challenges within the constraints it faces.

**Recommendation:** University Advancement should be involved in a significant effort to promote and aid Labour Studies as the new Ph.D. program is launched. Advancement should work with the Labour Studies program to develop a plan for raising funds for specific projects that would highlight the international leadership of McMaster in the study of work. While an endowed chair might be too expensive, other projects could be entertained: a post-doctoral fellowship, specific graduate scholarships, or a visiting professorship for a global scholar, who would come to McMaster on a sabbatical and receive office space and a research allowance (a similar research fellowship at McGill is worth $25,000) annually. All such efforts would raise the profile of Labour Studies, aid the recruiting of graduate students, and also potentially add to the curriculum if a post-doctoral fellow or visitor taught a course.

This reflects a broader theme that the university administration needs to be aware of the international calibre of the School, and to work with the School to promote it. With respect to this specific recommendation, the re-organization of University Advancement, under which the Faculty of Social Sciences has an advancement officer dedicated to FSS alone, should create greater scope to highlight
and promote advancement opportunities associated with the School of Labour Studies. The Dean notes that he will work with both the advancement officer and the School on such initiatives.

Quality Assurance Committee Recommendation

McMaster’s Quality Assurance Committee (QAC) reviewed the above documentation and the committee recommends that the program 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.
TO: Senate Committee

FROM: Robert Baker, Vice-President (Research)

RE: Strategic Plan for Research, 2018 – 2023

DATE: February 2, 2018

I am pleased to share the attached DRAFT Strategic Plan for Research, 2018 - 2023, for information and discussion.

The Plan, centred around our commitment to research excellence, is informed by our core values. It is designed to highlight our key areas of strength, strategic themes for further development, and enabling tactics to enhance McMaster’s research enterprise.

Earlier in 2017, a Strategic Research Plan Committee was created with members recommended by all Faculty Deans. The committee membership is comprised of:

Robert Baker, Vice-President (Research) (Chair)
Narayanaswamy Balakrishnan, Professor, Mathematics and Statistics, Faculty of Science
Elkafi Hassini, Professor, Operations Management, DeGroote School of Business
Peter Mascher, Vice-Provost, International Affairs
Karen Mossman, Associate Vice-President (Research)/Professor, Pathology and Molecular Medicine, Faculty of Health Sciences
Petra Reithmann, Professor, Anthropology, Faculty of Social Sciences
Susan Searls Giroux, Vice- Provost, Faculty
Heather Sheardown, Professor, Chemical Engineering, Faculty of Engineering
Pamela Swett, Professor, History, Faculty of Humanities

Resource Personnel:
Kathy Charters, Assistant Vice-President, Research Administration
Gay Yuyitung, Executive Director, McMaster Industry Liaison Office
Lori Dillon, Research Communications Manager

The draft document was discussed several times with PVP, Provost Council, and University Research Council; it was also discussed at the last University Planning Committee on January 17, 2018. Consultation with faculty members is continuing.

Kindly include this as an Agenda Item for the next Senate Committee Meeting.

attach.
RESEARCH FOR A BRIGHTER WORLD
DRAFT

McMaster University
Strategic Plan for Research
2018-2023
The Difference Research Makes

University research is the foundation of knowledge. It is the driver of innovation and critical to the social, cultural and economic fabric of our society. Research is the tool that supports evidence-based decisions—decisions that inform policy, impact organizations, and influence the lives of citizens locally and globally.

Research also has the power to bring diverse groups of people together behind a common, focused goal. It develops our understanding—socially, culturally and physically—of the world in which we live. It teaches us how to teach and guides how we learn on our own and with others. It empowers individuals and groups, and advances our understanding of cultures and social relations.

At McMaster, it is our goal and responsibility to use our evidence-based knowledge to support understanding, enable positive change, and, ultimately, advance the health and well-being of society.

1: Overview

In the spring of 2011, McMaster University released a document that would serve as a calling card for the next chapter of our illustrious history. Titled Forward with Integrity, it reaffirmed McMaster’s commitment to strengthening the excellence of our research while, at the same time, seeking opportunities to integrate research more purposefully into our academic mission.

Since then, we have been engaged in an institution-wide process that has brought faculty, staff, and students together to review our research mission in detail. Their goal was not merely to preserve McMaster’s enviable position as a Canadian research powerhouse, but to ensure that we continue to make a difference—in the competitiveness of our researchers, in the quality of our teaching, and in the impact we have on the world around us.

Research for a Brighter World...Strategic Plan for Research 2018-2023 lays out a vision and plan to reinforce McMaster’s research mission and to take our institution’s research excellence to an even higher level.
2: The Face of a Great Research University

*Our purpose is the discovery, communication and preservation of knowledge.*

*Our vision is to achieve international distinction for creativity, innovation and excellence.*

These excerpts from McMaster’s Mission and Vision Statement underscore the pre-eminent role that research plays in the life of our University. At McMaster, research is a living, breathing thing. It elevates the student experience, energizes our faculty, and sparks the kind of original thinking that has made McMaster a national leader in research excellence and earned us a place as one of the top 100 universities in the world:

- McMaster consistently ranks among Canada’s most research-intensive universities.
- Our faculty members attract research dollars at a level more than double the national average. Almost one-third – more than any other Canadian medical/doctoral school – comes from business and industry.
- We are one of only two Ontario universities consistently ranked among the top 100 universities in the world and one of only four in the country.
- Along with our hospital partners, we are globally recognized and consistently ranked among the top 50 universities in the world for health and medicine.
- Our research impact—using the H-index to measure the quantity and quality of McMaster research publications—is well above the average in Ontario and the U15 group of Canadian public research universities.
- Nearly a quarter of our full-time faculty members have been awarded Canada Research Chairs, endowed or industry sponsored chairs, or professorships based on the strength of their research.
- We have more than 70 high-impact research institutes and centres, many with state-of-the-art facilities equipped with powerful new technologies to drive the next important discovery.
- McMaster has built a 30-year relationship based on community partnerships and research projects with Six Nations of the Grand River, the Mississaugas of the New Credit First Nation, and the Hamilton urban Native populations, resulting in several national and international Indigenous research initiatives.
- McMaster is creating and fostering links with global researchers to develop PhD programs and research partnerships to expand its international reach.
- We are a leader in knowledge transfer, particularly in the area of copyrighted materials, entering into more license agreements annually than any other Canadian university.
- McMaster Innovation Park is at the heart of the region’s innovation ecosystem and will soon boast new incubator space and facilities for spin-off companies to translate our discoveries into world-changing applications.
Ours is an impressive record of achievement. But research excellence is about more than statistics and accolades. It’s about influence and impact. About advancing the greater social good—in our communities, in our country and around the world.

And that’s where McMaster really shines.

3: Paradigm-shifting Research for the Greater Global Good

From the outset, McMaster has been known for its pioneering spirit and ability to look at the world in new and unique ways.

From Harry Thode, who championed the University’s effort to become the first in the Commonwealth to house a nuclear reactor, to Fraser Mustard and John Evans, whose radical notion of evidence-based medicine revolutionized the way doctors learn, McMaster’s outstanding researchers have had extraordinary success in achieving outcomes that have deep-and far-reaching impact on health, prosperity, and the future of our planet.

While not exhaustive, here are some of the key areas where our researchers are delivering new knowledge, new tools, and new solutions to meet our most pressing global challenges:

Fundamental Research

McMaster prides itself on its engagement with the local community, partnerships with governments at every level, and success in working with business and industry to move important new discoveries to market where they can change people’s lives for the better.

However, such discoveries would not be possible without fundamental research, which provides the foundation for all social or technological advances, developments and knowledge mobilization. All across our University, researchers are engaged in meaningful inquiry that adds to our base of knowledge and illuminates our understanding of important subjects. Our mathematicians are using sophisticated processes to model the actions of people and the world around us. Our business researchers are developing complex models to optimize and manage supply chains and better understand financial markets. Our astrophysicists are answering the most basic questions of how galaxies form and when the universe began. Other researchers are investigating theories related to cell biology, biophysics and quantum computing; analyzing past societies to understand the present and how future societies may evolve; exploring the roots of human understanding of knowledge; addressing adaptations occurring in the workplace; deciphering ancient manuscripts for clues to forgotten societies; and pushing the boundaries of human creativity in literature, performance and the arts.

Their contributions are critical to advancing a deeper understanding of the universe and our place in it and to exploring and demonstrating the richness of human creativity and endeavour.

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Human Health and Social Determinants

From basic science to drug screening, from clinical research to policy development, McMaster is a leader in advancing global health. Our researchers have developed cutting-edge surgical procedures, discovered new molecules, and conducted scores of clinical trials to ensure the safety and efficacy of novel therapies and technologies. They’re also leading some of the world’s largest population health studies; addressing policy issues related to childhood disability and mental health; shedding light on the role of microbes in disease; improving healthcare delivery and management; addressing workplace implications; and helping people live well for longer.

Working at the interface of chemistry and biology, medicine, engineering, management, and environmental and life sciences, multifaceted teams of researchers are devising breakthrough solutions to some of our most complex health challenges. A few of many prominent examples include:

- The McMaster Nuclear Reactor is used for the development of new imaging agents and targeted radiotherapeutics as well as being one of the world’s largest suppliers of medical radioisotope iodine-125 used in the treatment of prostate cancer;
- Researchers in McMaster’s Stem Cell and Cancer Research Institute are turning blood into brain cells to create new treatments for cancer and anemia;
- The Michael G. DeGroote Institute for Infectious Disease Research is a leader in the global fight against some of the world’s deadliest superbugs, including C. difficile and antibiotic-resistant staph infections;
- Researchers in the Farncombe Family Digestive Health Research Institute are revolutionizing patient care for diseases of the gastrointestinal tract;
- The McMaster Health Forum is a World Health Organization Collaborating Centre for Evidence-Informed Policy committed to strengthening health systems around the world;
- Researchers at McMaster’s Institute for Music and the Mind are exposing the profound effect of music on the brain that could lead to new therapies for autism and Parkinson’s;
- The McMaster Institute for Research on Aging is the first of its kind in Canada to conduct multidisciplinary cutting-edge research on aging;
- Researchers in McMaster’s Physical Activity Centre of Excellence are improving the health and well-being of older adults and people with chronic disease and disability;
- Researchers in the Offord Centre and the Institute for Clinical Evaluative Sciences are leaders in patient care and health policy related to mental health and addiction;
- The Health Leadership Academy is an education, innovation and research hub designed to develop healthcare professionals with the requisite leadership skills for the digital age;
- McMaster is home to the Canadian Research Data Centre Network, with 30 satellite sites across the country, where researchers are making sense of economic, social and health data to inform public policy at the federal and provincial levels.
This on-going, multidisciplinary research activity within our unique research centres and institutes ensures that our work is making a difference in the health and well-being of citizens at home and around the world.

**Indigenous Research and Inquiry**

Indigenous research has been part of the academic landscape at McMaster since the inception of the University’s Indigenous Studies Program in 1992.

This research is now rapidly expanding in response to the Calls to Action put forth in the federal government’s Truth and Reconciliation Report, released in June 2015. We have added six tenure track Indigenous faculty members over the past decade, and a diverse range of projects are currently underway across our faculties, examining such topics as:

- Indigenous Theories, Methodologies and Ways of Knowing
- Indigenous Health and Well-Being
- Indigenous Ecologies, Land and Environment
- Self-determination, Policy and Governance
- Retention and Sustainability of Language and Culture

This work offers all members of the McMaster community and beyond a unique opportunity to learn about the history and contemporary lives of Indigenous peoples, while helping to shape a renewed relationship between Canada and First Nations, Métis and Inuit peoples.

**Sustainability and Global Prosperity**

Building sustainable communities is more than ensuring safe water and sanitation, fighting climate change or developing innovative smart grid solutions. It engages citizens to design livable environments that provide access to infrastructure, amenities, social services and job opportunities for all. It requires fair and just societies, where human rights are protected and where true democracy allows for freedom of speech and expression. Most importantly, it ensures we manage today’s resources for the benefit of future generations.

McMaster researchers are at the forefront of this global effort:

- McMaster is home to the United Nations University Institute for Water, Environment and Health, a pre-eminent think tank in the fight against the global water crisis;
- The McMaster Centre for Climate Change is connecting science, technology and policy to deliver a broad range of local and global climate change solutions;
- Researchers in the MacData Institute are collecting data to allow communities to measure how well they serve their citizens;
- The Institute for Globalization and the Human Condition and the L.R. Wilson Institute on Canadian History are looking to the past to better understand the social inequalities, globalized economies and looming wars of the 21st Century;
• The McMaster Digital Transformation Research Centre is focused on the leadership and management of digital transformation and its impact on people, organizations, and society;
• The McMaster Institute for Transportation and Logistics is helping industry and civic leaders develop smarter, more cost-efficient transportation strategies; and
• McMaster’s Institute on Ethics and Policy for Innovation is working to ensure decisions around climate, food security and health are equitably shared and sustained.

Spanning disciplines as diverse as biology, economics, sociology, management, civil engineering, and public policy, our work in sustainability and global prosperity is leading to the development of new technologies that are not only innovative, but also culturally and socially acceptable, to reduce our footprint on the planet and ensure its health for generations to come.

Materials and the Built Society

From the study of new steel alloys to neutrons and silicon chips, from the safety of our roads to the strength of our bridges, from advanced robotics to smart cars, our ability to understand the behaviour of materials and how they are produced is fundamental to the modern world.

Creating new materials and devising new applications for them are two of our greatest strengths. Our materials scientists are ranked among the country’s best, and our manufacturing expertise is second to none:

• McMaster is home to North America’s largest materials laboratory, the Brockhouse Institute for Materials Research, whose advanced equipment is being used to create new materials for everything from solar cells to drug delivery;
• The Centre for Probe Development and Commercialization, based at McMaster, is a world leader in the development and commercialization of molecular imaging probes to detect cancer;
• The McMaster Automotive Resource Centre is accelerating research on electrified and autonomous vehicles, and identifying light materials to make cars more fuel efficient;
• McMaster’s Biointerfaces Institute and Fraunhofer Project Centre for Biomedical Engineering and Advanced Manufacturing are at the forefront of cutting-edge research to deliver next-generation cell therapies and point-of-care diagnostics;
• McMaster’s Centre for Emerging Device Technologies is using silicon chip technology to create new, faster and more efficient ways of processing information;
• McMaster’s Research Facility for Integrated Building Energy Harvesting Systems remains the only facility in North America testing new ways to capture energy that is lost during transport to our homes and communities;
• The McMaster Manufacturing Research Institute is one of the country’s most advanced and best-equipped research laboratories designed to meet the sophisticated needs of leading manufacturers;
• The McMaster Institute for Multi-Hazard Systemic Risk Studies develops systemic risk-based tools to enhance the resilience of our built and natural environment systems in Canada and around the world.

These and other premier facilities combine to offer an exceptional environment for the incubation of new discoveries that are strengthening Canada’s competitiveness and enhancing the quality of our lives at every level.

4: Living Our Core Values

McMaster’s commitment to research excellence is informed by a set of core values from which we will not waver:

1. We insist on “excellence in scholarship” in all research programs that are supported or initiated.

2. We regard the work of educating students, and of extending the boundaries of knowledge through research, as inseparable and mutually-reinforcing activities.

3. We conduct research that advances society, using the best practices and cutting-edge technologies available to us.

4. We support collaborative work and thinking across faculties and disciplines as an essential driver of innovation.

5. We partner with governments, institutions, and businesses and industries locally, nationally and globally to share resources and expertise, solve complex problems, spur economic growth and create a more skilled workforce.

6. We share our knowledge widely to help shape policies and practices that will strengthen communities and improve lives in Canada and around the world.

5: Strategic Initiatives to Meet Complex Challenges

Adhering to our Core Values, McMaster has identified strategic themes around which we will galvanize our research efforts in the years ahead. These themes are both focused and broad: broad enough to engage researchers across all faculties, schools, centres and institutes in the task of addressing some of the most complex challenges of our time, yet focused enough on the institution’s existing research strengths and opportunities to build capacity and expand our research excellence in areas of established and developing strength.
Advanced Materials and Manufacturing

Canada’s growth engine is under siege, battered by global competition and a decade-long struggle to ramp up productivity.

How do we mobilize our innovation and knowledge transfer to strengthen Canada’s automotive, materials and manufacturing sectors? How do we help companies maximize and continue their critical investments in to the development of new products, technologies and skills that manufacturers need to succeed? How, with geopolitical forces that are increasingly protectionist, do we ensure our ability to compete and thrive alongside other industrialized nations? How do we support Canadian exports and keep our economy growing?

Success in today’s fast-paced, consumer-driven, global environment requires fresh and ingenious approaches to manufacturing and the development of new materials. It depends on rapid technology transfer through every link of the supply chain from materials selection to product performance.

McMaster has exceptional expertise in materials and manufacturing research, and is leading the way in newly developed fields such as nanotechnology, ecohydrology and bioactive paper. Indeed, McMaster was the federal government’s first choice when it decided to relocate Canada’s premier materials laboratory from Ottawa. Now located at McMaster Innovation Park, a hub for transformational research and new start-up companies, CANMET-MTL is developing new materials and manufacturing processes for Canada’s energy, transportation and metal-manufacturing sectors and attracting high-quality jobs and expertise to our community.

McMaster’s Automotive Resource Centre is a state-of-the-art facility where researchers, students and industry professionals work together to address the unique challenges facing the automotive industry, including the design of battery and hybrid drive-train technologies. Through our expertise in the McMaster Manufacturing Research Institute, we have been instrumental in developing a regional supercluster on Advanced Manufacturing for Southwestern Ontario, and play an integral role in a tri-university Advanced Manufacturing Consortium that will increase Ontario’s capacity to compete globally in emerging areas such as next-generation additive manufacturing and digital components and devices.

McMaster’s physical and intellectual assets in Advanced Materials and Manufacturing and the strong relationships we have developed with government and industry will play a crucial role in strengthening Canada’s capacity in this important sector.

Aging

In Canada, as in many other areas of the world, a dramatic demographic shift is underway. Canadians aged 85 and over are now the fastest-growing segment of the population. This
makes the study of aging more important than ever before. At McMaster, more than 100 faculty members and post-graduate students from disciplines as diverse as gerontology, biology, psychology, business, and sociology are examining the phenomenon and science of aging from every angle.

Why is it that some people with physical health problems maintain a good quality of health as they age, while others who are in good physical health do poorly? What role do our genes play? Does where we live, how many friends we have, or how much we earn make a difference? What impact does prenatal health or child obesity have on how well we age? How can we stave off dementia, improve functioning for those living with multiple chronic conditions, and address the physical, emotional and economic costs of overworked caregivers?

Our researchers are active in interdisciplinary research centres such as the Labarge Optimal Aging Initiative, the Labarge Centre for Mobility in Aging, the Gilbreath Centre for Studies in Aging, the McMaster Institute for Research on Aging, the Offord Centre for Child Studies, the CanChild Centre for Childhood Disability Research, the McMaster Physical Activity Centre of Excellence, the Neurophysiology of Fitness Lab, the Aging, Community and Health Research Unit, the Metabolism and Childhood Obesity Program and the McMaster Digital Transformation Research Centre. Together with our hospital partners, they are influencing prenatal and infant health development locally and around the world. They are even designing smart cars for older drivers and smart homes that can alert health professionals to the first signs of Alzheimer’s or diabetes, and how information and communication technologies could best be designed to support the needs of older adults and improve their quality of life.

By blending science expertise and medical advances with social insights, engineering acumen and appropriate management, McMaster researchers are leading the way with innovative solutions designed to support healthy living for longer, and foster active and healthy populations across the lifespan. In addition, researchers in finance and social sciences are devising new strategies to ensure that financial literacy and savings meet the needs that the longevity revolution brings.

Chronic Disease

Chronic diseases—cardiovascular diseases, respiratory diseases and diabetes, for example—are largely preventable and treatable. Yet, in little more than a quarter century, they have grown to become the leading cause of death worldwide.

Children as young as five years old are now being diagnosed with Type 2 diabetes, young adults are suffering strokes, and the risk for asthma can begin in the womb. The physical, emotional and human toll is staggering, not just for the affected individuals but for their families, our health systems, and the economy.

A leader in advancing bench-to-bedside research, McMaster has amassed an enviable corps of outstanding scientists—in genomics, immunology, microbiology, medicine, population health,
biostatistics and pediatrics—who are investigating the critical associations between life events, exposures in life, our genetic makeup, and the development of disease over time.

Why is one child likely to develop asthma, but not another? Why are some people born with a higher risk of diabetes and heart disease? How does urban living affect our respiratory health? What role do diet, nutrition and exercise play? How can we change unhealthy behaviours that put people at greater risk? How can we engage with a spectrum of stakeholders from patients to service providers to ensure improved public services for vulnerable and disadvantaged populations? Will higher taxes on cigarettes reduce smoking? How can we do a better job of educating patients, clinicians and policymakers? How can information and communication technologies help patients play a more active role in managing their chronic conditions in a true partnership with their healthcare teams?

Our researchers are working at every level from fundamental science to policy and public health: deciphering the genetic architecture of diseases to better identify people at risk; identifying biomarkers for earlier detection; targeting new drug therapies to lower cholesterol, blood pressure and other risk factors; rewriting clinical practice guidelines to support better patient care, both in hospital and at home; and developing guidelines for health policies in Canada and around the world.

McMaster’s respiratory research is the second most cited in the world, and research at the Firestone Institute for Respiratory Health, based at St. Joseph’s Health Care, is noted for its comprehensive approach to patient care, research and education.

Our researchers at AllerGen, a national centre of excellence, are the best in the world at predicting if a potential new drug for asthma will work; our Metabolism and Childhood Obesity Research Program is focused on an integrated approach to diagnosing, preventing and treating obesity related health problems; and our Population Health Research Institute is a world leader in clinical trials and population studies for non-communicable diseases.

McMaster is also a world leader in cohort studies which are central to our understanding of the onset and progression of many chronic diseases. It’s now working to develop a repository where data from researchers at McMaster and around the world are collected, analyzed, stored, and shared for maximum impact in preventing, treating and managing some of our most challenging diseases.

**Data, Artificial Intelligence and the Digital Society**

The benefits of ‘big data’ for our society are vast. We can measure and manage data more precisely than ever before. We can make better predictions and smarter decisions. We can target more-effective interventions shaped by data and rigour.
But the power of ‘big data’ and a digital world also comes with challenges. How can we be sure the right data is reaching the right people at the right time? How do we balance the benefits of new knowledge against the rights and freedoms for individuals to protect their privacy? How do we promote the sharing of data from one discipline to another for maximum impact? How do we ensure that managers are leveraging big data and analytics to practice evidence-based management? How do we provide students, researchers and practitioners with the skills they need to traverse the big data terrain, now and well into the future? How can artificial intelligence be harnessed in key application areas related to health, manufacturing and business?

McMaster researchers are working with enormous sets of data to improve research outcomes within and across every discipline. They’re scrutinizing individual genomes to revolutionize patient care with tailored treatments and novel therapeutic discoveries. They’re creating smart energy meters for homes and assessing energy consumption patterns, mapping changes in our brains, and studying the properties of stars. They’re improving vehicle reliability, safety and fuel economy, redesigning rail safety processes, and working to help banks, retailers and other companies provide more seamless customer service. They’re even attaching GPS sensors to rugby players to study game strategies and training approaches.

Researchers in the McMaster Digital Transformation Research Centre are working to better understand how the digital revolution is impacting individuals and transforming organizations, economies and society at large. Along with experts in the MacData Institute, they’re engaging with researchers across the institution, as well as with industry, government and the community, to address these larger issues and strengthen our position as an international leader on all matters related to data and digital transformation. By harnessing our collective knowledge across the campus, we will ensure all the elements are in place to drive a digital path to a more enlightened and prosperous future.

Environment and Energy

The effects of climate change are altering the landscape as we know it. The devastating impact can be seen everywhere—on human health, ecosystems, economies, our natural resources, the ways we live and work, and, ultimately, the future of our planet.

How can we ensure the safety of the water we drink, the food we eat and the air we breathe? How can we preserve the health of our lakes and rivers for future generations? How can big cities manage traffic congestion and urban sprawl? Can we lower the cost of environmentally friendly products to make them more widely affordable? How can we change behaviour to make communities and citizens more environmentally responsible? How can businesses stay lean in the face of the pressure to be green? How do financial markets provide the funds to ensure that green strategies are rewarded?

These are just a few of the big questions that researchers at McMaster are tackling as they focus—across sectors and disciplines, and at many levels (villages, communities, cities and...
nations)—on innovative solutions to address environmental change and develop clean technologies.

We have already made significant strides. We’ve devised strategies to protect and restore wetlands, and developed new technologies to detect and reverse water contamination. Through our work in photovoltaics, we’re turning the sun’s rays into electricity and helping Canada develop a solar industry.

Since complex challenges require a multiplex approach, our researchers are active in collaborative networks locally, nationally and globally that bring innovators and policymakers together to forge solutions with real impact. From the Dofasco Centre for Engineering and Public Policy to FloodNet, an NSERC Canadian Strategic Network based at McMaster, to the United Nations University Institute for Water, Environment and Health, and the Global Water Futures Program, McMaster researchers are engaged in both the technical and policy aspects of Great Lakes cleanup, flood forecasting and management, and the global water crisis.

Interest in clean energy sources has also led to a resurgence of interest in nuclear power as a means to generate electricity, and in this, we are aided by having the most powerful research reactor at any Canadian university, where our researchers are looking at nuclear safety and radioactive waste management. The reactor also provides isotopes that allow researchers to detect key nutrients in crops—improving agricultural productivity and food security in an era of climate change.

Our unique facilities have opened up an exciting world of opportunities for our environmental researchers and are enabling them to carve out a more optimistic vision for our planet.

Equitable, Prosperous and Sustainable Societies

The 21st century is witnessing a complex array of forces: fast-paced technological innovation, globalization, economic restructuring, social inequality, regional conflicts, and international migrations. This is creating enormous challenges for our political institutions, restructuring economic relationships, generating social upheaval, and posing urgent questions of justice and equity.

How do we foster opportunity, equitable prosperity, and well-being in the context of a globalized economy and technological change that promises to fundamentally alter our basic relationship to ourselves and to others, transform both the content, meaning and role of work in our lives, and contribute to social and economic inequalities? How do we reconcile security, community, and identity to openness, pluralism, and global justice? How do we respond to those who have become alienated and left behind by social, economic, and cultural change, while shaping a fast-moving world to be more inclusive of all in society? How do we tackle a deteriorating public discourse, rising intolerance, and resurgent extremism and fundamentalism.
while building civic trust and engagement consistent with our democratic principles, promoting well-informed communication and deliberation, and restoring trust in political institutions?

We stand at a watershed. Understanding the forces at work and crafting effective responses to them requires our best theoretical, empirical, historical, and creative perspectives. Researchers at McMaster are bringing a wide range of disciplinary expertise to bear on these urgent questions.

Within our interdisciplinary Institutes and Centres, researchers are forging innovative approaches that integrate ideas from across the University. Cutting-edge methods are allowing us to exploit the ever-increasing stores of data available to us. Addressing these questions and finding solutions involves engagement with wider society at local, national, and international levels. With resources to draw on such as the Centre for Community-Engaged Narrative Arts, the Institute on Globalization and the Human Condition, and the Centre for Peace Studies, McMaster is well positioned to play a considerable role in addressing the profound questions facing us in the 21st century.

Indigenous Knowledge and Research

More than a century of colonial policy has required Indigenous communities to survive unequal standards of living in terms of access to clean water, health services, and education compared to that of non-Indigenous Canadians. The Truth and Reconciliation Commission (TRC) describes this policy, with residential schools as its core, as “cultural genocide.” Continual underfunding of education, social and health services, and housing has affected every sphere of Indigenous peoples’ lives. Indigenous women in particular have withstood the worst of these impacts. Consequently, the federal government has acknowledged the racialized violence experienced by Indigenous women and recently launched the Inquiry into Missing and Murdered Indigenous Women.

The TRC Report outlines a number of principles and Calls to Action that address the inequities that Indigenous peoples have faced in this country, historically and in the present. Indigenous communities believe that the “truth” requires genuine engagement between Canadian institutions and the Indigenous populations they often underserve before real reconciliation can begin. The TRC describes “reconciliation” as an ongoing process of establishing and maintaining respectful relationships at all levels of Canadian society, and academic research is one primary site where this must occur.

Indigenous ways of knowing are differentiated by unique, sophisticated, and complex systems of knowledge across Indigenous communities within and beyond Canada. As distinctive Indigenous theories and methodologies continue to emerge, Indigenist research is becoming increasingly global, while remaining dependent on localized, community-engaged relationships. Of primary importance is the well-being of Indigenous communities and of research that emerges from cultural knowledge and Indigenous ways of knowing. Indigenous communities
engagement also play a primary role in guiding the ethics, parameters, and dissemination of Indigenous-focused research.

How will research questions and objectives be informed by Indigenous communities? In what ways can land-based pedagogies and ways of knowing translate into research within an academic setting? How will academic disciplines within the university be transformed by Indigenous research?

With the establishment of the McMaster Indigenous Research Institute (MIRI) in 2016, Indigenous research at McMaster will build upon its already strong relationships with local Indigenous communities and will be better supported at the development, implementation, and reporting stages. MIRI will also allow for the facilitation of an expanded body of work carried out by research teams that will support the advancement of Indigenous community-driven research in partnership with academic researchers, while working towards a more equitable environment for Indigenous researchers. Furthermore, MIRI will encourage and support research carried out by traditional cultural practitioners in addition to academics. As Indigenous-focused research continues to emerge and re-situate the voice of Indigenous peoples and communities in research questions and outcomes, MIRI will encourage and facilitate Indigenous research both locally and globally.

**Infectious Disease**

Infectious diseases are the leading killer of children and adolescents worldwide, and one of the leading causes of death for adults. Globalization, increased drug resistance and climate changes are compounding the problem. Experts predict that by 2050, drug-resistant infections will kill more people than cancer and cost the world $100 trillion in lost economic output.

How can we harness new technologies to address the threat of viral, bacterial and other pathogens? How will we combat the global crisis of antimicrobial resistance? What can we do to ensure safe drinking water and adequate sanitation to prevent infectious disease in underdeveloped countries? How do we protect our citizens against the migration of tropical diseases like Zika, ensure the anti-vaccine movement doesn’t eradicate the progress we’ve made, and protect our most vulnerable populations from death due to influenza?

McMaster is already coming up with some of the answers. Over the past two decades, we have amassed an impressive group of world-class researchers from around the globe—scientists with expertise in malaria research, bacterial immunology and the study of bioactive small molecules—who are bridging the divide between basic sciences and the clinic to develop life-altering drugs, vaccines and prevention strategies to address the most pressing global health challenge of our time.

McMaster’s Michael G. DeGroote Institute for Infectious Disease Research has become a magnet for the next generation of infectious disease specialists, fostering groundbreaking
research in antibiotic resistance mechanisms, new drug discovery, vaccine development, and innovation in therapeutic alternatives to antibiotics.

Key to this success are McMaster’s facilities: a world-leading Centre for Microbial Chemical Biology that links pressing medical and biological questions with advanced chemical technology; a High Throughput Screening Lab outfitted with cutting-edge robotics, instrumentation and research staff; and a Biosafety Level 3 lab with dedicated animal facilities and space for current and future projects.

Together, these facilities have positioned McMaster as an internationally recognized centre for excellence and allowed our researchers to develop better science and translate it into new products and changes in clinical practice.

6: Enhancing our Research Enterprise

McMaster is recognized globally for its vibrant research enterprise. This is a testament to the quality of our researchers and their unrelenting commitment to excellence.

To ensure we remain competitive, continue to innovate and positively impact the broader community of which we are a part, we need to make strategic investments in support of research—and researchers—at McMaster. To this purpose, we have developed the enabling strategies:

Quality of Researchers

A heightened international competition for top-ranked faculty and graduate students, combined with a provincial mandate to demonstrate differentiation, has led to a pressing need to hire and retain faculty and graduate students of the highest caliber.

The most important factor affecting the excellence of our research enterprise is the quality of the faculty we hire and retain.

- We will continue to recruit, promote and retain talent of the highest caliber.
- We will promote the hiring of new faculty into research “clusters” that will best enable us to build research capacity and excellence at the international level.
- We will promote a deeper understanding of the importance of diversity to strengthen our research programs and teams, and develop specific programs that commit to gender equity.
- We will ensure that Indigenous ways of knowing are recognized as valid forms of research.
• We will develop stronger mentoring programs for young researchers to ensure they develop to their fullest potential, to achieve McMaster’s expectation of research excellence, and to build strong, flexible, long-term research programs capable of attracting widespread industry and government funding.
• We will direct more funds to newly tenured professors to encourage the development of new lines of exploration focused on strengthening their research careers through interdisciplinary research teams and larger external grant applications.
• We will create a central pool of funds, to be adjudicated by the Provost and Vice-President, Research, that can be accessed to provide additional research funding and attract truly outstanding researchers with competing offers from other institutions.
• We will provide increased support to faculty members applying for highly-regarded awards, prizes and honours.
• We will work with the School of Graduate Studies to support its efforts to recruit more international students to selected programs through such channels as Mitacs, China Scholarships Council, Erasmus+, and other scholarship programs around the world.

Research Governance

University Research Council (URC) is the University Committee responsible for McMaster’s research strategy. It is comprised of Associate Deans of Research from all six faculties, the Vice-Provost and Dean of Graduate Studies, the University Librarian, and key staff from within the Office of the Vice President, Research. This Strategic Research Plan is a living document that may adapt over time. Major updates, though not anticipated, will run through the appropriate governance channels. Minor updates, however, will be the responsibility of the URC, with oversight to approve revisions on an on-going basis.

Major Research Platforms

The McMaster Nuclear Reactor (MNR) is one of the University’s most unique research platforms. Built in 1959, it was the first university reactor in the British Commonwealth, and it remains the most powerful research reactor at a Canadian university. Its research capacity continues to grow, thanks to major investments from Canada Foundation for Innovation, the Ministry of Research, Innovation and Science, and other partners.

The MNR supports research across a range of disciplines, from biological and medical research and the production of medical isotopes – one of only two producers of iodine-125, a radiisotope used to treat prostate cancer – to material composition and neutron and gamma scattering. It’s where researchers and students study nuclear safety and where the aerospace industry tests for flaws in turbine blades and corrosion of aircraft components. And, it’s the core research facility from which two new Canadian biotech start-ups were born.

MNR is a central feature on Canada’s scientific landscape. With the impending closure of the National Research Universal (NRU) reactor at Chalk River Laboratories—currently Canada’s
primary facility for neutron-based research—MNR will be the country’s sole nuclear research facility above low thermal power. Plans are underway to increase the MNR’s capacity in order to support research programs that will be lost with the closure of the NRU. We will leverage our expertise to promote new uses of the MNR and build strong international research collaborations at other neutron sources around the world. As examples, McMaster is completing two new facilities; the Small Angle Neutron Scattering (SANS) facility for Nanostructured Materials and the Centre for Advanced Nuclear Systems (CANS) designed to better understand the lifespan of components in nuclear reactors.

Other research platforms that involve specialized equipment and technical expertise are also essential to McMaster’s ability to compete with other institutions nationally and globally. However, these platforms come with significant capital and operating costs.

- We will develop and maintain a university-wide inventory of all major research equipment to ensure maximum use of resources and appropriate planning for renewal.
- We will connect researchers with professional writers, paid external reviewers, and others who can assist in the development of high-quality grant applications for major infrastructure.
- We will work with business officers and the Office of the Vice-President, Administration, to calculate, for each major platform, the true total operating costs, projected use, and sources of funding to ensure sustainable business models.
- We will enhance the core services offered by the Research and High-Performance Computing Support group to better support the burgeoning use of research and advanced computing by developing a more cohesive and comprehensive digital strategy that is aligned, across the institution, across the province and across the country.

Research Institutes and Centres

High-quality research often stretches well beyond administrative boundaries to include research institutes, centres and groups that encourage and support interdisciplinary research. These institutes are key to attracting the best and brightest talent to McMaster and supporting research at the highest level.

- We will review current policy guidelines for the development and operation of groups, centres and institutes to ensure they function as effectively as possible.
- We will develop guidelines and templates for detailed, regularly scheduled external reviews (to be evaluated by the University Research Council and approved by the University Planning Committee) of all institutes and centres reporting to the Office of the Vice-President, Research. Similar review processes will be encouraged for centres and institutes housed within individual faculties.
- We will evaluate the effectiveness of some interdisciplinary institutes reporting to the Vice-President, Research, versus reporting to a coalition of Deans.

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• We will investigate, in partnership with faculties, the School of Graduate Studies, and possibly international partners, opportunities for interdisciplinary graduate programs related to research institutes.
• We will consider the creation of a fund to attract renowned visiting researchers to institutes and centres for terms of 1-2 years.

Knowledge Transfer and Commercialization

McMaster Innovation Park is a critical asset to the University’s research efforts. We need to ensure that its mandate aligns with and leverages our overall strengths, furthers economic and social development, and increases experiential learning opportunities for our students.

• We will develop space specifically designed for the development and launch of spin-off companies, and setup a process and committee for allocating space on the strength of the potential for commercial success and opportunities for diverse teams of researchers.
• We will develop space for more established firms that relate directly to the university’s research priorities and whose presence will aid the development of spin-offs and further interest in research at the university.
• We will develop specific programs that commit to equity and diversity in entrepreneurship to foster fresh ideas and perspectives that will lead to business success.
• We will ensure that knowledge transfer impacts (e.g., commercialization or public policy improvements) are fully recognized and rewarded in tenure, promotion and annual performance reviews and that emerging areas of research and non-traditional scholarship are similarly recognized and rewarded.
• We will establish a network of successful entrepreneurs to facilitate faculty members’ effort to commercialize their research.
• As part of our commitment to the long-term sustainability of innovation at McMaster, we will continue to promote an understanding of the critical importance of foundational research to knowledge transfer, commercialization and development of public policies.

Major Research Applications

Many funding organizations, including the Tri-Agency Councils, offer granting programs to support large, complex, interdisciplinary research projects. Many such programs require a financial contribution from the academic institution or other partners and McMaster has made provision to provide such support. Other programs do not necessarily require a contribution, but a commitment from the University can increase the chances of success, particularly when the project is large enough to need administrative support or a project manager and the costs are not covered by the grant itself.
• We will initiate a competitive fund to support major grant applications.
• We will continue to provide competitive internal funding for interdisciplinary research programs that are designed to lead to much larger, externally funded programs.
• We will develop a mentoring program to help faculty seeking partners for SSHRC-based partnership grant programs.
• We will develop a stronger, more competitive, internal review process designed to maximize the success of researcher applications to major granting programs and funding competitions that place a limit on the dollar amount and/or number of applications the university can submit.
• We will ensure that all researchers and all faculties have access to these initiatives.

Outreach, Communication and Partnerships

McMaster recognizes the importance of communication and outreach activities related to our research programs. Indeed, some Tri-Agency programs now require that a certain proportion of allocated funding be dedicated to such work. Our efforts to improve our activities in this area will be directed to increasing collaboration and cooperation across the University, as well as with external partners.

• We will strengthen relationships between the Office of the Vice-President, Research, Associate Deans of Research and Research Facilitators.
• We will build synergies between the Office of the Vice-President, Research, the faculties, the Office of Graduate Studies, and the Community Engagement Office to capitalize on knowledge mobilization efforts and outreach opportunities – through both faculty and graduate student opportunities.
• The Office of the Vice-President, Research, will leverage opportunities with the Office of University Advancement to ensure our success stories are told and to help attract research support.
• We will work to increase our level of partnership with Hamilton Health Sciences and St. Joseph’s Health Care and focus cross-institutional research teams on some of the major concerns affecting the health of Canadians and people around the world.
• We will work to strengthen existing university partnerships with our sister institutions (e.g., the Advanced Manufacturing Consortium with the University of Waterloo and Western University) and build relationships with other potential partners (e.g., University of Guelph and University of Toronto), in an effort to support large, complex research programs and make effective use of research infrastructure.
• The Office of the Vice-President, Research, will work with the Office of International Affairs to build on existing, and identify potential, global research partnerships.
Measuring for Success

It will be critically important for the University to monitor its progress as it works to build upon the excellence of McMaster’s research enterprise.

- We will develop a series of metrics that will allow us to extract relevant and useful data about our research progress, compare ourselves to peer institutions, and evaluate the results of our efforts by department, faculty and at an institutional level.
- The Provost and Vice-President, Research, will review these results annually and, where warranted, approach Deans for plans on how they will work to improve the results within their particular faculty.
To : Senate

From : Christina Bryce
Assistant Graduate Secretary

Re : Report from Graduate Council

At its meetings on December 5th and January 16th, Graduate Council approved the following for recommendation to Senate:

For Approval:

1. **New Program Proposal: Ph.D. in Statistics (attachment)**

The proposed Ph.D. in Statistics is a research-focused program that will train students to develop theory, methods, and tools for the analysis of increasingly diverse emerging data types. Not surprisingly, the recent explosion of interest in all things related to data has resulted in a notable increase in the number of graduate students in the Ph.D. program in Mathematics choosing to specialize in Statistics. However, the lack of a dedicated Ph.D. program in Statistics is a limiting factor in further growth. This proposal will remove this limiting factor and allow the growth of a unique Ph.D. program in Statistics. The proposed program is unique in that it combines a traditional Ph.D. program in Statistics, covering many areas of research, with an unusually significant research strength in computational statistics, which is a very important area of training in this data-centric era. In fact, the training in computational statistics that the proposed program will deliver is an essential component of the highly-skilled workforce for which Ontario is striving.

This proposal was also approved at the January 17th, 2018 meeting of the University Planning Committee.

2. **New Program Proposal: M.Sc. in Psychotherapy (attachment)**

The MSc in Psychotherapy will be a professional, course-based degree that will include several experiential training opportunities to prepare students for a career as psychotherapy practitioner. The focus of the M.Sc. will be to provide students with a solid understanding of and competency in the delivery of evidence-based psychotherapies for a range of mental health disorders and related problems. During the completion of coursework and clinical practicum placements, students will also be exposed to opportunities to acquire and demonstrate effective communication, critical thinking and problem-solving skills. Overall, the aim of the
M.Sc. in Psychotherapy Program is to offer students an academic and clinical learning experience that includes theoretical knowledge of mental health disorders and evidence-based psychotherapies and applied clinical skill development with direct supervision, in order to prepare them for a career as an independent psychotherapy practitioner.

This proposal was also approved at the January 17th, 2018 meeting of the University Planning Committee.

3. Faculty of Business

Change to Admission Requirements (M.B.A.) – Accelerated
The program recommended that the academic admission requirements be changed to a B grade or higher in the final two years of a recognized undergraduate business program. The former practice was to map specific undergraduate courses to the 600-level MBA courses which are no longer offered in the new first year curriculum. The intent of the Accelerated Program was to offer students with an undergraduate degree in business an opportunity to complete a more streamlined MBA program, focusing on senior level courses. The current admission criteria no longer supports that intent, as it is mapped to outdated curriculum.

Change to Admission Requirements - EMBA
To further distinguish the EMBA program from the existing MBA program and proposed new Part-Time MBA program, the admission requirements of the program were adjusted to stress the importance of significant managerial experience. The admission requirements will now state that applicants are typically expected to have 7+ years of managerial experience.

The program also proposed a change to their admission requirements around exceptions (non-degree applicants). These candidates will now be expected to have a minimum of 10 years of managerial experience and the academic director of the program will determine whether or not a GMAT is required for exceptions on a case-by-case basis.

These changes will be included in the next Graduate Calendar, effective September 2018.

4. Faculty of Social Sciences

Labour Studies
Program Name Change (M.A.)
The program would like to replace their current name ‘Work & Society’ with ‘Labour Studies’ to align the name of their Master’s program with their B.A. and Ph.D. programs.

This change will be included in the next Graduate Calendar, effective September 2018.

Social Work
Addition of Part-Time Options (M.S.W. and G.Dip.)
The program proposed the addition of a part-time option for their Critical Leadership in Social Services and Communities stream within their M.S.W. and within the graduate diploma of the same name. This is intended to add additional flexibility for students interested in the programs.

This change will be included in the next Graduate Calendar, effective September 2018.

For Information:

5. Faculty of Business
Change to Calendar Copy (M.B.A) - Accelerated
The program proposed a change to their calendar copy, changing references to program length to the number of expected courses students are taking.

This change will be included in the next Graduate Calendar, effective September 2018.

6. Faculty of Health Sciences
Global Health
Change to Calendar Copy – Program Length (M.Sc.)
The program proposed a change to their calendar copy describing program length emphasizing that thesis students should expect to spend 16-20 months completing a thesis, rather than the 12-16 months currently stated and adjusting the length of time for the Field Practicum from 4-8 weeks to 8 weeks to 3 months. Since the program’s initial development it has been noted that the calendar wording regarding thesis expectations do not match the current reality for thesis students as many do not complete within 16 months. Similarly student practicums are typically 8 weeks or longer. These changes will better reflect the current reality while still aligning with the program’s learning objectives.

These changes were also approved by the Faculties of Business and Social Sciences and will be included in the next Graduate Calendar, effective September 2018.

7. Faculty of Social Sciences
Social Work
New Program Calendar Copy (G.Dip.)
The program submitted their calendar copy for the new Graduate Diploma in Community-Engaged Research and Evaluation, launching in the 2018/2019 academic year.

This change will be included in the next Graduate Calendar, effective September 2018.
NEW PROGRAM PROPOSAL FOR
Ph.D. in Statistics
Date: October 24, 2017
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PROGRAM

1.1 PROGRAM DESCRIPTION
The proposed Ph.D. in Statistics is a research-focused program that will train students to develop theory, methods, and tools for the analysis of increasingly diverse emerging data types. Not surprisingly, the recent explosion of interest in all things related to data has resulted in a notable increase in the number of graduate students in the Ph.D. program in Mathematics choosing to specialize in Statistics. However, the lack of a dedicated Ph.D. program in Statistics is a limiting factor in further growth (see Section 1.6.II). This proposal will remove this limiting factor and allow the growth of a unique Ph.D. program in Statistics. The proposed program is unique in that it combines a traditional Ph.D. program in Statistics, covering many areas of research, with an unusually significant research strength in computational statistics, which is a very important area of training in this data-centric era. In fact, the training in computational statistics that the proposed program will deliver is an essential component of the highly-skilled workforce for which Ontario is striving.

1.2 PROPOSAL PREPARATION AND CONSULTATION PROCESS
Dr. Paul McNicholas was assigned responsibility for taking the lead in the preparation of this proposal. As part of the process, other statistics Ph.D. programs in Canada were studied. The Faculty Dean and AVP and Dean of Graduate Studies were involved over various stages of drafting. There was broad consultation within, and beyond, the department. Notably, this includes a retreat of all concerned faculty, where the a near-final draft of the proposal was discussed and there was clear consensus on moving forward.

1.3 CONSISTENCY WITH MCMASTER’S MISSION AND ACADEMIC PLAN
i. McMaster’s Strategic Mandate Agreement:
The proposed program directly addresses the “Science and Discovery” institutional strength, as articulated in the SMA (2014–2017). At the time of writing, SMA2 is not available; however, it is known that the institutional strengths and priorities will remain unchanged. While research in statistics is specialized, research that utilizes statistics cuts across almost every area of science and discovery. The SMA describes science and discovery as “the foundation for innovation and discovery at McMaster”. Indeed, in this big data era, much of science and discovery depends on the availability of appropriate statistical techniques and expertise; the proposed program will help to deliver both. The SMA also states that:

Inquiry-based research programs in the sciences… inculcate the desire in McMaster students to create new knowledge and seek answers to far-reaching questions that challenge our understanding of ourselves, the
world, and the universe.

Nowadays, seeking such answers almost inevitably entails dealing with big or otherwise complex data sets. The proposed program will train students to tackle such problems by developing and implementing cutting edge statistical methods in a wide variety of areas of expertise (cf. Section 1.1).

The area of growth addressed by the proposed program is “Science and Engineering”. The SMA explains that “the Faculty [of Science] sees a tremendous opportunity to translate research outcomes into practical, advanced training for Science graduates”. The proposed program aims to seize on just such an opportunity. In addition to the vibrant statistics research that is ongoing at McMaster University, there is research across campus that depends on statistics and, indeed, that drives some of the fundamental statistical research that is being carried out. Indeed, faculty listed in Section 2.6.VI are involved with several institutes across campus, e.g., the Michael G. DeGroote Institute for Infectious Disease Research (IIDR), the McMaster Autism Research Team (MacART), the McMaster Data Science Institute (MacData), the Physical Activity Centre for Excellence (PACE), and the Genetic and Molecular Epidemiology Laboratory (GMEL).

ii. McMaster’s current priorities:

The proposed program will address all four of McMaster’s identified priorities:

- **The Student Experience**
  The proposed program will foster academic and intellectual growth, as well as interactions between graduate students, faculty, the university, and the wider research community. Experiential learning is an important component in the proposed program (see Section 4.4). In keeping with the current tradition for students studying Statistics within the Probability and Statistics specialization of the Mathematics Ph.D. program, students in the proposed program will have the opportunity to be involved in collaborations between their supervisor and researchers in other departments across campus. Accordingly, there will be a clear element of interdisciplinarity in the proposed program. Finally, in carrying out the research required for the thesis, students will be engaging in self-directed learning.

- **Community Engagement**
  As already mentioned, the proposed program will foster interactions with the wider research community – within Ontario, Canada, and abroad. Work will be disseminated to the community both by presentations at conferences, publication of preprints in open access venues (e.g., [www.arXiv.org](http://www.arXiv.org)), publication of papers in peer-reviewed journals, and publication of the thesis.
• **Research**  
As part of a research-intensive program, students will be immersed in a vibrant research environment, comprising fellow students, postdoctoral researchers, and faculty.

• **Internationalization**  
Student participation in seminars on campus will help to imbue a sense of the importance of their work on an international level. As is currently the case for students studying Statistics within the Probability and Statistics specialization of the Mathematics Ph.D. program, there will also be the opportunity to travel to international conferences and meetings, supported by supervisor funding and/or the various travel grants that are available.

1.4 **PROGRAM LEARNING OUTCOMES**  
The proposed program will:

• **PLO1** Provide graduates with advanced education, knowledge, and technical expertise in the broad area of statistics.

• **PLO2** Produce graduates with both a broad understanding of the discipline of Statistics as well as in-depth knowledge of the literature surrounding the sub-discipline that forms the topic of the thesis.

• **PLO3** Ensure that, at completion, students can effectively communicate their knowledge of the discipline, and results of their research, both orally and in writing.

• **PLO4** Foster academic and intellectual growth, as well as interactions between graduate students, faculty, the university, and the wider research community – within Ontario, Canada, and abroad.

• **PLO5** Develop highly competent, independent, and creative statisticians who will provide leadership in academic institutions and in research and development within industry or government agencies.

• **PLO6** Help address the acute shortage of highly qualified statisticians, especially those trained to the doctoral level, who understand theory and can develop computational and statistical tools for the analysis of diverse emerging data types.

Note that, while our master’s program, as well as programs offered at other institutions, have helped to address the problem highlighted in PLO6, a dearth of such expertise at the doctoral level remains. A continuing failure to address this shortage will result in lost opportunities in every area of the economy as well as in areas of notable societal importance such as the healthcare industry. In particular, the computational statistics research focus in the proposed program will help to address this failure.
1.5 CONSISTENCY WITH DEGREE LEVEL EXPECTATIONS

<table>
<thead>
<tr>
<th>UNDERGRADUATE DLEs</th>
<th>GRADUATE DLEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth and Breadth of Knowledge</td>
<td>Depth and Breadth of Knowledge</td>
</tr>
<tr>
<td>Knowledge of Methodologies</td>
<td>Research and Scholarship</td>
</tr>
<tr>
<td>Application of Knowledge</td>
<td>Application of Knowledge</td>
</tr>
<tr>
<td>Communication Skills</td>
<td>Communication Skills</td>
</tr>
<tr>
<td>Awareness of Limits of Knowledge</td>
<td>Awareness of Limits of Knowledge</td>
</tr>
<tr>
<td>Autonomy and Professional Capacity</td>
<td>Autonomy and Professional Capacity</td>
</tr>
</tbody>
</table>

Graduate DLE | By the end of this program, students will...
--- | ---
Depth and Breadth of Knowledge | …have gained advanced education, knowledge, and technical expertise in the broad area of Statistics (PLO1).
Research and Scholarship | …have undergone academic and intellectual growth, and interacted with other graduate students and faculty within the university and the wider research community (PLO 4).
 | …be highly competent, independent, and creative statisticians (PLO5).
 | …be highly qualified statisticians who have been trained to understand theory and develop computational and statistical tools for the analysis of the increasingly diverse emerging data types (PLO6).
Application of Knowledge | …have been trained to understand theory and develop computational and statistical tools for the analysis of the increasingly diverse types of emerging data types (PLO6).
Communication Skills | …be able to effectively communicate their knowledge of the discipline, and results of their research, both orally and in writing (PLO3).
Awareness of Limits of Knowledge | …have a broad understanding of the discipline of Statistics as well as in-depth knowledge of the literature surrounding the sub-discipline that forms the topic of the thesis (PLO3).
Autonomy and Professional Capacity | …be highly competent, independent, and creative statisticians who will provide leadership in academic institutions and in research and development within industry or government agencies (PLO5).

1.6 DEMAND FOR PROGRAM

I. Evidence of Societal/Labour Market Need

The Ontario Ministry of Advanced Education and Skills Development collect and publish labour market information; this is available at [https://www.app.tcu.gov.on.ca/eng/labourmarket/ojf/findoccupation.asp](https://www.app.tcu.gov.on.ca/eng/labourmarket/ojf/findoccupation.asp). The classifications used are based on the National Occupational Classification system; cf. [http://www.statcan.gc.ca/eng/subjects/standard/noc/2011/index](http://www.statcan.gc.ca/eng/subjects/standard/noc/2011/index). Unfortunately, the NOC does not have a separate category for “Statisticians”, including them under “Mathematicians, statisticians and actuaries” (2161). Worse still, the Labour Market Information published by the province, i.e., at [https://www.app.tcu.gov.on.ca/eng/labourmarket/ojf/findoccupation.asp](https://www.app.tcu.gov.on.ca/eng/labourmarket/ojf/findoccupation.asp), does not include this occupation classification. There are, however, two
occupations that statisticians can be considered part of: Information systems analysts and consultants (2171) and Computer and Information Systems managers (0213). Demand for 2171 and 0213 is listed as Above Average for the periods 2009-2013 and 2013-2017; however, both occupational classifications are too broad to facilitate an accurate assessment of the labour market for statisticians.

Borrowing information from south of the border leads to a much better assessment of demand for statisticians, as follows. The United States Department of Labor, Bureau of Labor Statistics is a little ahead of their Provincial and Federal counterparts in Canada in using a specific category “Statisticians”. The relevant section of their Occupational Outlook Handbook (http://www.bls.gov/ooh/math/statisticians.htm) gives projections for the period 2014-2024, stating, inter alia, that:

*Employment of statisticians is projected to grow 34 percent from 2014 to 2024, much faster than the average for all occupations. Growth is expected to result from more widespread use of statistical analysis to make informed business and healthcare decisions.*

Given the similarities between the labour market in Southern Ontario and much of the United States, it is reasonable to assume similar robust growth in demand for statisticians on this side of the border. Furthermore, there is strong anecdotal evidence of demand for graduates form the master’s in Statistics program as well as from the Probability and Statistics specialization of the Mathematics Ph.D. program. This includes recent graduates taking jobs with large financial institutions, medical research companies, and other private organizations. Some concrete examples, for graduates from the Probability and Statistics specialization of the Mathematics Ph.D. program, are given in the appendix.

In addition to providing highly trained researchers in statistics, the proposed program is unique in that it combines a traditional Ph.D. program in Statistics, covering many areas of research, with an unusually significant research strength in computational statistics. In this data-centric era, computational statistics is a crucially important area of training. In fact, the training in computational statistics that the proposed program will deliver is an essential component of the highly-skilled workforce for which Ontario is striving.

II. Evidence of Student Demand

The last few years has seen a notable increase in the number of students studying Statistics within the Probability and Statistics specialization of the Mathematics Ph.D. program rising from 9 in 2011 to 17 in 2016. This growth in Ph.D. level studies in statistics is encouraging; however, further growth is limited by the absence of a Ph.D. program in Statistics. For one, the inability
to explicitly advertise Ph.D. studies in statistics at McMaster University is a significant disadvantage; some students interested in studying statistics may not even look at a program entitled Mathematics. For those who do consider it, the actual structure of the Mathematics Ph.D. program may be unattractive to students who wish to study statistics, e.g., the first part of the comprehensive exam focuses on topics in mathematics (including probability) but not on statistics.

A major reason for the development of the present proposal is that there would be more applicants to study statistics at the Ph.D. level at McMaster University if such studies could be formalized and advertised as a Ph.D. in Statistics. The rationale is that a Ph.D. in Statistics would be more attractive than a Ph.D. in Mathematics with a specialization in Probability and Statistics. To test this theory, a short survey was administered to the STATS 780 (Data Science) class on November 30, 2016. This class was chosen because, in addition to all the new master’s students in Statistics, the class contained some Mathematics Ph.D. students in the Probability and Statistics specialization as well as more than ten graduate students from other programs. Participation in the survey was voluntary (26 students responded), students did not have advance notice that it would take place, nothing about the proposed program had been previously discussed during the class, and completed surveys are anonymous.

The key question posed was “Compared to a Ph.D. in Mathematics with a specialization in Probability and Statistics, a Ph.D. in Statistics is:” and students were asked to circle one of five options: much more attractive; more attractive; neither more nor less attractive; less attractive; much less attractive. Notably, no student selected either of the latter two options and 24 of the 26 students responded that a Ph.D. in Statistics is (much) more attractive. All three of the students currently enrolled in the Probability and Statistics specialization of the Mathematics Ph.D. indicated that a Ph.D. in Statistics is much more attractive, as did 10 of the 13 master’s students in Statistics. The responses are summarized, by student group, in Figures 1-3.
Figure 1: Responses to the question “Compared to a Ph.D. in Mathematics with a specialization in Probability and Statistics, a Ph.D. in Statistics is:” by students currently enrolled in the Statistics master’s program.

Figure 2: Responses to the question “Compared to a Ph.D. in Mathematics with a specialization in Probability and Statistics, a Ph.D. in Statistics is:” by students currently enrolled in a Ph.D. program (3 in Mathematics and 5 in CSE).
Figure 3: Responses to the question “Compared to a Ph.D. in Mathematics with a specialization in Probability and Statistics, a Ph.D. in Statistics is:” by students currently enrolled in programs not included in Figures 1 and 2.

In addition to its limited attractiveness to students, the present system of having Statistics Ph.D. students embedded within other graduate programs at McMaster (primarily the Mathematics Ph.D. program) is not ideal as it limits the type of training that can be provided. This system was workable when there were a relatively small number of Ph.D. students interested in Statistics, and provided their research topics fit within the other programs. That is no longer the case. The tables in the Appendix give the number of Ph.D. students at McMaster University supervised by our Category 1 faculty (see Section 6.4.VI), as well as the jobs that many of them now hold, and clearly reflect the growing interest among doctoral students for training in Statistics. Understandably, it has become increasingly difficult to accommodate the breadth of research interests using the present system. Added to this is the recent appointment of Dr. Paul McNicholas as Canada Research Chair (Tier I) in Computational Statistics. His added expertise, together with the ever-growing demand for doctoral training in Statistics, provides a strong rationale for the establishment of a separate Ph.D. program.

In terms of student demand, it is also notable that around 25% of students completing the M.Sc. in Statistics go on to Ph.D. studies. The M.Sc. program in Statistics was started about four decades ago and involves faculty supervisors from such diverse departments/faculties as Mathematics and Statistics, Clinical Epidemiology and Biostatistics (now Health Research Methods, Evidence and Impact), Economics, and Business. Besides the roughly 25% of graduates who have gone on to further study, others have gone on to successful careers in health, banking, finance, and industry, where there is a strong demand for workers with training in analytics and statistics.
III. Justifiable Duplication

There are several Ph.D. programs in Statistics in Ontario, most notably at the University of Toronto and the University of Waterloo. There is no Ph.D. program in Statistics in Ontario that mixes the traditional elements of a Ph.D. program with significant research focus on computational statistics. To put meat on the bones of this claim, at present, around half of the students currently in the Probability and Statistics specialization of the Mathematics Ph.D. program are studying computational statistics, as are around one-third of the thesis students in the M.Sc. in Statistics. Even without having a dedicated Ph.D. program in Statistics, this is already the largest concentration of graduate students studying computational statistics in statistics programs in Ontario.

As home to the Canada Research Chair in Computational Statistics as well as a large concentration of statistics graduate students studying computational statistics, McMaster University is uniquely positioned to deliver a program that combines a traditional Ph.D. program in Statistics, covering many areas of research, with an unusually significant research strength in computational statistics. In addition to the significant research strength in computational statistics, the core faculty in the program have expertise covering a broad range of areas, including applied statistics, bioinformatics, biostatistics, classification, ensemble methods, evolutionary algorithms, meta-analysis, mixture models, multivariate statistics, order statistics, probability, statistical genetics, statistical inference, statistical methodology, survival analysis, and theoretical statistics.

1.7 DEGREE NOMENCLATURE

The proposed program is a “classic” research-focused Ph.D. program. The field of study is Statistics. Upon approval of the proposal Ph.D. program, the Probability and Statistics specialization of the Mathematics Ph.D. program will be phased out without harm to current students. Specifically, no new students will be admitted to the specialization, and all current students will be given the option of transferring into the proposed Ph.D. program.

ADMISSION & ENROLMENT

2.1 ADMISSION REQUIREMENTS

Prior to admission, all successful applicants will have a supervisor that is willing to guide them and provide a stipend. This is the best and most practical way to ensure sufficient research potential. Beyond this requirement, the specifics depend on whether an applicant has an appropriate master’s degree, as follows.
Applicants with a suitable master's degree.
Successful applicants will have a master's degree equivalent to the M.Sc. in Statistics with thesis option at McMaster University with GPA equivalent to at least B+ over the last two years equivalent of full time study.

Applicants currently enrolled in a master's degree (transfer option).
Students in the M.Sc. in Statistics program, with thesis option, at McMaster University who have completed the course requirements for the M.Sc. with GPA equivalent to at least B+ may transfer into the Ph.D. in Statistics.

Direct entry.
Successful applicants will have a bachelor's degree with a major in Statistics with GPA equivalent to at least B+ over the last two years equivalent of full time study.

2.2 ENROLMENT PLANNING AND ALLOCATIONS

The following forecast starts with five new students per year and allows for a small increasing uptick based on the existence and advertising of a separate Statistics program. Of course, neither the increase in the quality of applicants nor the deeper applicant pool that will come with the proposed program is reflected in these forecasts. Note that continuing students in Year 1 are expected transfers from the Probability and Statistics specialization of the Mathematics Ph.D. program; we expect two students to transfer from each of the four years of the program. Note also that it is assumed that two students complete in each of the first four years of the program; this corresponds to completing students who transferred from the Probability and Statistics specialization of the Mathematics Ph.D. program. However, it should also be noted that this number would be expected to increase in Year 5 and beyond, as students who enter the new program in Year 1 started to complete.

<table>
<thead>
<tr>
<th>Program Year</th>
<th>New</th>
<th>Continuing</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>4</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>Year 2</td>
<td>4</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>Year 3</td>
<td>5</td>
<td>12</td>
<td>17</td>
</tr>
<tr>
<td>Year 4</td>
<td>5</td>
<td>15</td>
<td>20</td>
</tr>
</tbody>
</table>

Crucially, the proposed Ph.D. program in Statistics will not just lead to an increase in the quantity of new students but also to an increase in the quality of new students. This increase in quality will be the result of a richer applicant pool. Furthermore, the proposed Ph.D. program in Statistics will have a positive impact on the M.Sc. in Statistics by increasing the quality and quantity of applications. The current situation, whereby the M.Sc. in Statistics program will remain a terminal program for the majority of students, will continue. However, those who
wish to continue their studies will now have a Ph.D. program in Statistics to go into; this will be particularly important for students who want to study Statistics but would not wish to pursue a specialization within a Mathematics Ph.D. program.

2.3 ALTERNATIVE REQUIREMENTS

Applicants who do not hold a suitable master’s degree (see Section 2.1), are not enrolled in the M.Sc. in Statistics program at McMaster University, and do not hold a suitable bachelor’s degree (for direct entry purposes, see Section 2.1), may follow an alternative admission route whereby they first enter the M.Sc. in Statistics program and later apply to transfer into the Ph.D. in Statistics program. Note that this route is also open to students who have a suitable bachelor’s degree but do not have the supervisory support to take the direct entry route.

STRUCTURE

3.1 ADMINISTRATIVE, GOVERNANCE AND COMMUNICATION

The administrative, governance, and communication responsibilities for the Ph.D. in Statistics will be shared by the Associate Chair (Statistics) and the Program Committee. The day-to-day responsibilities will be discharged by the Associate Chair (Statistics). Decisions on admissions, student progress, and all other matters will be taken by majority decision of the Program Committee. The Program Committee will comprise the Associate Chair (Statistics), who will act as chair, as well as faculty members who are involved in supervision in the program.

3.2 STRUCTURE AND REGULATION

Course Requirements
Students who have completed a suitable master’s degree (cf. Section 2.1), are transferring into the Ph.D. program while also completing the M.Sc. in Statistics degree, or have been granted direct entry into the program are required to take two 700 level STATS courses (total of 6 units). Students transferring into the Ph.D. program in Statistics without taking the M.Sc. in Statistics degree must first complete the course requirements for the M.Sc. in Statistics with a GPA of at least 10. Because these course requirements exceed the two level 700 STATS courses (total of 6 units) required for other students, no additional courses are required; however, such students must pass a Transfer Exam administered by the Supervisory Committee prior to transferring. Students entering the Ph.D. program via direct entry (see Section 2.1) will be required to take four 700 level STATS courses (total of 12 units).

Comprehensive Exam
During their course of study, doctoral candidates will have to pass a
Comprehensive Examination. The purpose of this examination is to ensure that the candidate possesses sufficient knowledge and maturity in statistics. The Comprehensive Examination will be in two parts.

- **Part I** will be a written examination.
- **Part II** will take the form of a written literature review, research proposal, and an oral examination.

### 3.3 PROGRAM LENGTH & PROGRESSION

The normal duration of the program is four years of full-time study. During this time, students will attend the weekly statistics seminars as well as other relevant talks, e.g., as may take place at the departmental colloquium. The following is the normal progression for students who have completed a suitable master’s degree or are direct entry students (cf. Section 2.1):

<table>
<thead>
<tr>
<th>Term</th>
<th>Milestone</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Two 700 level STATS courses are completed.</td>
</tr>
<tr>
<td>2</td>
<td>Completion of Part I of the Comprehensive Exam.</td>
</tr>
<tr>
<td></td>
<td>Preparation for Part II begins.</td>
</tr>
<tr>
<td>4</td>
<td>Part II of the Comprehensive Exam is completed.</td>
</tr>
<tr>
<td>11</td>
<td>Complete draft of thesis to supervisory committee.</td>
</tr>
<tr>
<td>12</td>
<td>Thesis defence.</td>
</tr>
</tbody>
</table>

The following is the normal progression for Students transferring into the Ph.D. program in Statistics without completing the M.Sc. in Statistics (note that Term 1 is the first term of graduate studies, with the student transferring to the Ph.D. program effective Term 3):

<table>
<thead>
<tr>
<th>Term</th>
<th>Milestone</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Courses are taken as part of M.Sc. program.</td>
</tr>
<tr>
<td>2</td>
<td>Course requirements for the M.Sc. program are completed.</td>
</tr>
<tr>
<td>3</td>
<td>Completion of Transfer Examination and transfer into Ph.D. program.</td>
</tr>
<tr>
<td></td>
<td>Completion of Part I of the Comprehensive Exam.</td>
</tr>
<tr>
<td>4</td>
<td>Preparation for Part II of the Comprehensive Exam begins.</td>
</tr>
<tr>
<td>6</td>
<td>Part II of the Comprehensive Exam is completed.</td>
</tr>
<tr>
<td>13</td>
<td>Complete draft of thesis to supervisory committee.</td>
</tr>
<tr>
<td>14</td>
<td>Thesis defence.</td>
</tr>
</tbody>
</table>

The following is the normal progression for Students transferring into the Ph.D. program in Statistics while also completing the M.Sc. in Statistics (note that Term 1 is the first term of graduate studies, with the student transferring to the Ph.D. program effective Term 4):

<table>
<thead>
<tr>
<th>Term</th>
<th>Milestone</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Courses are taken as part of M.Sc. program.</td>
</tr>
<tr>
<td>2</td>
<td>Course requirements for the M.Sc. program are completed.</td>
</tr>
<tr>
<td>3</td>
<td>Completion of Transfer Examination and transfer into Ph.D. program.</td>
</tr>
<tr>
<td></td>
<td>Completion of Part I of the Comprehensive Exam.</td>
</tr>
<tr>
<td>4</td>
<td>Preparation for Part II of the Comprehensive Exam begins.</td>
</tr>
<tr>
<td>6</td>
<td>Part II of the Comprehensive Exam is completed.</td>
</tr>
<tr>
<td>13</td>
<td>Complete draft of thesis to supervisory committee.</td>
</tr>
<tr>
<td>14</td>
<td>Thesis defence.</td>
</tr>
<tr>
<td>Term</td>
<td>Milestone</td>
</tr>
<tr>
<td>------</td>
<td>-----------</td>
</tr>
<tr>
<td>1</td>
<td>Courses are taken as part of M.Sc. program.</td>
</tr>
<tr>
<td>2</td>
<td>Course requirements for the M.Sc. program are completed.</td>
</tr>
<tr>
<td>3</td>
<td>Research towards the M.Sc. thesis is carried out.</td>
</tr>
</tbody>
</table>
| 4    | Transfer into Ph.D. program.  
Work towards the M.Sc. thesis is completed.  
The M.Sc. thesis is defended.  
Two additional 700 level STATS courses are completed. |
| 5    | Completion of Part I of the Comprehensive Exam.  
Preparation for Part II of the Comprehensive Exam begins. |
| 7    | Part II of the Comprehensive Exam is completed. |
| 14   | Complete draft of thesis to supervisory committee. |
| 15   | Thesis defence. |

**CURRICULUM AND TEACHING**

### 4.1 PROGRAM CONTENT

#### Courses
The following 700 level courses will be of interest to Ph.D. students:

- STATS 743 – Foundations of Statistics (6 units)
- STATS 744 – Special Topics (3 units)
- STATS 752 – Linear Models and Experimental Designs (3 units)
- STATS 754 – Stochastic Processes and Applications (3 units)
- STATS 758 – Multivariate Analysis and Applications (3 units)
- STATS 761 – Advanced Time Series Analysis (3 units)
- STATS 780 – Data Science (3 units)
- STATS 794 – Directed Reading (3 units)

Of these courses, STATS 780 covers a hot and emerging topic in statistics. Depending on the topic at hand, STATS 744 and 794 can also consider emerging topics. In fact, based on recent offerings of STATS 749, it often covers emerging topics.

#### Comprehensive Exam
Part I of the comprehensive is designed to test a student’s breadth of knowledge at a basic level. Part II of the comprehensive exam tests a student’s depth of knowledge in topics directly related to the thesis topic and takes the form of a research proposal.

#### Thesis
The completion of the thesis requires that the student remains up-to-date on developments in the field, even after completion of the Comprehensive Exam. The thesis must be written as specified in the Graduate Calendar.
4.2 PROGRAM INNOVATION

The proposed Ph.D. program in Statistics covers many areas of research (see Section 1.1 for details). However, it will be the only statistics Ph.D. program in Ontario that mixes the traditional elements of a Ph.D. program with significant research focus on computational statistics. This is a major draw when one considers the growing importance of computationally intensive approaches in the “big data” era. Around half of the students currently focusing on statistics through the Probability and Statistics specialization are focused on computational statistics. This, already, is the largest concentration of Ph.D. students studying computational statistics in a statistics program in Ontario. More generally, a dedicated Ph.D. program in Statistics will allow for easier adaption to new data types and methodology as they arise in the future.

4.3 MODE(S) OF DELIVERY

As a research-intensive program, the Ph.D. in Statistics will be delivered primarily via regular meetings between the student and their supervisor. This “apprentice” system, whereby the student learns from working under the guidance of her/his supervisor, has proven extremely effective in the training of Ph.D. students. In general, supervisors will be expected to meet with their supervisees regularly. Supervisory committee meetings, which will take place at least annually, will be an important means of tracking progress. Statistics seminars, department colloquia, and other seminars on campus, e.g., the MacData seminars and the Computational Sciences and Engineering (CSE) seminars in Scientific Computing, will also provide students with exposure to new research ideas. The same is true of conferences. Students will also be able to avail themselves of the benefits of McMaster’s membership of the Canadian Statistical Sciences Institute (CANSSI), e.g., through participation in CANSSI sponsored workshops or through reciprocity agreements with the Statistical and Applied Mathematical Sciences Institute (SAMSI), and the Fields Institute, e.g., via seminars and workshops.

4.4 EXPERIENTIAL LEARNING

Statistics, as a discipline, is inherently applicable to real-world problems and to problems that arise in virtually all other areas of endeavor at McMaster University. In keeping with the current tradition for students studying Statistics within the Probability and Statistics specialization of the Mathematics Ph.D. program, students in the proposed program will have the opportunity to be involved in collaborations between their supervisor and researchers in other departments across campus. Such experiences give students hands-on experience working with real problems. In some cases, they lead to co-authorship of work in subject matter journals. In addition to such collaborations, there are several resources on campus that students could turn to for experiential learning opportunities; these include a Statistics Canada Research Data Centre and ICES (Institute for Clinical
4.5 ACCESSIBILITY

There are no impediments to accommodations in the proposed Ph.D. program that come within McMaster’s policy and recommendations (http://accessibility.mcmaster.ca/). This policy states that accommodations are a shared responsibility between the individuals requesting and providing the accommodation and that the nature of an accommodation is specific to the individual and should be determined on a case-by-case basis. For example, the classrooms and workspaces that will be utilized all meet high standards of accessibility. Academic accommodations such as special conditions for exams (including the Comprehensive Exam), other coursework, and the thesis defence will be arranged on a case-by-case basis.

4.6 RESEARCH REQUIREMENTS (IF APPLICABLE)

Development of a research proposal is required towards completion of the Comprehensive Exam (cf. Section 4.1). Thereafter, a thesis is required, which is a significant research undertaking. Research completed towards the thesis is expected to be original and result in the publication of papers in high-quality peer-reviewed journals. The research carried out and presented in the thesis must represent a significant contribution to the field, i.e., to Statistics.

ASSESSMENT OF LEARNING

5.1 METHODS FOR ASSESSING STUDENTS

Level 700 STATS courses are assessed using a combination of assignments, projects, midterm exams, and final exams. Parts I and II of the Comprehensive Exam are assessed by an examination committee. The thesis is examined by a committee comprising the supervisory committee and an examiner external to the university, in accordance with the Graduate Calendar. Throughout the program, progress is monitored by the supervisor at regular meetings (cf. Section 4.3). Annual, and formal, assessments of progress are made by the supervisory committee and the associated documentation is submitted to the School of Graduate Studies. If needed, supervisory committee meetings may take place more often, e.g., each term.

5.2 CURRICULUM MAP

There follows a table, mapping program learning outcomes to degree level expectations, teaching activities, and assessments.
<table>
<thead>
<tr>
<th>Program Learning Outcomes</th>
<th>Ph.D. DLEs</th>
<th>Program Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PLO1</strong> Provide graduates with advanced education, knowledge, and technical expertise in the broad area of Statistics.</td>
<td>Depth and Breadth of Knowledge</td>
<td>Level 700 STATS courses. Regular meetings with the supervisor. Preparation for the Comprehensive Exam. Statistics seminar series.</td>
</tr>
<tr>
<td><strong>PLO2</strong> Produce graduates with both a broad understanding of the discipline of Statistics as well as in-depth knowledge of the literature surrounding the sub-discipline that forms the topic of the thesis.</td>
<td>Awareness of Limits of Knowledge</td>
<td>Level 700 STATS courses. Regular meetings with the supervisor. Preparation for the Comprehensive Exam. Statistics seminar series. Preparation of the thesis.</td>
</tr>
<tr>
<td><strong>PLO3</strong> Ensure that, at completion, students can effectively communicate their knowledge of the discipline, and results of their research, both orally and in writing.</td>
<td>Communication Skills</td>
<td>Regular meetings with the supervisor. Preparation for the Comprehensive Exam. Preparation of the thesis.</td>
</tr>
<tr>
<td><strong>PLO4</strong> Foster academic and intellectual growth, as well as interactions between graduate students, faculty, the university, and the wider research community – within Ontario, Canada, and abroad.</td>
<td>Research and Scholarship</td>
<td>Statistics seminar series. Department colloquia. Other seminars on campus, e.g., the MacData Seminar. Attendance at conferences and meetings, e.g., the SSC meeting.</td>
</tr>
<tr>
<td><strong>PLO5</strong> Develop highly competent, independent, and creative statisticians who will provide leadership in academic institutions and in research and development within industry or government agencies.</td>
<td>Research and Scholarship Autonomy and Professional Capacity</td>
<td>Preparation for Part II of the Comprehensive Exam. Preparation of the thesis. Statistics seminar series.</td>
</tr>
<tr>
<td><strong>PLO6</strong> To produce graduates who have been trained to understand theory and develop computational and statistical tools for the analysis of the increasingly diverse types of emerging data.</td>
<td>Research and Scholarship Application of Knowledge</td>
<td>Regular meetings with the supervisor. Preparation for Part II of the Comprehensive Exam. Preparation of the thesis. Statistics seminar series. Other seminars on campus, e.g., the MacData Seminar. Attendance at conferences and meetings, e.g., the SSC meeting.</td>
</tr>
</tbody>
</table>

### 5.3 DEMONSTRATING STUDENT ACHIEVEMENT

The ultimate demonstration of student success in the proposed Ph.D. program is the publication of high-quality peer-reviewed publications in impactful journals or other relevant media, e.g., published proceedings or book chapters – this is true regardless of whether the thesis is written as a monograph or as a collection of manuscripts. As students progress through the program, there will be several means to ensure that they are on track to produce such publications. These include regular meetings with the supervisor, annual supervisory committee meetings/reports. Comprehensive Examination, Part II. Thesis defense.
meetings, Part II of the Comprehensive Examination, and the thesis defense.

RESOURCES

6.2 GRADUATE PROGRAMS

i. ADMINISTRATIVE, PHYSICAL AND FINANCIAL RESOURCES

The administrative, physical, and financial resources necessary for the proposed program are already in place in support of the existing Probability and Statistics specialization of the Mathematics Ph.D. program.

ii. LIBRARY, TECHNOLOGY, AND LABORATORY RESOURCES

Although these needs are identical to those currently present in support of the Probability and Statistics specialization of the Mathematics Ph.D. program, details are given for completeness. The vast resources of the McMaster Library system will be critical for research and scholarly work within the proposed Ph.D. program in Statistics. The existing periodical subscriptions include electronic access for the McMaster community to all the relevant international journals on statistics and related disciplines. The Statistics faculty will continue to make recommendations for Library acquisition of hard and electronic copies of important and relevant textbooks. It is also important that students in the proposed Ph.D. program have access to software, most notably R and Python, which are freely available. The typesetting software LaTeX is essential for writing reports, papers, and the thesis; this is also freely available. Students will be able to access desktop computer facilities within the department; however, experience suggests that most have their own laptops. Students conducting research in computational statistics will require access to high-performance computing equipment, which is available though (relatively small) computer clusters within the Department as well as large-scale infrastructure available via SHARCNET – the latter is available through sponsorship from the supervisor.

iii. FACULTY

Faculty Quality

The core faculty for the program are listed in Section 6.2.VI, and include a Distinguished University Professor (Balakrishnan) and two senior research chairs – the John D. Cameron Endowed Chair (Beyene) and a Tier 1 Canada Research Chair (McNicholas). In addition to theoretical excellence, e.g., Balakrishnan is one of the most prolific researchers in statistical theory worldwide, faculty members have demonstrated experience with real-world applications. In fact, some have shown leadership in this regard, e.g., two of the Category 1 faculty are former Presidents of the Business and Industrial Statistics Section of the Statistical
Society of Canada, and one is a member of the CANSSI Industrial Innovation Committee. The core faculty have brought in over $6,000,000 in relevant research funding (i.e., funding that can support personnel) since 2009 and have already supervised 88 Ph.D. students to completion.

**Supervisory Capacity**

Based on the fact that, as of the November 2016 count, there were 17 Ph.D. students studying statistics as part of the Probability and Statistics specialization of the Mathematics Ph.D. program, there is clear supervisory capacity. In all, 14 of these 17 students (~82.4%) are supervised by either Dr. Balakrishnan or Dr. McNicholas. The presence of such productive professors amongst the Category 1 faculty is seen as a distinct advantage of the proposed program. In addition to Drs. Balakrishnan and McNicholas, there are several Category 1 faculty who have previously supervised Ph.D. students and are expected to have better access to students under the proposed program. A three year rolling average of Ph.D. students supervised by our Category 1 faculty (Figure 4) very nicely illustrates supervisory capacity.

Furthermore, with relatively minor involvement from other categories at present, there is certainly potential for growth. Further evidence for the supervisory capacity for the proposed Ph.D. program can be found by considering supervisors for students taking the M.Sc. in Statistics. Of the 29 thesis students entering the M.Sc. program in Fall 2015 or 2016, 25 were/are supervised by faculty in Categories 1 or 2, with Category 1 faculty carrying almost all the supervisory load (24 students).

![Figure 4: Three year rolling average number of Ph.D. degrees awarded to students supervised by Category 1 faculty.](image)
Faculty Research
While research strength in computational statistics is a unique aspect of the proposed program, there is very broad research strength amongst the core faculty (see Section 6.2.VI for a list of core faculty). As mentioned in Section 1.1, there is notable expertise in applied statistics, bioinformatics, biostatistics, classification, ensemble methods, evolutionary algorithms, meta-analysis, mixture models, multivariate statistics, order statistics, probability, statistical genetics, statistical inference, statistical methodology, survival analysis, and theoretical statistics. Whatever the focus of a student's research, they will have some exposure to applications through their research. In fact, the work of core faculty has applications in many areas including biology, business, economics, environmental science, finance, physics, and medicine.

iv. STUDENT FINANCIAL SUPPORT
The competitive level of financial support currently available to students in the Probability and Statistics specialization of the Mathematics Ph.D. program will be available to students in the proposed Ph.D. program. The annual funding will break down as follows, and will be provided for four years. Note that visa students’ tuition bursaries help cancel out the difference in tuition fees between Canadian Citizens and Permanent Residents; however, there will be a very limited number of such bursaries available.

- Canadian Citizens and Permanent Residents
  
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Assistantships</td>
<td>$11,520</td>
</tr>
<tr>
<td>Department Support</td>
<td>$17,500</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$29,020</strong></td>
</tr>
</tbody>
</table>

- Visa holders
  
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Assistantships</td>
<td>$11,520</td>
</tr>
<tr>
<td>Department Support</td>
<td>$19,000</td>
</tr>
<tr>
<td>Tuition Bursary</td>
<td>$  7,600</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$38,120</strong></td>
</tr>
</tbody>
</table>

Some notes on the above tables follow. Department Support represents a combination of grant support, endowment funding (e.g., Britton and/or Stewart funds), scholarships, etc. The Department will discuss, with the School of Graduate Studies, the possibility of creating new scholarships for Ph.D. students in Statistics using the sizable gift recently received from the estate of Jim Stewart. The funding level attached to teaching assistantships given herein is that which is effective September 1, 2017; this funding level is subject to change over time.
v. **FACULTY RESEARCH FUNDING**

The Table provided below is intended to show the amount of funding available to support faculty research and potentially available to support students’ work, either through the provision of stipends or materials for the conduct of the research.

<table>
<thead>
<tr>
<th>Year</th>
<th>Granting Councils</th>
<th>Other Peer Adjudicated</th>
<th>Contracts</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-10</td>
<td>$502,148</td>
<td>$417,986</td>
<td>$50,000</td>
<td>$63,000</td>
</tr>
<tr>
<td>2010-11</td>
<td>$457,528</td>
<td>$402,986</td>
<td>$50,000</td>
<td>$63,000</td>
</tr>
<tr>
<td>2011-12</td>
<td>$465,731</td>
<td>$375,486</td>
<td>$50,000</td>
<td>$39,000</td>
</tr>
<tr>
<td>2012-13</td>
<td>$543,834</td>
<td>$179,489</td>
<td>$50,000</td>
<td>$238,721</td>
</tr>
<tr>
<td>2013-14</td>
<td>$550,168</td>
<td>$37,500</td>
<td>$50,000</td>
<td>$238,721</td>
</tr>
<tr>
<td>2014-15</td>
<td>$397,447</td>
<td>$37,500</td>
<td>$50,000</td>
<td>$240,721</td>
</tr>
<tr>
<td>2015-16</td>
<td>$342,346</td>
<td>$10,000</td>
<td>$50,000</td>
<td>$220,450</td>
</tr>
<tr>
<td>Totals</td>
<td>$3,259,201</td>
<td>$1,460,947</td>
<td>$350,000</td>
<td>$1,103,614</td>
</tr>
</tbody>
</table>

1. The sources include the Ontario Early Researcher Award program, the Juvenile Diabetes Research Foundation, and the National Institutes of Health.

vi. **SUPERVISION**

<table>
<thead>
<tr>
<th>Faculty Name &amp; Rank</th>
<th>M/F</th>
<th>Home Unit</th>
<th>Supervisory Privileges</th>
<th>Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. N. Balakrishnan –</td>
<td>M</td>
<td>Mathematics &amp; Statistics</td>
<td>Full</td>
<td>X</td>
</tr>
<tr>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. Angelo Canty – Associate</td>
<td>M</td>
<td>Mathematics &amp; Statistics</td>
<td>Full</td>
<td>X</td>
</tr>
<tr>
<td>Dr. Aaron Childs – Associate</td>
<td>M</td>
<td>Mathematics &amp; Statistics</td>
<td>Full</td>
<td>X</td>
</tr>
<tr>
<td>Dr. Shui Feng – Professor</td>
<td>M</td>
<td>Mathematics &amp; Statistics</td>
<td>Full</td>
<td>X</td>
</tr>
<tr>
<td>Dr. Fred Hoppe – Professor</td>
<td>M</td>
<td>Mathematics &amp; Statistics</td>
<td>Full</td>
<td>X</td>
</tr>
<tr>
<td>Member</td>
<td>Completed</td>
<td>Current</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-----------</td>
<td>---------</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Master’s</td>
<td>Ph.D.</td>
<td>PDF</td>
<td>Master’s</td>
</tr>
<tr>
<td>Dr. E. Ahmed</td>
<td>12</td>
<td>11</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**Category 1:** tenured or tenure-track core faculty members whose graduate involvement is exclusively in the graduate program under review. For this purpose the master’s and doctoral streams of a program are considered as a single program. Membership in the graduate program, not the home unit, is the defining issue.

**Category 2:** non-tenure-track core faculty members whose graduate involvement is exclusively in the graduate program under review.

**Category 3:** tenured or tenure-track core faculty members who are involved in teaching and/or supervision in other graduate program(s) in addition to being a core member of the graduate program under review.

**Category 5:** other core faculty: this category may include emeritus professors with supervisory privileges and persons appointed from government laboratories or industry as adjunct professors. Please explain who would fall into this category at your institution.
QUALITY AND OTHER INDICATORS

7.1 ACADEMIC QUALITY OF THE PROGRAM

Over the first five years, the department will use the following indicators to document and to demonstrate the quality of this program:

- The quality of students entering the program, e.g., NSERC and OGS scholarships, GPA, etc.
- GPA and supervisory committee reports for students in-program.
- Student publications in peer-reviewed journals and conference proceedings as well as oral and poster presentations at conferences.
- An in-program student satisfaction survey will be administered each year to directly assess student satisfaction.
- Graduate outcomes, i.e., what jobs do graduates end up in. This will be tracked via alumni outreach.
- Retention rates and time-to-completion.
- Student awards beyond the aforementioned NSERC and OGS scholarships, e.g., travel awards, presentation awards, dissertation awards, and NSERC postdoctoral fellowships.

7.2 INTELLECTUAL QUALITY OF THE STUDENT EXPERIENCE

The intellectual quality of the student experience will be promoted and enhanced in the following ways:

- Beyond their own work, there will be many opportunities for students in the proposed Ph.D. program to gain exposure to intellectually exciting topics. The Department has a vibrant statistics seminar series, which takes place every week during the fall and winter terms. In addition to all students being encouraged to attend the seminar, more senior Ph.D. students will also be given the opportunity

<table>
<thead>
<tr>
<th>Dr. N. Balakrishnan</th>
<th>63</th>
<th>43</th>
<th>0</th>
<th>5</th>
<th>14</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. J. Beyene</td>
<td>11</td>
<td>3</td>
<td>6</td>
<td>3</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Dr. B. Bolker</td>
<td>1</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Dr. A. Canty</td>
<td>16</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Dr. A. Childs</td>
<td>10</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Dr. S. Feng</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Dr. F. Hoppe</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Dr. T. Hurd</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Dr. P. McNicholas</td>
<td>33</td>
<td>12</td>
<td>9</td>
<td>7</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Dr. S. McNicholas</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Dr. T. Pirvu</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Dr. J. Racine</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Dr. R. Viveros-Aguilera</td>
<td>24</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
to present their work.

- Ph.D. students will be encouraged to attend and present their work at the Statistical Society of Canada annual meeting. In recent years, several students in the Probability and Statistics specialization of the Mathematics Ph.D. program have done this; in fact, such students won presentation awards at the 2015 and 2016 meetings. Attendance at other conferences and meetings will also be encouraged.

- In addition to the statistics seminar series, the Department colloquium and related social activities also provide an excellent environment and opportunity for students to engage with faculty and other graduate students. The same is true of several other seminar series across campus, e.g., the MacData and CSE seminars.

**CHECKLIST FOR NEW PROGRAM PROPOSALS**

The following section indicates all the items that are required as part of a complete new program proposal package which includes all the necessary documents. Part I, II and III should be submitted as separate files to igap@mcmaster.ca.

**PART I: COMPLETE NEW PROGRAM PROPOSAL DOCUMENT**

- Complete New Program Proposal Template
- Faculty CVs (can be submitted on CD or USB)
- Memorandum(s) of Understanding (Letters of Support) (if applicable)

**PART II: RESOURCE IMPLICATIONS AND FINANCIAL VIABILITY TEMPLATE**

- Completed
- Approved

**PART III: FEES MEMO**

- Completed
- Approved

**APPENDIX**

The following table details Ph.D. students supervised to completion, by Category 1 faculty, at McMaster University since the year 2002.

<table>
<thead>
<tr>
<th>Year</th>
<th>Graduate</th>
<th>Degree</th>
<th>Supervisor</th>
<th>Thesis Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>Yang Tang</td>
<td>Ph.D.</td>
<td>McNicholas</td>
<td>Dimensionality Reduction with Non-Gaussian Mixtures</td>
</tr>
<tr>
<td>2017</td>
<td>Monica Wong</td>
<td>Ph.D.</td>
<td>McNicholas</td>
<td>Topics in One-Way Supervised Biclustering Using Gaussian Mixture Models</td>
</tr>
<tr>
<td>2016</td>
<td>Chu-Shu Gu</td>
<td>Ph.D.</td>
<td>Canty</td>
<td>A Quasi-likelihood Method to Detect Differentially Expressed Genes in RNA-sequence Data</td>
</tr>
<tr>
<td>2016</td>
<td>Hon Yiu So</td>
<td>Ph.D.</td>
<td>Balakrishnan</td>
<td>Some Inferential Results for One-shot Device Testing Data Analysis</td>
</tr>
</tbody>
</table>
Current positions for 26 of the last 28 Ph.D. students supervised to completion, by Category 1 faculty, at McMaster University:

Assistant Professor, Hong Kong Institute of Education
Assistant Professor, Indian Institute of Management, Udaipur, India
Assistant Professor, Kuwait University
Assistant Professor, Mathematics, Syracuse University
Assistant Professor, Mathematics, University of Texas, Arlington
Assistant Professor, Xi'an Jiaotong-Liverpool University (previously Statistical Analyst, McMaster University)
Assistant Professor, Zhongnan University of Economics and Law
Associate Professor, Guangzhou Maritime University, China
<table>
<thead>
<tr>
<th>Position</th>
<th>Institution/Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associate Professor</td>
<td>Hong Kong Polytechnic University</td>
</tr>
<tr>
<td>Associate Professor, Management Science and Statistics</td>
<td>College of Business, University of Texas, San Antonio</td>
</tr>
<tr>
<td>Associate Professor</td>
<td>Shanghai University of Business and Economics</td>
</tr>
<tr>
<td>Associate Professor, Statistics</td>
<td>University of Manitoba</td>
</tr>
<tr>
<td>Director, Nuclear Safety Analysis</td>
<td></td>
</tr>
<tr>
<td>Manager, Capital Modelling Group</td>
<td>Bank of America</td>
</tr>
<tr>
<td>Methodologist, Cancer Care Ontario</td>
<td></td>
</tr>
<tr>
<td>Postdoctoral Fellow</td>
<td>University of Toronto/Centre for Addiction and Mental Health</td>
</tr>
<tr>
<td>Professor, Statistical Sciences</td>
<td>Southern Methodist University</td>
</tr>
<tr>
<td>Professor, Seneca College</td>
<td></td>
</tr>
<tr>
<td>Risk Analyst</td>
<td>Toronto Dominion Bank</td>
</tr>
<tr>
<td>Risk Manager</td>
<td>Bank of Montreal</td>
</tr>
<tr>
<td>Scientist</td>
<td>Bombardier Canada</td>
</tr>
<tr>
<td>Senior Biostatistician</td>
<td>Health Canada, Ottawa</td>
</tr>
<tr>
<td>Senior Manager, Capital Market Group</td>
<td>Bank of Montreal and Adjunct Professor, York University</td>
</tr>
<tr>
<td>Senior Scientist, LG Inc.</td>
<td>Daejeon, South Korea</td>
</tr>
<tr>
<td>Statistical Analyst - Programmer</td>
<td>Ontario Clinical Oncology Group, Juravinski Hospital</td>
</tr>
<tr>
<td>Statistician</td>
<td>Institutional Research and Analysis, McMaster University</td>
</tr>
</tbody>
</table>
NEW PROGRAM PROPOSAL FOR
MASTER OF SCIENCE IN
PSYCHOTHERAPY

DATE: November 2017
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1 PROGRAM

1.1 PROGRAM DESCRIPTION

This is a proposal for a Master of Science (MSc) in Psychotherapy to be offered by Clinical Behavioural Studies (CBS) in the Department of Psychiatry and Behavioural Neurosciences, Faculty of Health Sciences, McMaster University.

The MSc in Psychotherapy will be a professional, course-based degree that will include several experiential training opportunities to prepare students for a career as psychotherapy practitioner. The focus of the MSc will be to provide students with a solid understanding of and competency in the delivery of evidence-based psychotherapies for a range of mental health disorders and related problems. During the completion of coursework and clinical practicum placements, students will also be exposed to opportunities to acquire and demonstrate effective communication, critical thinking and problem-solving skills. **Overall, the aim of the MSc in Psychotherapy Program is to offer students an academic and clinical learning experience that includes theoretical knowledge of mental health disorders and evidence-based psychotherapies and applied clinical skill development with direct supervision, in order to prepare them for a career as an independent psychotherapy practitioner.**

The MSc in Psychotherapy will be 20-months in duration and it is anticipated that most students will complete the program full-time. All students in the MSc in Psychotherapy will complete 11 courses, including 7 core required courses, 2 elective courses and 2 clinical practicum courses. Courses in the first year of the MSc will offer students an introduction to theoretical models for understanding mental illness and to various evidence-based psychotherapies. In advanced courses and while on clinical practica, students will be exposed to higher-level concepts and applied training opportunities to develop greater clinical competency in specific psychotherapies. It is expected that the majority of graduates from the program will register with the College of Registered Psychotherapists of Ontario (CRPO), as it is required that all practitioners performing the controlled act of psychotherapy be regulated through the CRPO (if not already a member of another regulated health profession).

The required core courses will cover introductory concepts as well as advanced training in psychotherapy theory, research, and applied clinical skills. The elective courses will offer students with depth and breadth of training opportunities. Finally, the practicum courses will provide students with the opportunity to apply and demonstrate their skills in a clinical setting and receive ongoing support from a clinical practicum supervisor who: is a member of a regulated health profession; has extensive clinical experience in the practice of psychotherapy; and is competent to provide clinical supervision (as per the clinical supervision requirements set by the CRPO). Students will also be enrolled in a small-group, tutorial-based, Applied Psychotherapy Skills course that will focus on experiential clinical skills training. Throughout the program, students will be encouraged to identify self-directed learning opportunities (through leading class discussions, reflection papers, written assignments, practicum placements) that will offer them greater depth in an area of interest. In addition, a component of the practicum courses will be the completion of an integrative paper, which will require students to complete a theoretical paper on a topic related to their current clinical practicum experience. Thus, the goal is for students to develop a solid theoretical foundation that will form the base of their evidence-based clinical practice.
It is the ideal time for the development of the MSc in Psychotherapy. First, there is a significant need for well-trained practitioners who are competent to provide evidence-based psychotherapies. Over 2 million Ontarians are affected by mental illness each year, and over a third of these individuals report receiving insufficient support (Canadian Community Health Survey, Ministry of Health and Long-Term Care, Statistics Canada, 2012). In the 2017 budget, the Ontario Government included funding of $73 million over three years to provide greater access to publicly-funded structured psychotherapy for individual suffering with mental illness (Section A: Strengthening Health Care, Ontario Budget, 2017). Students completing the MSc in Psychotherapy will have the specialized training required to provide structured, evidence-based psychotherapy, which is in high demand.

Secondly, legislative changes have increased the education and regulatory requirements for practitioners performing psychotherapy. The Psychotherapy Act, 2007\(^1\) requires that all individuals practicing psychotherapy within the province of Ontario, and who are not members of a regulated profession (e.g., nurse, psychologist, social worker, occupational therapist, physician), register with the newly formed CRPO and use the designation of Psychotherapist. The CRPO has specific education requirements, including the completion of Master’s-degree level training. In addition, under the Regulated Health Professions Act, 2007\(^2\), Psychotherapy was identified as a “controlled act,” which may only be performed by regulated health professionals who are members of a health college whose members are permitted to perform psychotherapy. This section of the Regulated Health Professions Act (RHPA) is anticipated to be proclaimed in December 2017. Once proclaimed, it is proposed that only five regulated health-related professions, including psychotherapists, will be able to provide the controlled act of psychotherapy\(^3\). Thus, the MSc in Psychotherapy has been designed to provide students with the necessary training to meet the education requirements set by the CRPO (http://www.crpo.ca), and by two additional competency bodies in Canada: the Canadian Counselling and Psychotherapy Association (CCPA; https://www.ccpa-accp.ca) and the Canadian Association of Cognitive and Behavioural Therapies (CACBT; http://www.cacbt.ca/en/index.htm).

Moreover, under the new legislation, clinicians who currently practice psychotherapy (as defined by the RHPA), but do not have the training requirements needed to become registered with the CRPO, will be required to complete additional education and/or supervised practice. In addition, psychotherapy is not an entry-to-practice competency for all of the regulated health professions (e.g., nursing, social worker, occupational therapy, physicians); therefore, unless offered in during their post-professional education, these professionals will require additional education, training and supervision should they wish to perform the controlled act of psychotherapy. Thus, the MSc in Psychotherapy may also meet the training needs of these individuals.

Thirdly, the MSc in Psychotherapy will meet a training demand that is not currently offered by McMaster University and or met by existing CBS Graduate Diploma Program provided by the Department of Psychiatry & Behavioural Neurosciences. The CBS Graduate Diploma provides post-professional education to persons who have completed basic training in healthcare or health-related disciplines (e.g., nursing, social work, occupational therapy) and who are looking for additional mental health-related training. The aim of the Graduate Diploma is to offer a brief, specialized training experience (e.g., a specialized focus in cognitive behavioural therapy) to professionals in a health-related profession. Therefore, the aims of the Graduate Diploma are distinct from the MSc in Psychotherapy. It is anticipated

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2. https://www.ontario.ca/laws/statute/91r18
that the demand for the Graduate Diploma will remain once the MSc in Psychotherapy commences, as
many healthcare professionals who may be interested in additional training in evidence-based
psychotherapies may not wish to or be required to complete a Master’s degree. As the MSc is developed,
the curriculum for the Graduate Diploma will also be updated to better align with the MSc in
Psychotherapy curriculum. The alignment of the courses across the two programs, will allow students
who complete courses in the Graduate Diploma Program to use credits from the Diploma program
towards fulfillment of the MSc in Psychotherapy Program should they wish to apply to transfer to the
MSc program.

The proposed MSc in Psychotherapy will build upon foundation courses in the CBS Graduate Diploma
and its existing resources, infrastructure and faculty to provide graduate-level training in psychotherapy.
It is anticipated that the majority of students enrolled in the MSc will have no formal healthcare training
or professional designation. However, the program will also be open to students who have a healthcare
qualification and who wish to complete an MSc in psychotherapy, which will offer greater depth and
breadth of training, and more clinical practice experience than the Graduate Diploma.

In summary, the MSc in Psychotherapy Program will be structured as a course-based, professional degree
that includes in-class lectures, tutorials and experiential training components. It is anticipated that the
program will offer a unique training experience that will help to fill the ever-increasing need in our
community for well-trained and knowledgeable professionals who are skilled in the delivery of evidence-
based psychotherapies for serious mental health disorders and related problems.

1.2 PROPOSAL PREPARATION AND CONSULTATION PROCESS

Internal Collaborators

A proposal committee was established during the initial stages of the program development that consisted
of the Chair and Associate Chair Education of the Department of Psychiatry and Behavioural
Neurosciences and the CBS Director and CBS Program Coordinator.

During a retreat in September 2016, key members of the CBS Program (CBS Graduate Diploma Study
Area Leads, Instructors, former CBS Director, members of the CBS Graduate Diploma Steering
Committee) met with the Planning Group to discuss the development of the MSc in Psychotherapy.
Objectives and aims for the degree were established and used to guide the MSc Program’s development.
After an initial draft of the proposal was completed, the proposal was sent to members of the steering
committee for review and comments.

External Collaborators

The proposal committee consulted with members of the McMaster community who are involved in other
health-related Master’s programs, including the Associate Deans and Program Directors from the Schools
of Nursing and Rehabilitation Sciences and the Child Life and Pediatric Psychosocial Care Program. In
addition, the committee consulted with program leads at St. Joseph’s Healthcare Hamilton and Hamilton
Health Sciences regarding the degree requirements as well as opportunities for practicum placements for
students in the MSc.
To ensure that the MSc in Psychotherapy program will meet professional accreditation standards and that graduates will be able to become registered with a regulatory body in Ontario, we referred to the CRPO’s Evaluation Criteria for Psychotherapy Education and Training Programs.

Finally, we sought feedback from current students and recent graduates of the CBS Graduate Diploma Program to determine the level of demand for an MSc in Psychotherapy.

1.3 **CONSISTENCY WITH MCMASTER’S MISSION AND ACADEMIC PLAN**

i. McMaster’s Strategic Mandate Agreement:

<table>
<thead>
<tr>
<th>Existing Strengths</th>
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<tbody>
<tr>
<td>✓ Medical Education and Research</td>
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<tr>
<td>✓ Health and Society</td>
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<td>✓ Engineering and Sustainability</td>
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<td>✓ Business and Economics</td>
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<td>✓ Policy and Ethics in a Globalized World</td>
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<td>✓ Human Behaviour, Culture and Society</td>
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The MSc in Psychotherapy aligns strongly with several areas of McMaster’s mission and academic plan and existing strengths, including (i) Medical Education and Research, (ii) Health and Society, (iii) Science and Discovery, and (iv) Human Behaviour, Culture and Society.

The MSc in Psychotherapy is designed to educate students in empirically-supported therapy as a part of their professional practice, which maps onto existing strengths in the Strategic Mandate Agreement (i.e., medical education and research; health and society). Students in this MSc program will develop specialized skills and knowledge that will prepare them for success in health professions.

In addition, the MSc in Psychotherapy Program closely aligns with McMaster’s goal of providing professional and practice-focused graduate degrees that prepare graduates for professional licensure and to assume clinical positions that meet the needs of the community. The program offers students’ significant opportunities for experiential learning via course work and clinical practicum placements, which is consistent with the Ministry’s support of experiential learning opportunities for students. Thus, the MSc in Psychotherapy Program will provide graduate students with advanced skills and competency in the theory and practice of psychotherapy via coursework and clinical training to better meet societal and healthcare needs.

Consistent with the university’s strength in Science and Discovery, the MSc in Psychotherapy Program emphasizes the need for its graduates to gain expertise in consuming health-related literature and critically appraising the quality of the research as this will inform their evidence-based practice during clinical practica and future clinical work. Although there is not a formal research component to the program, all students will be required to demonstrate their knowledge of clinical research methods across various course requirements, such as in the writing of case studies, which requires the inclusion of relevant
research and theory to inform their case conceptualizations; in the use of validated self-report
questionnaires to measure treatment outcomes; and in their ability to conduct a program evaluation.
Moreover, across their courses and during clinical work, students will have multiple opportunities to
demonstrate and apply their theoretical and research knowledge when completing written assignments
and selecting appropriate therapeutic skills in clinical practice.

Priorities for Growth

| ✔️ | Health Sciences and the Broad Determinants of Health |
| ✔️ | Fostering Robust Societies |
|    | Business and Economics |
|    | Science and Engineering |
| ✔️ | Communications and Culture |

Regarding the priorities for areas of growth as outlined by McMaster’s Strategy Mandate Agreement, the
MSc in Psychotherapy will foster growth in the following areas: (i) Health Sciences and the broad
determinants of health, (ii) Fostering robust societies, and (iii) Communications and culture.

Related to Health Sciences and the Broad Determinants of Health, the MSc in Psychotherapy will help
students gain an interdisciplinary perspective on contemporary issues in health and society from
coursework and clinical practice. Collaboration across health-related disciplines and awareness of
interdisciplinary perspectives on contemporary issues in health and society will be a fundamental
component of the MSc program.

The MSc program will also encourage growth in the area of Fostering Robust Societies. One in 5
Canadians experience mental health problems or illness, which is associated with an economic burden of
50 billion dollars⁴. Currently, there are significant wait times for effective mental health treatment
creating a significant societal need for well-trained mental health practitioners. An MSc in Psychotherapy
Program will help Ontario meet current and future needs for appropriately trained practitioners by
providing students with the necessary training for regulated professional practice.

Finally, in the priority area of Communications and Culture, the MSc in Psychotherapy Program will
teach students advanced communication skills to enable them to communicate effectively with their
clients and coworkers, which will be essential in their professional careers. In addition, students will have
the opportunity to work with individuals from diverse cultural, social and ethnic backgrounds.

ii. McMaster’s current priorities:

Alignment with Forward with Integrity

The MSc in Psychotherapy will offer a professional and practice-focused degree that aligns well with
each of the four priorities outlined in the Forward with Integrity letter, including The Student Experience,
Community Engagement, Research, and Internationalization. The primary objective of the MSc in
Psychotherapy Program is to provide students with advanced skills and competencies in the theory and
practice of psychotherapy via coursework and applied training experiences.

ilnesses in Canada: 2011 to 2041. RiskAnalytica, on behalf of the Mental Health Commission of Canada.
First, related to *The Student Experience*, the MSc in Psychotherapy Program is committed to fostering competency in clinical skills through integrated theoretical and applied learning. The philosophy of the MSc in Psychotherapy Program emphasizes:

- Development of a theoretical knowledge in the assessment and treatment of mental health issues
- Opportunities to apply theoretical knowledge developed from course work in clinical settings

The problem-based learning format is foundational to the coursework and promotes the development of skills in critical thinking, problem solving, self-directed learning, communication and team participation. The course structure is designed to match the needs of students; introductory courses provide foundational skills that can then be applied to practical experiences in clinical settings. The students entering the program will come from diverse backgrounds with a range of perspectives, which will make for an enriched learning experience, while appreciating different viewpoints also prepares students for work as a member of an inter-professional team.

Second, there is a strong emphasis on *Community Engagement* in the program, which will develop strong relationships with community agencies that offer mental health treatments. Students in the MSc in Psychotherapy Program will complete practicum placements within community settings (e.g., hospital clinics, family health teams, student counselling clinics). In this way, the students will also be providing ongoing support to the community during their graduate studies. Additionally, the MSc program’s graduate students and graduates will bring knowledge to community organizations and will provide evidence-based therapy within our communities.

Third, the MSc program will help the students to become self-directed learners and reflective practitioners. Students will learn to appraise the quality of research findings and they will also learn how to integrate evidence-based strategies into their clinical practice. Students will also learn to measure and evaluate the impact and outcome of their therapeutic approaches to optimize treatment gains experienced by their clients as a component of their evidence-based practice. Many of the faculty have expertise in clinical research and will incorporate contemporary empirical findings in their course material.

Finally, the MSc program will encourage the incorporation of *Internationalization* in course work and practical training experiences. Students will receive training in cultural competency, which is a necessity for treating diverse patient groups. For example, in course work, students will discuss the role of diversity in mental health, which they can then apply when working with individuals from diverse cultural, social, and ethnic backgrounds in their practical training experiences.
1.4 PROGRAM LEARNING OUTCOMES

The MSc in Psychotherapy Program Learning Outcomes (PLOs) encompass the main competencies that successful graduates from the program will acquire via course work and clinical practicum. By the end of the program, students will be able to:

Theoretical Knowledge
1. Demonstrate and apply knowledge of key theoretical models of mental illness and wellness, including understanding the role of human development, physical health, and sociocultural factors, in their professional practice.

2. Demonstrate knowledge of the theory and research support for evidence-based psychotherapies in the treatment of mental health disorders.

Therapeutic Skills
3. Demonstrate the competency to conduct clinical assessments, formulate case conceptualizations and develop treatment plans for a range of clinical presentations.

4. Engage in effective and competent clinical practice, which is demonstrated through the proficient use of evidence-based psychotherapies, ability to form therapeutic rapport, and effective communication with patients or clients.

Self-Awareness and Professional Standards of Conduct and Ethics
5. Demonstrate and integrate knowledge of professional standards of practice and ethical conduct in clinical practice.

6. Accurately appraise personal levels of clinical competence and identify areas for professional growth and self-directed learning.

Critical Thinking and Problem-Solving Skills
7. Use critical thinking skills to identify and solve complex problems and to appraise the success of the solutions employed.

8. Exhibit the ability to identify and make improvements in the delivery of patient or client care.

Communication Skills
9. Engage in effective written and oral communication skills with patients and other healthcare providers.

Research Knowledge and Skills
10. Demonstrate an understanding of clinical research methods, including the ability to critically evaluate the validity of clinical theories and research findings and the ability to conceptualize and develop a research study.

11. Integrate and apply knowledge of clinically-relevant research findings in clinical practice, including the selection of appropriate evidence-based therapies, and measuring and evaluating clinical outcomes.
1.5  **CONSISTENCY WITH DEGREE LEVEL EXPECTATIONS**

**Graduate Degree Level Expectations**

1.  Depth and Breadth of Knowledge  
2.  Research and Scholarship  
3.  Application of Knowledge  
4.  Communication Skills  
5.  Awareness of Limits of Knowledge  
6.  Autonomy and Professional Capacity

The table below indicates how the Program Learning Outcomes align with the Degree Level Expectations:

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1.6  **DEMAND FOR PROGRAM**

1.6.1  **EVIDENCE OF SOCIETAL / LABOUR MARKET NEED**

There is a significant need for training programs that assist in the development of well-trained and effective mental healthcare workers with psychotherapy skills for a number of reasons:

i.  The level of demand for mental health services provincially and nationally is outpacing the capacity of available services to meet it.
ii. There is interest from the Government of Canada – as part of the proposed new Health Accord – and from the Government of Ontario to increase access to evidence-based psychotherapy for people with mental health problems being seen in medical and other community settings. In addition, representatives of the newly established CRPO and of the CACBT have identified the need for greater training programs that adequately prepare practitioners to meet the demands of practice and their registration and credentialing requirements. In addition, the Ontario Ministry of Health and Long Term care has recently established a working group to make recommendations for the Implementation of a Structured Psychotherapy Program in Ontario, and the Chair of the Department, who is also part of the CBS Faculty, is a member of this working group.

iii. Finally, there is an increasing expectation that all health care professionals gain a working knowledge of mental health-related problems that they can integrate with other aspects of their clinical work. For some, comprehensive training provided by a Master’s degree program is needed to adequately prepare for clinical practice that includes psychotherapy. We therefore anticipate that some health care professionals, such as nurses, social workers, physicians, and occupational therapists, will be interested in completing the MSc in Psychotherapy Program for additional competencies to enhance their practice.

The MSc in Psychotherapy Program aims to address these needs by providing students with advanced training in evidenced-based therapies that can be utilized in many different clinical settings and with various populations including individuals with serious mental health disorders and related problems.

1.6.2 Evidence of Student Demand

The student demand for courses where clinical skills are being developed and where some level of expertise is acquired in a theoretical treatment modality has traditionally been high. Specifically, demand for Master’s-level training in counselling and psychotherapy is strong. For example, the Master of Education in Counselling and Psychotherapy offered by the University of Toronto/OISE reported that in 2015 it received 3625 applicants for 32 spots in the program. As the Department has received several inquiries about the development of a MSc in Psychotherapy, we anticipate equivalent demand for the Master’s Degree.

Moreover, evidence from our contacts with key stakeholders, including other Master’s programs at McMaster University, and Community partners who support their employees’ participation in CBS Graduate Diploma Program suggests that there will also be strong demand for the MSc in Psychotherapy Program once it is established. The agencies and organizations report that they are keen to see their employees gain this level of training. In a recent survey of students in the CBS Graduate Diploma Program, many identified an interest in obtaining Master’s-level education in Psychotherapy (see Appendix A). Given the duration and training requirements of the MSc, it is anticipated that the Graduate Diploma will be in continued demand for those students who do not require the depth of training offered by the MSc.

5 http://www.ro.oise.utoronto.ca/R_AppStat1.pdf
In addition, although psychotherapy can be practiced by individuals registered with the CRPO, or one of the other 4 recognized colleges (i.e., psychologists, nurses, occupational therapists, and physicians), it is only those with demonstrated competency to provide psychotherapy who will be able to perform the controlled act of psychotherapy once proclaimed. Therefore, individuals who have not received formal training in psychotherapy may be interested in completing the MSc in Psychotherapy to gain this required competency. It is anticipated that a significant number of community practitioners will look for additional opportunities to complete the required level of training and may register with the program. MSc courses will be open as post-degree courses; however, this will be limited to two courses per person. If an individual wishes to take additional courses they will be required to register in the CBS Graduate Diploma or in the MSc in Psychotherapy.

1.6.3 **JUSTIFIABLE DUPLICATION**

The proposed MSc in Psychotherapy is a unique graduate degree offering. There are 5 programs in Ontario that offer Master’s of Arts, Education or Divinity in Counselling Psychology and are recognized by the CRPO (see Table 1). The content of the MSc in Psychotherapy will be distinct from that of a Master’s in Counselling Psychology, as often the focus is on vocational counselling and wellness. The proposed MSc in Psychotherapy will provide students with foundational knowledge in evidence-based psychotherapy for the treatment of mental illness and in the practical clinical skills that are needed to become an independent clinical practitioner that provides psychotherapy. Moreover, it will also be the only psychotherapy-related program based in a Faculty of Health Sciences.

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<tr>
<th>University</th>
<th>Degree</th>
<th>Area of Specialization</th>
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<tbody>
<tr>
<td>Tyndale University College and Seminary, Graduate School of Theology</td>
<td>Master of Divinity</td>
<td>Clinical Counselling</td>
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<tr>
<td>University of Guelph, Department of Family Relations &amp; Applied Nutrition</td>
<td>Master of Science in Couples and Family Therapy</td>
<td>Couples and Family Therapy</td>
</tr>
<tr>
<td>University of Toronto/ Ontario Institute for Studies In Education</td>
<td>Master of Education in Counselling and Psychotherapy</td>
<td>Counselling Psychology</td>
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<td>Western University, Faculty of Education</td>
<td>Master of Arts in Counselling Psychology</td>
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<tr>
<td>Yorkville University</td>
<td>Master of Arts in Counselling Psychology (online course offerings)</td>
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In addition, there are 5 training programs that offer either a Diploma or Certificate of Completion in a field related to psychotherapy and are recognized by the CRPO. Most of these training programs offer a specific in-depth training experience in a specific type of psychotherapy (i.e., psychodynamic psychotherapy), which will not be the main focus of the MSc in Psychotherapy program. Therefore, none
of these training programs will significantly overlap with the content of the MSc in Psychotherapy. The programs include:

- Canadian Institute for Child and Adolescent Psychoanalytic Psychotherapy – Diploma for Child and Adolescent Psychoanalytic Psychotherapist
- Gestalt Institute of Toronto (5 year training program)
- Ontario Psychotherapy and Counselling Program – Diploma in Psychotherapy with focus on Psychodynamic Therapy
- Toronto Institute of Psychoanalysis – Certificate of Graduation as a Psychoanalyst
- Toronto Institute for Relational Psychotherapy – Diploma, Toronto Institute for Relational Psychotherapy

Within McMaster University, none of the current graduate programs overlap significantly with the curriculum for the MSc in Psychotherapy. The closest comparison to the MSc in Psychotherapy is the Research and Clinical Training (RCT) Stream offered by Psychology Graduate Program in the Department of Psychology, Neuroscience & Behaviour. The RCT Stream only offers a 4-year Doctorate of Philosophy (PhD) degree and does not offer terminal Master’s-level training. Unlike the MSc in Psychotherapy, which is a course-based Master’s degree, the PhD in Clinical Psychology has a significant research component, including the completion of a dissertation. In addition, graduates from the RCT Program would ultimately register with the College of Psychologists of Ontario.

The Master of Social Work (MSW) program has limited overlap with the MSc in Psychotherapy given that the content of the courses is distinct. The MSW is focused on social work practices and social policies and does not include formal training in mental health-related topics or psychotherapy. Moreover, it is anticipated that students enrolled in the MSW may be interested in taking courses in the MSc to fulfill their training in mental health-related topics. Currently, there is one student enrolled in a CBS Graduate Diploma course to fulfill an elective course requirement for their MSW. In addition, there are several Registered Social Workers currently enrolled in the CBS Graduate Diploma Program to obtain additional training in mental health-related topics.

The CBS Graduate Diploma Program has also received requests from other health-related Master’s programs at McMaster University, including nursing, for their students to take one or more CBS Graduate Diploma courses. Thus, students who wish to complete courses on a mental health topic or evidence-based psychotherapy that are not offered by their program of study may be interested in completing courses through the MSc in Psychotherapy.

1.7 **DEGREE NOMENCLATURE**

Master of Science (MSc) in Psychotherapy is the most appropriate degree nomenclature for a graduate program that provides the opportunity for students to acquire theoretical knowledge and advanced skills in the provision of therapy to individuals with a range of mental health disorders and related problems. The MSc program requires that students become proficient in evidence-based psychotherapies, including cognitive behavioural therapy. Students will also be required to understand and critically evaluate psychotherapy research and select and apply specific clinical skills based on their theoretical understanding and case formulation. The educational plans for the MSc in Psychotherapy have the rigor required to meet the degree level expectations of a Master’s program.
The inclusion of the identifier Psychotherapy in the name implicitly explains the overall content and learning objectives. That is, the program and its courses are rooted in the theories of mental health-related conditions and associated evidence-based psychotherapies.

2 ADMISSION & ENROLLMENT

2.1 ADMISSION REQUIREMENTS

Admission selections will be based on academic achievement as well as personal qualities and experiences that are evaluated during the Admissions Interview. The admissions criteria include:

a. Honours Bachelor’s degree in Psychology, Social Sciences or Health Sciences from a recognized university with at least a B+ average (equivalent to a McMaster 8.5 GPA out of 12) in the final year of study. This requirement is consistent with the Faculty of Graduate Studies’ admissions requirements.

b. For applicants whose first language is not English and who did not attend an English-speaking University for their undergraduate degree, a test of English language proficiency is required. Minimal scores on the Test of English as a Foreign Language (TOEFL) are: written score (600) or computer (250), or internet-based test (iBT = 92; reading = 22, speaking = 24, listening = 24 and writing = 22).

c. Applicants will also be asked to submit the following documents with their application
   i. Curriculum Vitae.
   ii. A letter of application outlining their reasons for wishing to join the program.
   iii. Two letters of reference: At least one from academic referee (i.e., professors or research supervisors). One letter may be from a professional referee (i.e., employer who can provide a professional reference).
   iv. Official transcripts from every degree-granting institution attended.

Admissions Interview

The admissions committee will review every application to the program to ensure that prospective students have the necessary academic background, proficiency in English, and relevant experience to enroll in the Psychotherapy Program. Those students who are short-listed based on this review will be offered an interview. Interviews will be conducted in person or over the telephone.

2.2 ENROLMENT PLANNING AND ALLOCATIONS

<table>
<thead>
<tr>
<th>Program Year</th>
<th>2019-20</th>
<th>2020-21</th>
<th>2021-22</th>
<th>Maturity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>30</td>
<td>32</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>Year 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Enrolment</td>
<td>30</td>
<td>62</td>
<td>64</td>
<td>70</td>
</tr>
</tbody>
</table>
2.3 ALTERNATIVE REQUIREMENTS

As stated in the School of Graduate Studies Calendar, some potential applicants may not satisfy the admission requirements for a 4-year honours undergraduate degree with a B+ average in the final year. However, work experience and/or completed course work beyond the Bachelor’s degree, may have some bearing on the applicant’s ability to complete a graduate program.

Admission to graduate studies for a student with related work experience will be based on the following criteria, as well as the standard admissions requirements, including the submission of a Curriculum Vitae and Official transcripts from every degree-granting institution attended:

1. At least 2 professional references (i.e., employer who can provide a professional reference).
2. 4-year undergraduate degree or equivalent completed more than 4 years ago, and any other course work taken since that time.
3. Work experience that has relevance to the MSc in Psychotherapy Program.

Should students meet these admissions requirements and be short-listed during the review of applications, they will also be required to attend an interview.

In addition, as the program is interested in recruiting a full spectrum of students, the program will follow the Faculty of Health Science’s Facilitated Indigenous Admissions Policy.

3 STRUCTURE

3.1 ADMINISTRATIVE, GOVERNANCE AND COMMUNICATION

The MSc in Psychotherapy will be offered through the Department of Psychiatry and Behavioural Neurosciences. The MSc in Psychotherapy Program will have a Program Director (i.e., equivalent to the Assistant Deans in other FHS programs). The Program Director will be responsible for activities related to the delivery of the program (e.g., recruiting and monitoring faculty performance, assessing student eligibility at the entry level, monitoring student progress, and providing operating support). The Program Director will report to the Department Chair and to the Associate Dean of Graduate Studies for the Faculty of Health Sciences. Within the FHS, the Program Director will be a voting member of the Health Sciences Education Council and the Graduate Programs Curriculum Committee, which is a committee that manages matters related to policies and curriculum affecting graduate programs in the Faculty of Health Sciences.

The MSc in Psychotherapy Academic Study Committee will formulate and recommend policies and will oversee student progress in the program. The Director of the MSc in Psychotherapy Program will serve as the Chair of the Academic Study Committee. The Committee will include Health Sciences faculty members and a current student from the MSc in Psychotherapy Program. The Academic Study Committee will meet a minimum of four times a year to manage the business of the program. New members of the Committee are nominated by the existing Committee and appointed for three-year terms, with the option to renew. It is likely that the structure of the Academic Study Committee will change as the program evolves. The responsibilities of the Academic Study Committee include:

- Strategic planning for future directions for the program
- Assisting the Director in the formulation of all policies and procedures for the program
- Identifying changing community needs and expectations
- Identifying new course areas to meet student needs and assisting in their development and evaluation
- Recommending faculty for vacant teaching roles
- Preparing publicity and calendar material when needed
- Developing and monitoring the use of course evaluation forms
- Recommending and evaluating changes to the program
- Conducting regular formal evaluations of the program
- Assigning faculty advisors to program students
- Developing an integrative curriculum and ensuring ongoing alignment of the courses for the MSc in Psychotherapy and CBS Graduate Diploma Programs
- Supporting special workshops/presentations for faculty development, students and target agencies

There will also be two sub-committees of the Academic Study Committee: Admissions Committee and Curriculum Committee. For terms of reference for both sub-committees see Appendix B).

### 3.2 STRUCTURE AND REGULATION

The MSc in Psychotherapy will be a 20-month full-time, course-based program. The curriculum is designed to align with the principles of problem-based, self-directed and experiential learning. The courses are structured so that students are required to complete a set of 7 core courses that offer the necessary competencies in psychotherapy. In addition, students will choose 2 elective courses from available offerings. The elective courses will cover advanced psychotherapy topics, such as psychodynamic psychotherapy, mindfulness-based therapy, group therapy, and will provide students with a wider breadth of training. All courses will be designed to ensure that the content is consistent with the Program Learning Outcomes and Degree Level Expectations.

Students in the Psychotherapy Program are required to complete 7 core courses (i.e., 6 courses that are 3 units each and 1 course that is 6 units), 2 practicum courses (each practicum is a minimum of 400 hours and 3 units) and 2 elective courses (3 units each). Students will have up to 3 years to complete all of the degree requirements.

### 3.3 GRADUATE PROGRAMS - PROGRAM LENGTH

The MSc in Psychotherapy will be a full-time 20-month professional, course-based program. The length of the program is consistent with Master’s programs in health-related disciplines, including psychology, counselling, and social work, and is designed to meet the necessary education requirements set by regulatory bodies. We anticipate that majority of students will complete the program full-time, however, with special permission students will also have the option to complete the program part-time (i.e., 1 or 2 courses per term) within 4 years.

The 20-month duration of the program was chosen to provide students with sufficient time to complete the necessary courses for foundational knowledge as well as time to practice their skills in an applied setting.
4 CURRICULUM AND TEACHING

4.1 PROGRAM CONTENT

The program will require students to complete seven core courses, two elective courses and two clinical practicum placements.

- Total course hours: 360 (36 units)
- Total clinical hours across 2 practicum placements: approximately 800

Example timeline for completing the MSc in Psychotherapy

**Year 1**

<table>
<thead>
<tr>
<th>TERM 1</th>
<th>TERM 2</th>
<th>TERM 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>October – December</td>
<td>January – April</td>
<td>May - August</td>
</tr>
<tr>
<td><strong>Courses (Required)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Principles of Evidence-Based Psychotherapy (3 units)</td>
<td>• Cognitive Behavioural Therapy (3 units)</td>
<td></td>
</tr>
<tr>
<td>• Introduction to Mental Health and Wellness (3 units)</td>
<td>• Ethical Standards and Professional Practice (3 units)</td>
<td></td>
</tr>
<tr>
<td>• Assessment and Case Formulation (3 units)</td>
<td>• Elective (3 units) *</td>
<td></td>
</tr>
<tr>
<td><strong>Practicum</strong></td>
<td></td>
<td>Practicum I (4 days/week)</td>
</tr>
</tbody>
</table>

**Year 2**

<table>
<thead>
<tr>
<th>TERM 4</th>
<th>TERM 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>October – December</td>
<td>January – April</td>
</tr>
<tr>
<td><strong>Courses (Required)</strong></td>
<td></td>
</tr>
<tr>
<td>• Clinical Research Methods (3 units)</td>
<td>• Elective (3 units) *</td>
</tr>
<tr>
<td>• Applied Psychotherapy Skills (6 units)</td>
<td></td>
</tr>
<tr>
<td><strong>Practicum</strong></td>
<td>Practicum II (2 days/week)</td>
</tr>
</tbody>
</table>

* Suggested term for Elective Courses, however, students can take the electives during any term of either year 1 or 2.

The following are descriptions of the courses offered by the Psychotherapy Program. Students will complete 7 core courses, 2 practicum courses, and 2 elective courses.

**DESCRIPTIONS OF CORE AND PRACTICUM COURSES**

The students will complete the lecture and clinical practicum courses in the following sequence. During any of the following terms students can also complete their elective courses.
**Term 1 (Fall Semester - September to December)**

**Principles of Evidence-Based Psychotherapy (3 units)**
The course will explore the theory and research related to evidence-based psychotherapies, including cognitive-behavioural therapies, psychodynamic psychotherapy, interpersonal psychotherapy, experiential and humanistic psychotherapies. Different therapeutic modalities, including individual therapy, group therapy, family therapy and couples therapy, will also be discussed. The course will also discuss the common factors that influence the effectiveness of therapy, including therapeutic alliance, specific therapist and client factors, as well as culture and diversity.

**Introduction to Mental Health and Wellness (3 units)**
This is a foundational course that will provide students with a theoretical overview of topics related to mental illness and health/wellness. Topics will include fundamental models for conceptualizing mental health, including the Biopsychosocial model and the Diathesis Stress Theory. Course topics will also include an introduction to health disorders and their etiology, prognosis, and epidemiology. Finally, students will explore transdiagnostic factors that influence mental health.

**Assessment and Case Formulation (3 units)**
The course will offer students theoretical and applied skills in the assessment of mental illness and the development of evidence-based case conceptualizations. Students will learn skills to obtain information related to individuals’ mental illness via clinical interviewing and to develop an individualized formation and treatment plan based on the data gathered. In addition, students will learn how to assess and monitor treatment outcomes.

**Term 2 (Winter Semester - January to April)**

**Cognitive Behavioural Therapy (3 units)**
The course will offer students focused training in cognitive behavioural therapy (CBT) theory and skills. The course will provide students with an overview of CBT theory, core CBT principles, and an introduction to specific CBT-based treatments for various mental health disorders and related problems.

**Ethical Standards and Professional Practice (3 units)**
The course will focus on providing students with an introduction to the ethical and professional issues in the practice of psychotherapy, such as professional competency, privacy and confidentiality, client-therapist boundaries. The aim is for students to learn ethical guidelines and decision making for managing ethical dilemmas. The course will cover content related to the legal requirements and ethical conduct for registered health professionals.

**Term 3 (Spring/Summer – May to August)**

**Practicum I (3 units)**
Students will complete an external clinical practicum placement in the community under the supervision of regulated health professional. It is anticipated that the student will attend their practicum placement 4 days per week for a minimum of 400 hours and complete over a single term. While completing the practicum, students will also be working on an integration paper (e.g., case study, literature review) which will be due at the end of the practicum. Clinical practicum supervisors will provide feedback on students’ clinical performance during the practicum placement.


**Term 4 (Fall Semester - September to December)**

**Clinical Research Methods (3 units)**
The aim of the course is to provide students with the knowledge and skill to review and evaluate research relevant to the field of psychotherapy. Topics will include basic research method designs, ethical issues in research, selection of appropriate assessment tools, data collection and analysis, and manuscript writing. In addition, the course will provide students with practical skills on how to evaluate psychotherapy programs.

**Term 4 AND Term 5 (Fall and Winter Semesters – September to April)**

**Applied Psychotherapy Skills (6 units)**
The course will provide training in advanced psychotherapy skills via tutorial-based classes. Students will practice a range of skills including clinical interviewing, specific strategies from evidence-based psychotherapies, managing and troubleshooting challenges to the therapeutic alliance. Skill development exercises will include reviewing audio recordings of therapy tapes, role playing in pairs and small groups, as well as reviewing treatment protocols. Students will be required to lead class discussions on psychotherapy skills. Students will be encouraged to select a topic that is relevant to their current practicum placement or is an area of interest related to their self-directed learning plan. To ensure students receive adequate supervision and assessment, the student cohort will be split into smaller sections. This course will be completed at the same time as the Clinical Practicum II course.

**Clinical Practicum II (3 units)**
Students will complete an external clinical practicum placement in the community under the supervision of a regulated health professional. The practicum will be completed over 2 terms for approximately 8 months. It is anticipated that the student will attend their practicum placement 2 days per week for a minimum of 400 hours. While completing the practicum students will also be working on an integration paper (e.g., case study, literature review) which will be due at the end of the practicum. Clinical practicum supervisors will provide feedback on students’ clinical performance during their practicum placement.

**DESCRIPTIONS OF THE ELECTIVE COURSES**

In addition to the 7 core courses and 2 practicum courses, students are required to complete 2 elective courses from those listed below. The elective courses will be offered on a rotating basis and therefore, not all elective courses will be offered each year. Students will be able to complete their elective courses during any term.

**Group Therapy (3 units)**
Group work has been demonstrated to be an effective way of providing service to clients. This course examines group work practice by exploring a range of theoretical concept, frameworks and skills. The course will focus on the development and practice of group leadership skills through lectures and the provision of opportunities for in-class, experiential learning. Students will participate in small groups to develop specific skills for effective group leadership.
Psychodynamic Psychotherapy (3 units)
This is an introductory course to key concepts in Psychodynamic Psychotherapy and the Psychotherapeutic relationship. The overall objective is for students to gain a basic understanding of key concepts and clinical techniques of psychodynamic psychotherapy, which includes the examination of the effects that early experience has in shaping who we are and impacting our interpersonal relationships. Students will become familiar with the features of conducting a psychodynamic assessment with an emphasis on the centrality of the therapeutic relationship.

Mindfulness-Based Cognitive Therapy (3 units)
Mindfulness is a non-judgmental way of paying attention in the present moment. It may reduce emotional reactivity and negative thinking, increasing resilience and enhancing the ability to choose how to respond to difficult situations. This course will focus on developing an understanding of the application of mindfulness interventions for health care populations. The emphasis will be on developing familiarity with leading and facilitating mindfulness practices. Based on Mindfulness-Based Cognitive Therapy traditions, participants will first participate in the mindfulness intervention, followed by discussion of the practice and the methodology for teaching the practice.

Motivational Interviewing (3 units)
This course will focus on understanding the theoretical underpinnings and evidence supporting the use of this integrated set of interviewing skills for clients who are ambivalent about change. Students will participate in pairs and small groups to develop and practice beginning and advanced motivational interviewing skills through discussion, case studies and practice in class.

CBT for Specific Populations (3 units)
This course will have rotating topics that vary depending on the instructor and topics of interest to the students. For example, it may focus on CBT for chronic pain, addictions, psychosis, or trauma.

Interpersonal Therapy (3 units)
Interpersonal Therapy (IPT) is a short-term contractual “here and now” focused psychotherapy that focuses the relief of depressive symptoms and the individual’s adaptation to the social and interpersonal circumstances associated with the onset of the depression. The emphasis of IPT is to facilitate restoration of the client’s previous level of functioning.

Family and Couples Therapy (3 units)
This course will offer students an introduction to theories and evidence-based interventions that emphasize improvements in couple and family functioning.

Emotion-Focused Therapy (3 units)
The aim of this course is to offer students an opportunity to gain skills in working directly with emotions in psychotherapy. The course will cover topics including emotion theory and emotion-focused strategies.

Seniors Mental Health (3 units)
This course is designed to enhance the students’ skills to communicate with and support seniors with mental health issues including emotional distress and behavioural challenges. Students will enhance their assessment skills related to seniors’ mental health conditions including symptoms, risk and treatment options and communication skills with clients and other health care providers. Students will gain
knowledge and skills related to interpersonal communication including self-awareness, therapeutic relationships, and the essential of skilled helping.

**Child and Adolescent Psychotherapy (3 units)**
The course will offer students a theoretical and clinical foundation in evidence-based interventions for children and adolescents for a range of mental health issues and presenting problems. The course will also incorporate topics related to development, diversity, and individual differences.

**Positive Psychology (3 units)**
The course will focus on the theories and principles of positive psychology. Students will learn clinical strategies related to the study and assessment of individuals’ strengths which can be incorporated into their treatment plans.

**Research Practicum (3 units)**
As an elective, students have the opportunity to become involved in a research project that is currently underway in the Department of Psychiatry and Behavioural Neurosciences.

**Special Topics in Evidence-Based Psychotherapies (3 units)**
This course will be designed to address current issues and emerging trends in psychotherapy literature. The topic will be chosen in response to needs identified by the instructor and/or students.

4.2 **PROGRAM INNOVATION**

The MSc in Psychotherapy’s curriculum will integrate and reflect McMaster’s three key educational principles of *Problem-Based Learning, Self-Directed Learning, and Small Group Learning*.

**Problem-Based Learning**
McMaster’s Problem-Based Learning Model is the basis for much of the instruction in the program. Given that this model emphasizes interaction with real-life clinical issues for experiential learning, the program is designed to emphasize learning that involves interacting with others, as well as encouraging students to engage in self-reflection to promote learning, integration, and the mastery of therapeutic skills. While completing clinical practicum placements, students will have the opportunity to directly apply their skills in clinical settings to optimize their experiential learning experiences.

The courses are designed to best meet the Program Learning Outcomes, which includes challenging students to enhance their current skill sets. Given the wide range of clinical modalities addressed in the course work, students may develop an understanding and basic introduction to several different areas or may choose to specialize by focusing on one area and delving into it in-depth, including getting supervision of their clinical work with clients/patients in a specific therapeutic modality.

**Self-Directed Learning**
Students will have the opportunity to explore their own personal learning needs while completing all components of the program. Although all students are required to complete a set of core courses, they will have ample opportunity to incorporate self-directed learning in these courses. For example, students will be required to select topics of interest when leading class discussions and when completing written assignments and final papers. Moreover, the clinical practicum and the Advanced Psychotherapy Skills
course offer a perfect example of the Self-Directed Learning model that was set out as a priority in the *Forward with Integrity* letter. In these learning opportunities, students will be encouraged to determine their learning needs, identify methods to meet their training need, and assess whether the need has been met. Overall, the program is designed to be iterative, such that students first develop foundational knowledge and skill in the first terms, and in subsequent courses students are encouraged to select learning opportunities based on their clinical interests and learning needs.

Small Group Learning
The classroom-based courses will provide students with small group learning opportunities. The courses incorporate group-based discussions and role plays as teaching opportunities. Students will complete different practicum placements which will offer them diverse clinical experiences, and in turn, provides a valuable learning resource as it encourages students to discuss different approaches to clinical situations.

Overall, the proposed MSc in Psychotherapy is unique in Canada and differs from existing Master’s-level programs in Psychology, Counselling, and Social Work. The program is designed to meet the specific needs of individuals who are seeking advanced training and competency in the delivery of psychotherapy as an independent practitioner. The focus of the program is to provide individuals with advanced knowledge and skill in evidence-based psychotherapies, with a specific focus on developing competency in cognitive behavioural therapy (CBT). Distinct from counselling programs that focus on providing vocational counselling and advice and from the majority of psychology graduate programs that have a significant research component, the MSc in Psychotherapy will emphasize foundational training in theories of mental illness and psychotherapies. The MSc will also offer several experiential learning opportunities to practice applied skills to ensure that a student exits the program with the competency to practice independently. Finally, the self-directed learning requirements will ensure that students are able to identify and continue to direct their professional development throughout their careers.

4.3 MODE(S) OF DELIVERY

The MSc in Psychotherapy will offer students a variety of learning activities via courses and practicum learning opportunities.

Learning opportunities across the **Core and Elective Courses** include:
- Written article critiques, reflection papers
- Role play of therapy skills in pairs and small groups
- Analysis of pre-recorded therapy sessions
- Formulation of case conceptualizations/case study
- Lectures by clinical specialists
- Class discussions, including leading class discussions on selected topics
- Presentations

Learning opportunities specific to the **Applied Psychotherapy Skills Course** (small group tutorials) include:
- Role play of therapy skills in pairs and small groups
- Analysis of pre-recorded therapy sessions
- Discussion of clinical cases
- Self-reflection papers
Learning opportunities during the Practicum Courses include:

- Conducting individual therapy sessions with clients
- Co-leading group therapy sessions with an experienced clinician
- Supervision of therapy cases by a registered clinician
- Integration paper

The core and elective courses will be offered in a regular classroom format at McMaster University or St. Joseph’s Healthcare’s West 5th Campus. The Practicum placements will be completed in community-based clinical settings, including hospitals, family health teams, mental health agencies, and university counselling centres.

4.4 EXPERIENTIAL LEARNING

The MSc in Psychotherapy courses will include several experiential learning components within the course-based curriculum and clinical practicum placements.

The program is committed to providing students with various methods for learning and practicing their new learning. The courses will include role plays, analyzing and discussing pre-recorded therapy sessions, and group discussions. The focus of the Applied Psychotherapy Skill is to offer students an opportunity to learn about relevant clinical topics and practice the skill with students in the program and to receive feedback prior to using the skill or therapy method with a client in clinical practice. In addition, the Applied Psychotherapy Skills course will include opportunities for students to explore a variety of clinical and professional problems that they are likely to encounter in clinical practice (e.g., managing client relationship ruptures, ethical dilemmas).

All students will also be required to complete two clinical practicum placements. Students will be able to select clinical placements that are relevant to their training interests (and based on availability). Initial clinical placements have been established with various mental health speciality clinics (e.g., Anxiety Treatment and Research Clinic, Mood Disorders Clinic) at St. Joseph’s Healthcare Hamilton. As the program develops further, additional practicum placements will be formalized. It is anticipated that students will be working with clinical patients/clients in a variety of settings including hospitals, family health teams, mental health agencies, university counselling centres and private clinical practices. Experiential clinical training will offer students a range of opportunities to practice their new skills in professional clinical settings to prepare students for the workplace.

4.5 ACCESSIBILITY

Standards set by the Accessibility for Ontarians with Disabilities (AODA) will be incorporated in the development of the course materials and resources.

For example, all materials used in the MSc in Psychotherapy will be available in alternate formats (e.g., large-print; braille). The website will conform to McMaster Accessibility guidelines. All instructors and faculty will be informed on an annual basis about the requirements to provide accommodations where needed, and how to do so. Faculty can discuss any questions they may have regarding accessibility or ways in which the course content could be modified to ensure it is relevant and sensitive to different
perspectives with the course co-ordinator or with the Program Director. Accommodations will be made on an individual basis to meet the specific needs of the learner.

4.6 RESEARCH REQUIREMENTS (IF APPLICABLE)

The MSc in Psychotherapy is a professional, course-based Master’s program and therefore, does not require a research project. However, the students will learn to search for and assess evidence in order to develop their skills for promoting evidence-based practice. Additionally, there are many opportunities within McMaster’s Department of Psychiatry and Behavioural Neurosciences for interested students to participate in research projects that are underway.

5 ASSESSMENT OF LEARNING

5.1 METHODS FOR ASSESSING STUDENTS

Each course will incorporate a diverse set of learning activities to teach the course content, which directly align with the principles of problem-based and self-directed learning, and provide the instructor with several opportunities for the assessment of learning. The students will be evaluated using a variety of methods, including their performance in role plays and supervision of client sessions to demonstrate the skills taught, written essays on topics covered, participation in class discussions, and class presentations.

The specific assessment methods will include:

- Evaluation of assignments, papers, quizzes, exams, learning portfolios, participation in course activities.
- Reflective papers to provide the opportunity to assess students’ ability to apply the theoretical knowledge and skills taught in course material to their own clinical practice.
- Evaluation of the student’s ability to perform the skills taught (in role play and in clinical practice)
## 5.2 CURRICULUM MAP

A curriculum map is presented below.

<table>
<thead>
<tr>
<th>Program Learning Outcomes (PLOs)</th>
<th>Master’s Degree Level Expectations (DLEs)</th>
<th>Program Requirements</th>
<th>Assessments and Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>By the end of the program, student graduating with a Master’s degree will be able to...</td>
<td>For each PLO, identify which DLE(s) it aligns with below.</td>
<td>For each PLO, what teaching activities and learning opportunities are students exposed to that will help them to achieve that PLO?</td>
<td>For each PLO, what is specifically collected from the student as evidence that they can/have achieved the PLO before they graduate?</td>
</tr>
<tr>
<td>1. Demonstrate and apply knowledge of key theoretical models of mental health illness and wellness, including understanding role of human development, physical health, and sociocultural factors, in their professional practice.</td>
<td>1, 2, 3</td>
<td><strong>All courses</strong> (in class lecture, course readings, class discussion)</td>
<td>- Graded assessments of course requirements: written assignments, projects, final papers - Assessment of quality of participation in class discussions</td>
</tr>
<tr>
<td>Practicum (Application of knowledge and skill in a clinical setting)</td>
<td></td>
<td></td>
<td>- Midterm and final evaluations completed by clinical supervisor regarding the student’s level of competence in developing case conceptualizations that are rooted in clinical theory</td>
</tr>
<tr>
<td>Completion of Integrative Papers (completing of literature review, preparation/integration of knowledge, writing of final paper)</td>
<td></td>
<td></td>
<td>- Feedback on drafts of paper - Evaluation of final written paper</td>
</tr>
<tr>
<td>2. Demonstrate knowledge of the theory and research support for evidence-based psychotherapies in the treatment of mental health disorders.</td>
<td>1, 2, 3</td>
<td><strong>All courses</strong> (in class lecture, course readings, class discussion)</td>
<td>- Graded assessments of course requirements: Written assignments and final papers - Assessment of quality of participation in class discussions</td>
</tr>
<tr>
<td>Practicum (Application of knowledge and skill in a clinical setting)</td>
<td></td>
<td></td>
<td>- Midterm and final evaluations completed by clinical supervisor regarding the student’s level of competency in the delivery of an evidence-based psychotherapy</td>
</tr>
<tr>
<td>3. Demonstrate the competency to conduct clinical assessments, formulate case conceptualizations and</td>
<td>3, 4, 5, 6</td>
<td><strong>All courses, but predominantly in the Assessment and Case Formulation Course</strong> (In class lectures, course readings, class discussion, role play)</td>
<td>- Graded assessments of course requirements: Written assignments and final papers - Assessment of quality of participation in class discussions</td>
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<tr>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>develop treatment plans for a range of clinical presentations.</strong></td>
<td><strong>Practicum</strong> (Weekly supervision with a registered therapist, conducting clinical assessments with patients/clients in clinical settings)</td>
<td>- Midterm and final evaluations of student’s level of competence in conducting clinical assessments, developing case conceptualizations and treatment plans</td>
<td></td>
</tr>
<tr>
<td><strong>4. Engage in effective and competent clinical practice, which is demonstrated through the effective application of evidence-based psychotherapies, ability to form therapeutic rapport, and effective communication with patients or clients.</strong></td>
<td><strong>Applied Psychotherapy Skills</strong> (Didactic presentations, video vignettes, role-play, class discussion)</td>
<td>- Graded assessments of course requirements: written assignments, projects, final papers, - Evaluation of student’s quality of participation in class discussions and role plays</td>
<td></td>
</tr>
<tr>
<td><strong>5. Demonstrate and integrate knowledge of professional standards of practice and ethical conduct in clinical practice.</strong></td>
<td><strong>Ethical Standards and Professional Practice</strong> (Didactic presentations, course readings, in class discussion)</td>
<td>- Graded assessments of course requirements: written assignments, projects, final papers - Evaluation of student’s quality of participation in in-class discussions</td>
<td></td>
</tr>
<tr>
<td><strong>6. Accurately appraise personal levels of clinical competence and identify areas for professional growth and self-directed learning.</strong></td>
<td><strong>Applied Psychotherapy Skills</strong> (Didactic lecture, class discussions, Role plays)</td>
<td>- Evaluation of reflection papers and self-directed learning plans - Evaluation of student’s quality of participation in in-class discussions and role-plays</td>
<td></td>
</tr>
<tr>
<td><strong>7. Use critical thinking skills to identify and solve complex problems and to appraise the success of the solutions employed.</strong></td>
<td><strong>All courses, but predominantly in the Clinical Research Methods Course</strong> (in class lecture, course readings – research articles, class discussion, discussion of program evaluation)</td>
<td>- Graded assessments of course requirements: written assignments, projects, final papers - Assessment of quality of participation in class discussions</td>
<td></td>
</tr>
<tr>
<td><strong>Completion of Integrative Papers</strong> (Preparation/integration of knowledge, writing of final paper)</td>
<td>- Evaluation of final paper</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>8. Exhibit the ability to identify and make improvements in the delivery of patient or client care.</strong></td>
<td><strong>Clinical Research Methods</strong> (In class lecture on program evaluation; Completion of written assignment)</td>
<td>- Graded assessments of course requirements: written assignments, projects, final papers - Assessment of quality of participation in class discussions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Course(s)</td>
<td>Assessments/Requirements</td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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<td>-----------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| 9 | Engage in effective written and oral communication skills with patients and other healthcare providers.                                                                                                     | All courses, but predominantly in the Assessment and Case Formulation Course (in class discussions, clinical writing skills, written assignments) | - Graded assessments of course requirements: written assignments, projects, final papers  
- Assessment of quality of participation in class discussions  
Practicum (Completion of written clinical assessment reports and therapy progress notes; Participate as a member of a clinical team) | 4  
1, 2, 3  
1, 2, 3, 6  
All courses, but predominantly in the Clinical Research Methods Course (In class lecture, class discussion, written critiques of research articles) |
| 10| Demonstrate an understanding of clinical research methods, including the ability to critically evaluate the validity of clinical theories and research findings and the ability to conceptualize and develop a research study.   | All courses but predominantly in the Clinical Research Methods Course (In class lecture, class discussion, written critiques of research articles) | - Graded assessments of course requirements: written assignments, projects, final papers  
- Assessment of quality of participation in class discussions  
Practicum (Completion of written clinical assessment reports and therapy progress notes; Participate as a member of a clinical team) | 1, 2, 3  
All courses, but predominantly in the Clinical Research Methods Course |
| 11| Integrate and apply knowledge of clinically-relevant research findings in clinical practice, including the selection of appropriate evidence-based therapies, and engaging in the measurement and evaluation of clinical outcomes. | All courses, but predominantly in the Clinical Research Methods Course | - Graded assessments of course requirements: written assignments, projects, final papers  
- Assessment of quality of participation in class discussions  
Practicum (Application of skills in a clinical setting)  
Completion of Integrative Paper (Develop draft of outline and written document)  
- Feedback on draft  
- Final evaluation of paper | 1, 2, 3  
All courses, but predominantly in the Clinical Research Methods Course |
5.3 DEMONSTRATING STUDENT ACHIEVEMENT

Students’ achievements will be demonstrated by (i) performance in courses, (ii) evaluations from clinical practicum placements and (iii) completion of the Integrative papers.

Courses

For in-classroom courses, student achievement will be identified through class participation and assignments, quizzes, midterms and exams. Theoretical knowledge will be evaluated primarily through class participation (e.g., engagement in discussions and critical appraisal of concepts), assignments, quizzes, exams, as well as on final written projects. Achievements related to practical skill acquisition will be evaluated based on students’ demonstration of clinical skills/application in role plays as well as their written description of their clinical case, which will include evaluation of their client’s outcomes.

The assessment methods are outlined in the curriculum map. In addition to the traditional methods of evaluating students’ performance, the emphasis on clinical application lends itself to many innovative opportunities for students to demonstrate their skills, such as role plays, case formulations, presentation of vignettes illustrating their application of new skills, reflective papers, and the discussion of videotapes that demonstrate the application of new skills acquired via clinical practice. Students’ progress can also be assessed through observation of their participation in group discussions during the courses.

Clinical Practicum Placements

Clinical practicum supervisors will provide the ongoing supervision and guidance of students on clinical practicum placements. Clinical practicum supervisors will also provide feedback on the student’s performance while on the practicum placement, including a formal, written evaluation of the student’s clinical skill (i.e., intervention utilised, building a therapeutic alliance), communication skills, and ethics and professional standards.

The Coordinator of Clinical Education will oversee, coordinate and evaluate clinical placements. The Coordinator of Clinical Education will complete the student’s formal midterm and final evaluations, with consideration of the formal, written input from the clinical practicum supervisor.

Integrative Papers

Students will complete an integrative paper (approximately 2000 words) during their clinical practicum placements. The paper will require students to identify a topic of their choice related to their practicum placement (e.g., a specific mental health problem, psychotherapy treatment protocol). Students will then discuss the theoretical knowledge that they have gained on this topic and how it can be applied in their clinical setting to best meet the needs of their patients. This paper will be evaluated by their clinical practicum supervisor and by the Coordinator of Clinical Education and will be used towards their evaluation of their Clinical Practicum Placement.
6 RESOURCES

6.1 GRADUATE PROGRAMS

6.1.1 ADMINISTRATIVE, PHYSICAL AND FINANCIAL RESOURCES

Administrative
A faculty position will be developed for the Coordinator of Clinical Education (teaching-stream position) who will oversee clinical practicum placements. Due to the commitment required for coordinating clinical practicum placements for the students, the program will require a FTE who is responsible for developing, planning, coordinating, facilitating, monitoring and evaluating the clinical practicum placements and for evaluating students on placement with input from the clinical practicum supervisor. The Coordinator of Clinical Education will also build partnerships between the MSc in Psychotherapy Program and the clinical community to secure practicum positions. Finally, the Coordinator of Clinical Education will be responsible for providing orientation and training materials for clinical practicum supervisors.

The current CBS Program Coordinator will transfer to the Master’s program once approved. The Coordinator will oversee the daily functioning of the program and run the administrative office.

Physical Resources
The Psychotherapy Program will be housed within the Department of Psychiatry and Behavioural Neurosciences. The existing CBS Program has two offices, one at the Ewart Angus Centre at MUMC and one at St Joseph’s Healthcare Centre - West 5th campus. There is also space for student cubicles. There is no current need for additional physical resources.

Financial Resources
The program will be funded through BIU grants from the Ministry of Training, Colleges and Universities and student tuition. Financial support for the Program Director, Coordinator of Clinical Training, Program coordinator and administrative support will be generated from program revenues.

6.1.2 LIBRARY, TECHNOLOGY, AND LABORATORY RESOURCES

The library and information technology support available from McMaster University and St. Joseph's Healthcare Hamilton will be adequate to sustain and support students’ learning and scholarship, including assess to journal subscriptions, online databases, and books.

The program will utilise audiovisual materials and internet access during the class lectures. All of the classrooms have the required technology.

None of the students will be conducting independent research projects and therefore no laboratory space is required.

6.1.3 FACULTY

The existing CBS Faculty will support the Master’s program and maintain the high quality of teaching and the excellence of the learning environment. Majority of the teaching faculty are members of the Department of Psychiatry and Behavioural Neurosciences, while others come from McMaster’s School of
Rehabilitation Science and School of Nursing in the Faculty of Health Sciences. All faculty and course instructors are well-established in academia and clinical practice and remain up-to-date with developments in clinical and psychotherapy practice. Faculty and course instructors are experienced, respected and well-recognized in their areas of expertise. As noted in 6.1.1. **ADMINISTRATIVE, PHYSICAL AND FINANCIAL RESOURCES**, the program will be hiring a faculty member to serve as the Coordinator of Clinical Education.

A list of faculty members can be found under Appendix C. Majority of the faculty fall into category 4 (non-tenure track core faculty members who are involved in teaching and/or supervision in other graduate program(s) in addition to being a core member of the graduate program under review). Although many of the faculty members are in category 4, the CBS program is their sole or primary teaching commitment in the Department of Psychiatry and Behavioural Neurosciences. Given the demands of the MSc Program, the department will also aim to recruit a faculty member to teach exclusively in the MSc Program. As there are no dissertations or theses to be completed in this Program, there is no supervision related to a Master’s thesis.

All students will be connected with a mentor, who is a faculty member involved in the MSc in Psychotherapy, to provide advice and mentorship. The student and faculty member will meet a minimum of three times per year to provide guidance and discuss with the student his/her progress in the program.

**6.1.4 STUDENT FINANCIAL SUPPORT**

Consistent with professional Master’s degrees at McMaster University, there is a scholarship allocation of $1000 per full-time student, per year. The scholarship will be used to provide entrance scholarships, awards of academic achievement, etc., which is consistent with other graduate programs in the Faculty of Health Sciences.

**7 QUALITY AND OTHER INDICATORS**

**7.1 ACADEMIC QUALITY OF THE PROGRAM**

The MSc in Psychotherapy will use formative assessments and feedback on a regular basis to assess the academic quality of the program.

The Psychotherapy Program will be evaluated by students in the following areas: a) the quality of the instruction (i.e., knowledge and teaching ability of instructors), and b) the usefulness of the course materials to their real work experiences. Courses are evaluated on objectives, content, format, resources used, group composition and overall ratings. The program will also seek feedback from clinical practicum supervisors.

Assessment and quality of student success during the program will be evaluated based on: time to completion data; grades and averages; and retention rates. Following completion of the MSc, students will be asked to complete a survey to provide the program with information related to current employment and status of registration with the CRPO.
Faculty members’ performance will be reviewed by the Associate Chair, Education Psychiatry and Behavioural Neurosciences as part of their faculty re-appointment every three years. Instructors will be evaluated by students using the standard online survey developed by the Faculty of Health Sciences. The evaluations will also be presented to the instructors to review after the course has ended. The program will follow the Faculty of Health’s Sciences guidelines for sharing evaluations: To maintain and protect students’ confidentiality, feedback will only be shared with faculty once a sufficient number of have been received (i.e., 5 or more) and the information gathered will be anonymized. These evaluations will then be shared with the course co-ordinator. Should there be concerns raised by these evaluations, the course co-ordinator will meet with the Instructor to discuss the concerns and to help resolve any issues that arise. This meeting will then be reported to the Program Director. Students will also be asked to evaluate their clinical practicum supervisors and the providing of feedback to supervisors will also follow the Faculty’s guidelines for sharing of evaluation information.

Department meetings will be held each semester, which will provide opportunities for faculty to exchange information on how the courses are progressing and areas for improvement. These meetings will also offer faculty the opportunity to exchange ideas or innovations that have worked well in one course or part of the program and which could be adopted in other courses.

7.2 INTELLECTUAL QUALITY OF THE STUDENT EXPERIENCE

The MSc in Psychotherapy is offered through McMaster’s Department of Psychiatry and Behavioural Neurosciences. The Department has a vibrant and engaged faculty with diverse training backgrounds. There will be many opportunities for students to become involved in Department activities and to interact with a variety of faculty members. The faculty are also very invested in maintaining a high standard of intellectual quality in their course offerings and in their clinical work. We aim for the MSc in Psychotherapy to meet the students’ training and learning needs to prepare them for a career as an independent psychotherapy practitioner.
CHECKLIST FOR NEW PROGRAM PROPOSALS

The following section indicates all the items that are required as part of a complete new program proposal package which includes all the necessary documents. Part I, II and III should be submitted as separate files to iqap@mcmaster.ca.

PART I: COMPLETE NEW PROGRAM PROPOSAL DOCUMENT

☐ Complete New Program Proposal Template
☐ Faculty CVs (can be submitted on CD or USB)
☐ Memorandum(s) of Understanding (Letters of Support) (if applicable)

PART II: RESOURCE IMPLICATIONS AND FINANCIAL VIABILITY TEMPLATE

☐ Completed
☐ Approved

PART III: FEES MEMO

☐ Completed
☐ Approved
Please note that approvals from the following internal committees is also required before the New Program Proposal can be sent to Quality Council & MTCU: Graduate Council, University Planning Committee and Senate.
Appendix A

Survey of Current and Past CBS Graduate Diploma Students

Would you have been interested in completing a Master’s in Clinical Behavioural Studies if it had been available to you? Please elaborate on your answer.

<table>
<thead>
<tr>
<th>Answer Choices</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>100.0%</td>
</tr>
<tr>
<td>No</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

If you were interested in the Master’s degree, which track of the program would you be interested in completing?

<table>
<thead>
<tr>
<th>Answer Choices</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>General track (i.e., completion of courses across several study areas)</td>
<td>28.57%</td>
</tr>
<tr>
<td>Specialized track (i.e., completion of courses within a specific study area)</td>
<td>71.43%</td>
</tr>
</tbody>
</table>

If you were interested in the Master’s degree, would you pursue a full time or part time degree?

<table>
<thead>
<tr>
<th>Answer Choices</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full time (1 course per term; 3 terms per year (i.e., fall, winter, spring)</td>
<td>42.86%</td>
</tr>
<tr>
<td>Full-time (1 course per term; 2 terms per year (i.e., fall, winter)</td>
<td>42.86%</td>
</tr>
<tr>
<td>Part-time (fewer than 2 courses a year)</td>
<td>14.29%</td>
</tr>
</tbody>
</table>
Appendix B

Terms of Reference for Admissions Committee and Curriculum Committee

Admissions Committee - Terms of Reference

**Mandate:** The mandate of the Admissions Committee is to develop all policies and procedures related to admitting applicants to the MSc in Psychotherapy Program, in accordance with accreditation standards and McMaster Graduate Studies Admission criteria.

**Membership:**
- The Director of the MSc in Psychotherapy Program or their delegate will chair the committee, which will include a minimum of 2 additional faculty members.

**Length of Term:**
- Appointed members will normally serve a 3-year term, renewable once.

**Specific Functions:**
- Establish admissions policies and procedures, including admission criteria that complies with Graduate Studies admission criteria
- Establish application deadlines for the Psychotherapy Program
- Ensure that the qualifications of applicants seeking admission are appropriately assessed and reviewed and that fair and equitable consideration is given to each applicant
- Select applicants who are best qualified and recommend them for an interview
- In consultation with Graduate Studies, regularly review the criteria for admission and recommend changes to the admission policy
- Review, revise and recommend wording and changes of the on-line application form as required
- Review and revise admission criteria and content for the website and the university calendar on an annual basis

**Meeting procedures**
- Frequency and duration – Twice a term (minimum 6 meetings a year). Additional meetings will be scheduled as needed at the call of the Chair.
- Conflict of interest – members are expected to declare a conflict of interest if their real or perceived personal interest might be seen to influence their ability to assess any matter before the committee objectively
- Decision making – The Chair will aim to build consensus if possible and the final decision will be made by voting; votes may be conducted electronically if necessary.
- Evaluation – the Admission Committee will review the Terms of Reference on an annual basis and/or as required
Curriculum Committee - Terms of Reference

Mandate: The mandate of the Curriculum Committee is to ensure that the curriculum for the MSc in Psychotherapy Program is designed, managed, evaluated and revised in a coherent and coordinated fashion, consistent with accreditation and current educational standards and the programs mission and goals.

Membership:
- The Director of the Psychotherapy Program or delegate will chair the committee. Membership includes a minimum of 2 faculty members and one student.

Length of Term:
- Appointed members will normally serve a 3-year term, renewable once.

Meeting Procedures
- Frequency and duration – once a month (September through June). Additional meetings will be scheduled as needed.
- Conflict of interest – members are expected to declare a conflict of interest if their real or perceived personal interest might be seen to influence their ability to assess any matter before the committee objectively
- Decision making – the Chair will aim to build consensus if possible and the final decision will be made by voting, in the event of a tie, the Chair’s decision will preside
- Evaluation – the Curriculum Committee will review the terms of reference on an annual basis and/or as required.

Specific Functions:
- Policies
- Curriculum goals
- Curriculum design and methodologies
- Evaluation and revision of curriculum content
- Identifying the need for new program components or courses
- Curriculum administration
- Faculty communication and education

Responsibilities and Duties:
- To review and evaluate curriculum proposals to ensure that they meet established educational policies and standards. Make recommendations to the GPCC for approval of curriculum in accordance with Graduate Studies Policies.
- To ensure continuity within the curriculum, including the annual calendar
- To develop and implement policies regarding hours of the curriculum, curriculum design and content, including recommendations to the GPCC
- To establish curricular content and design and sequencing; ongoing review and updating of content
- To monitor adequate vertical and horizontal for integration of content
- To oversee curricular implementation and ongoing management
- To manage the ongoing evaluation and revision of the curricular content
- To develop policies, establish curricular goals and objectives
- To manage the ongoing evaluation and revision of curriculum content
- To promote faculty communication and education
- To administer the curriculum
- To receive and analyze requests for curriculum modifications such as requests for new materials
- To respond to external audits and accreditation surveys
- To review appropriateness of course offerings
- To ensure effective management of student/tutor evaluation processes
## Appendix C

### Current CBS Faculty Members

<table>
<thead>
<tr>
<th>Faculty Name &amp; Category of Appointment</th>
<th>M/F</th>
<th>Home Department</th>
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</thead>
<tbody>
<tr>
<td><strong>CATEGORY 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Armstrong, Monique, Assistant Professor</td>
<td>F</td>
<td>Department of Psychiatry and Behavioural Neurosciences</td>
</tr>
<tr>
<td>Cox, Linda, Assistant Professor</td>
<td>F</td>
<td>Department of Psychiatry and Behavioural Neurosciences</td>
</tr>
<tr>
<td>Evans, Peter, Assistant Professor</td>
<td>M</td>
<td>Department of Psychiatry and Behavioural Neurosciences</td>
</tr>
<tr>
<td>Fenton, Nancy, Assistant Professor</td>
<td>F</td>
<td>Department of Psychiatry and Behavioural Neurosciences</td>
</tr>
<tr>
<td>Fletcher, Janet, Assistant Professor</td>
<td>F</td>
<td>Department of Psychiatry and Behavioural Neurosciences</td>
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<tr>
<td>Keeber, Kristy, Assistant Professor</td>
<td>F</td>
<td>Department of Psychiatry and Behavioural Neurosciences</td>
</tr>
<tr>
<td>Marshall, John, Lecturer</td>
<td>M</td>
<td>Department of Psychiatry and Behavioural Neurosciences</td>
</tr>
<tr>
<td>Meister, Chuck, Assistant Professor</td>
<td>M</td>
<td>Department of Psychiatry and Behavioural Neurosciences</td>
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<tr>
<td>Ricketts, Paul, Assistant Professor</td>
<td>M</td>
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</tr>
<tr>
<td>Seaton, Louise, Assistant Professor</td>
<td>F</td>
<td>Department of Psychiatry and Behavioural Neurosciences</td>
</tr>
<tr>
<td>Tarswell, Neil, Assistant Professor</td>
<td>M</td>
<td>Department of Psychiatry and Behavioural Neurosciences</td>
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<tr>
<td>Ward, Susan, Assistant Professor</td>
<td>F</td>
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<td><strong>CATEGORY 2</strong></td>
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<tr>
<td>Kates, Nick, Professor</td>
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<td>Department of Psychiatry and Behavioural Neurosciences</td>
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<tr>
<td>McKinnon, Margaret, Associate Professor</td>
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<td><strong>CATEGORY 3</strong></td>
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<tr>
<td>Bang, Debbie, Assistant Professor</td>
<td>F</td>
<td>School of Nursing</td>
</tr>
<tr>
<td>Beiling, Peter, Professor</td>
<td>M</td>
<td>Department of Psychiatry and Behavioural Neurosciences</td>
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<tr>
<td>Bourque, Lisa, Assistant Professor</td>
<td>F</td>
<td>Department of Psychiatry and Behavioural Neurosciences</td>
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<tr>
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<td>Department of Psychiatry and Behavioural Neurosciences</td>
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<tr>
<td>Eppel, Alan, Professor</td>
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<td>Department of Psychiatry and Behavioural Neurosciences</td>
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<tr>
<td>Frederiksen, Savinna, Assistant Professor</td>
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<td>Department of Psychiatry and Behavioural Neurosciences</td>
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<tr>
<td>Green, Sheryl, Assistant Professor</td>
<td>F</td>
<td>Department of Psychiatry and Behavioural Neurosciences</td>
</tr>
<tr>
<td>Name</td>
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<tr>
<td>Goldberg, Joel, Associate</td>
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<tr>
<td>Haber, Erika, Assistant</td>
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<td>King, Jelena, Assistant</td>
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<td>Liss, Andrea Assistant</td>
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<td>Reynolds, Jane, Assistant</td>
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<td>Rowa, Karen, Associate</td>
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<td>Sergeant, Laura, Assistant</td>
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<td>Smith, Wanda, Assistant</td>
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<td>Sulis, William, Associate</td>
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<tr>
<td>Traficante, Marlene, Assistant Professor</td>
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<td>Weeraskera, Priyanthay, Professor</td>
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<td>Wolpert, Adele, Associate Professor</td>
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<td>Yuen, Sandy, Assistant Professor</td>
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<tr>
<td>Key, Brenda, Assistant Professor</td>
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<tr>
<td>Hewitt, Jennifer, Assistant Professor</td>
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</tbody>
</table>
REPORT TO SENATE
FROM
UNDERGRADUATE COUNCIL

For Approval:

I Revisions to General Academic Regulations (Attachment I)
At its meeting of January 30, 2018, Undergraduate Council approved, for recommendation to Senate, revisions to the General Academic Regulations for inclusion in the 2018-2019 Undergraduate Calendar. The Undergraduate Council Ad Hoc Committee on Academic Structures for Student Success (CASS) was struck following the release of the Report from the Committee on the Future Directions of the Faculties of Humanities, Social Sciences, and Science. A key aspect of the CASS mandate was a full review the General Academic Regulations, which had not been undertaken since the early 1990s. CASS examined the existing General Academic Regulations in detail and introduced some new regulations and revised others. A small working group was struck to rewrite the regulations, which was done with an eye to simplifying the language and removing any material that provided only information or instructions, as well as to enable a more dynamic on-line format. Language for the new Personal Interest Course (PIC) Option (formerly credit/no-credit course option) has also been included in the proposed new text. Some changes also reflect recent revisions to the Undergraduate Course Management Policies. New regulations include Repeating Courses and Personal Interest Courses (PIC). Revised regulations include those related to early feedback on student progress in courses and due date restrictions (formerly Assessment Ban). The General Academic Regulations were substantially restructured and reorganized, given new headings, links were added to other relevant sections in the Calendar, and, in some cases, material was moved into this section from other sections of the Calendar. Two versions of the proposed revisions are attached, one with changes tracked and one clean version.

Undergraduate Council now recommends,

that Senate approve revisions to the General Academic Regulations, for inclusion in the 2018-2019 Undergraduate Calendar, as set out in Attachment I.

II Establishment of New Certificate Programs (Attachment II)

i. Concurrent Certificate in Leadership and Cross-Cultural Literacy
At the same meeting, Undergraduate Council approved, for recommendation to Senate, a proposal for the establishment of a new concurrent Certificate in Leadership and Cross-Cultural Literacy. The proposed concurrent certificate, offered by the Faculty of Humanities, builds on the two leadership and mentorship courses (HUMAN 3LM3 and
4LM3) first offered by the Faculty of Humanities in 2015, which have been extremely well received by students from across the University. The proposed program consists of 15 units of ethics and leadership and cross-cultural literacy taken as electives toward degree programs.

Undergraduate Council now recommends,

that Senate approve the establishment of a concurrent Certificate in Leadership and Cross-Cultural Literacy, for inclusion in the 2018-2019 Undergraduate Calendar, as set out in Attachment II (i).

ii. Concurrent Certificate in Applied Social Sciences Research
Also at the same meeting, Undergraduate Council approved, for recommendation to Senate, a proposal to establish a concurrent Certificate in Applied Social Sciences Research program. The proposed concurrent certificate, offered by the Faculty of Social Sciences, will provide students with the opportunity to develop a deeper understanding of the necessary skills to conduct applied social sciences research, such as identifying appropriate research methods, analysing statistical/quantitative data, creating surveys and questionnaires. The proposed program consists of 15-18 units taken as electives toward degree studies.

Undergraduate Council now recommends,

that Senate approve the establishment of a concurrent Certificate in Applied Social Sciences Research program, for inclusion in the 2018-2019 Undergraduate Calendar, as set out in Attachment II (ii).

iii. Payroll Practitioner Certificate
Also at the same meeting, Undergraduate Council approved, for recommendation to Senate, a proposal to establish a Payroll Compliance Practitioner Certificate program. The proposed program, offered through the Centre for Continuing Education, is designed to develop and/or enhance the core competencies, compliance knowledge and skills necessary for those looking to pursue a career in payroll or those looking to enhance their current payroll knowledge.

Undergraduate Council now recommends,

that Senate approve the establishment of a Payroll Compliance Practitioner Certificate program, effective May 1, 2018, as set out in Attachment II (iii).

For Information:

III Terms of Award
At its meeting of January 30, 2018, Undergraduate Council approved (i) five new awards, (ii) changes to four terms of award, and (iii) one new bursary.
i. Changes to Terms of Award
   The Steve Baxter Memorial Scholarship
   The Christine Ditta Memorial Scholarship
   The Mahatma Gandhi Scholarship
   The Russell and Winifred Hewetson Memorial Scholarship
   The Judith and Warren Johnson Academic Grant

ii. Changes to Terms of Award
    The Donald Oscar Cannon Scholarship
    The Dr. Thomas Hobley Prize
    The McMaster University Retirees Association Prize
    The McMaster University Retirees Association Scholarship

iii. New Bursaries
    The Don and Lois Gasse Memorial Entrance Bursary

IV Award Value Changes
At the same meeting, the Awards Committee received, for information, two award value changes.

V Personal Interest Course (PIC)
By e-mail vote on November 16-17, 2017, Undergraduate Council approved the final name of the credit/no-credit course option (formerly Discovery Courses) as Personal Interest Course (PIC). The initiative, which enables undergraduate students to explore courses outside their area of degree study without potentially negatively impacting their Grade Point Average, was approved by Senate on May 17, 2017, pending final determination of the name by Undergraduate Council. The two- to two-and-a-half-year trial period will begin in September 2018.

VI Establishment of a Minor in Innovation
At its meeting of January 30, 2017, Undergraduate Council approved the establishment of a Minor in Innovation for inclusion in the 2018-2019 Undergraduate Calendar. The proposed Minor is a joint initiative from the Faculties of Business and Engineering. Students and is intended for students from all Faculties who wish to learn more about innovation, and to develop a level of innovation literacy, as well as those who are themselves innovators and wish to develop skills to create their own enterprise.

VII Revisions to the Concurrent Certificate in Business Technology Management Program
At the same meeting, Undergraduate Council approved minor revisions to courses required for the concurrent Certificate in Business Technology Management program.
VIII Establishment of New Certificate of Completion Programs
   i. ePrivacy Series Certificate of Completion
   ii. Health Care Analytics Series Certificate of Completion

   Also at the same meeting, Undergraduate Council received, for information, details about two new Certificates of Completion offered by the Centre for Continuing Education, in partnership with the National Institute of Health Informatics.

IX Addenda to Curriculum Revisions for Inclusion in the 2018-19 Undergraduate Calendar

   At its meeting of January 30, 2018, Undergraduate Council approved curriculum revisions in the Faculty of Business, Faculty of Engineering, Faculty of Health Sciences, and Faculty of Science, for inclusion in the 2018-2019 Undergraduate Calendar.

   Documents detailing items for information are available for review on the Undergraduate Council Meeting Materials Page http://www.mcmaster.ca/univsec/agendas/agendaUGC.cfm

Senate: February 14, 2018
GENERAL ACADEMIC REGULATIONS:

This section outlines the general undergraduate academic regulations of the University. Students must read and comply with both these regulations and those set out by their Faculty elsewhere in this Undergraduate Calendar, as applicable. In the event of a conflict between the Faculty’s program regulations and the General Academic Regulations, the program regulations take precedence.

Since the Academic Regulations are continually reviewed, the University reserves the right to change the regulations in this section of the Calendar. The University also reserves the right to cancel the academic privileges of a student at any time should the student’s scholastic record or conduct warrant so doing.

Faculties are authorized to use discretion in special situations by taking into account past practice, the spirit of the regulations, and extraordinary circumstances. Students who believe their situations warrant special consideration should consult the appropriate Faculty/Program Office.

Academic Commitments

Students should expect to have academic commitments (e.g., classes, labs, tests, examinations, etc.) Monday through Saturday, normally 8:30 a.m. to 10:00 p.m., but not on Sunday or statutory holidays, as outlined in the Sessional Dates. Students are responsible for meeting all course requirements, including final examinations, as scheduled. Students who require accommodations to meet religious, Indigenous or spiritual observances (hotlink to RISO) must make their requests within 10 working days from the beginning of the start of term to their Faculty/Program office.

Sessional Dates

The academic year is divided into terms, as shown below. Most undergraduate students register for the Fall and Winter terms, which run from September to December and January to April respectively. The Spring/Summer term starts at the beginning of May and ends in early August.

Undergraduate Sessional Dates, as approved by Senate:

- 2017 Fall Term
- 2018 Winter Term
- 2017-2018 Courses Spanning both Terms
- 2018 Spring Session
- 2018 Summer Session
- 2018 Spring/Summer Term: Full-Term Courses

2017 Fall Term (62 days)
<table>
<thead>
<tr>
<th>Item</th>
<th>Date(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrolment Begins</td>
<td>To be announced</td>
</tr>
<tr>
<td>Classes begin</td>
<td>Tuesday, September 5</td>
</tr>
<tr>
<td>Last day for enrolment and course changes</td>
<td>Wednesday, September 13</td>
</tr>
<tr>
<td>Mid-term recess(es)</td>
<td>Monday, October 9 to Sunday, October 15</td>
</tr>
<tr>
<td>Last day for withdrawing from courses without failure by default</td>
<td>Friday, November 10</td>
</tr>
<tr>
<td>Test and Examination Restriction</td>
<td>Thursday, November 30 to Thursday, December 7</td>
</tr>
<tr>
<td>Classes end</td>
<td>Wednesday, December 6</td>
</tr>
<tr>
<td>Final Examinations</td>
<td>Friday, December 8 to Thursday, December 21</td>
</tr>
<tr>
<td>Deferred examinations</td>
<td>Tuesday, February 20 to Friday, February 23</td>
</tr>
</tbody>
</table>

2018 Winter Term (62 days)

<table>
<thead>
<tr>
<th>Item</th>
<th>Date(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrolment Begins</td>
<td>To be announced</td>
</tr>
<tr>
<td>Classes begin</td>
<td>Thursday, January 4*</td>
</tr>
<tr>
<td>Last day for enrolment and course changes</td>
<td>Friday, January 12</td>
</tr>
<tr>
<td>Mid-term recess(es)</td>
<td>Monday, February 19 to Sunday, February 25</td>
</tr>
<tr>
<td>Last day for withdrawing from courses without failure by default</td>
<td>Friday, March 16</td>
</tr>
<tr>
<td>Good Friday: No classes or examinations</td>
<td>Friday, March 30</td>
</tr>
<tr>
<td><strong>Test and Examination Restriction</strong></td>
<td>Tuesday, April 3 to Tuesday, April 10</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td><strong>Classes end</strong></td>
<td>Monday, April 9</td>
</tr>
<tr>
<td><strong>Final Examinations</strong></td>
<td>Wednesday, April 11 to Thursday, April 26</td>
</tr>
<tr>
<td><strong>Deferred examinations</strong></td>
<td>Monday, June 18 to Thursday, June 21</td>
</tr>
</tbody>
</table>

*The University re-opens on Tuesday, January 2, 2018 after the December holidays; classes begin January 4.*

<table>
<thead>
<tr>
<th><strong>2017-2018 Courses Spanning both Terms (124 days)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Item</strong></td>
</tr>
<tr>
<td>Enrolment begins</td>
</tr>
<tr>
<td>Classes begin</td>
</tr>
<tr>
<td>Last day for enrolment and course changes</td>
</tr>
<tr>
<td>Mid-term recess(es)</td>
</tr>
<tr>
<td>Last day for withdrawing from courses without failure by default</td>
</tr>
<tr>
<td>Good Friday: No classes or examinations</td>
</tr>
<tr>
<td><strong>Test and Examination Restriction</strong></td>
</tr>
<tr>
<td>Classes end</td>
</tr>
</tbody>
</table>
### Mid-Term Tests Level (I)
- **Date(s):** Friday, December 8 to Thursday, December 21

### Final Examinations
- **Date(s):** Wednesday, April 11 to Thursday, April 26

### Deferred examinations
- **Date(s):** Monday, June 18 to Thursday, June 21

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#### 2018 Spring Session (34 days)

<table>
<thead>
<tr>
<th>Item</th>
<th>Date(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classes begin</td>
<td>Monday, April 30</td>
</tr>
<tr>
<td>Last day for enrolment and course changes</td>
<td>Monday, May 7</td>
</tr>
<tr>
<td>Victoria Day: No classes</td>
<td>Monday, May 21</td>
</tr>
<tr>
<td>Last day for withdrawing from courses without failure by default</td>
<td>Wednesday, May 30</td>
</tr>
<tr>
<td>Classes end</td>
<td>Friday, June 15</td>
</tr>
<tr>
<td>Final Examinations</td>
<td><em>As arranged by instructor in class time</em></td>
</tr>
<tr>
<td>Deferred Examinations</td>
<td>2018 Fall Mid-Term Recess Period</td>
</tr>
</tbody>
</table>

#### 2018 Summer Session (34 days)

<table>
<thead>
<tr>
<th>Item</th>
<th>Date(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classes begin</td>
<td>Monday, June 18</td>
</tr>
<tr>
<td>Last day for enrolment and course changes</td>
<td>Monday, June 25</td>
</tr>
<tr>
<td>Canada Day: No classes</td>
<td>Monday, July 2</td>
</tr>
<tr>
<td>Last day for withdrawing from courses without failure</td>
<td>Wednesday, July 18</td>
</tr>
</tbody>
</table>

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### Classes end
- Friday, August 3

### Civic Holiday: No classes
- Monday, August 6

### Final Examinations
- As arranged by instructor in class time

### Deferred Examinations
- 2018 Fall Mid-Term Recess Period

### 2018 Spring/Summer Term: Full-Term Courses (68 days)

<table>
<thead>
<tr>
<th>Item</th>
<th>Date(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classes begin</td>
<td>Monday, April 30</td>
</tr>
<tr>
<td>Last day for enrolment and course changes</td>
<td>Monday, May 7</td>
</tr>
<tr>
<td>Victoria Day: No classes</td>
<td>Monday, May 21</td>
</tr>
<tr>
<td>Canada Day: No classes</td>
<td>Monday, July 2</td>
</tr>
<tr>
<td>Last day for withdrawing from courses without failure by default</td>
<td>Wednesday, July 18</td>
</tr>
<tr>
<td>Classes end</td>
<td>Friday, August 3</td>
</tr>
<tr>
<td>Civic Holiday: No classes</td>
<td>Monday, August 6</td>
</tr>
<tr>
<td>Final Examinations</td>
<td>As arranged by instructor in class time</td>
</tr>
<tr>
<td>Deferred Examinations</td>
<td>2018 Fall Mid-Term Recess Period</td>
</tr>
</tbody>
</table>

### Student Responsibilities

#### Academic
McMaster University provides many resources to help students achieve their academic goals, including the Undergraduate Calendar, program advisement reports and academic advisors. The University endeavours to enable students to enrol in required courses so that their program admission requirements and course requisites can be met in a timely manner. The University reserves the right to change a student’s enrolment in classes should the need occur (e.g. low enrolment, urgent timetable changes, etc.).

Students must assume certain responsibilities. They include:

- meeting admission requirements and application deadlines for their intended program(s) of study
- selecting and completing courses in an order that meets requisite and program requirements
- becoming familiar with and respecting University Sessional Dates, the General Academic Regulations and their Faculty/Program specific regulations and the Regulations for Aid and Awards as found in the appropriate section of this Calendar.

Students who do not follow these guidelines may experience academic consequences such as cancellation of course enrolment, completion of courses that are not counted toward their degree, or delayed graduation.

In addition to the responsibilities listed above, students are expected to:

- know and follow the Senate Policies
- keep their student account in good standing, paying all charges on time
- be aware that changes to course load and program may affect eligibility for government and University aid and awards (e.g. OSAP, work programs, bursaries, scholarships, etc.)
- consult with Student Accessibility Services in a timely manner to make disability related accommodation requests

**Communication**

It is the student’s responsibility to:

- maintain current contact information with the University, including address, phone numbers, and emergency contact information
- use the university provided e-mail address or maintain a valid forwarding e-mail address
- regularly check the official University communications channels, including the Mosaic Student Centre. Official University communications are considered received if sent by postal mail, by fax, or by e-mail to the student’s designated primary e-mail account via their @mcmaster.ca account
- accept that forwarded e-mails may be lost and that e-mail is considered received if sent via the student’s @mcmaster.ca account

**Academic Obligations**
Due dates and evaluations are described in course outlines except where other University policies apply, e.g., SAS accommodations, deferred exams, etc. When students are aware of their progress early in a course they can make informed decisions. Restrictions are placed on academic obligations to enable students to plan their work schedules.

1. Student learning in undergraduate courses should be assessed on more than one occasion. To that end, no single academic obligation (e.g., essay, test, examination, etc.) should have a value of more than 75% of the final grade without approval from the Department Chair or Associate Dean’s Office. Clinical, placement, thesis and capstone courses are exempt.

2. For students requiring relief from an academic obligation, it is at the discretion of the instructor to determine the nature of the relief. In cases such as this, students can be offered the choice of another assessment or the option of writing a final examination which may be worth more than 75% of the course grade.

**Early Feedback:**

3. All students must receive feedback regarding their progress prior to the final date by which a student may cancel the course without failure by default.

4. For Level I and Level II courses, this feedback must equal a minimum of 20% of the final grade.

5. For Level III courses and above, this feedback must equal a minimum of 10% of the final grade.

6. For courses where it is difficult to achieve a numeric grade due to the design of the course (e.g., supervised study, thesis, capstone, inquiry, independent research/study, experiential courses, etc.), clear and early feedback must be provided.

7. When academic obligations are completed by the due dates in the course outline, early feedback will be received by the final date by which a student can cancel a course without failure by default. Students who use the MSAF process and other petitionable accommodations may not receive feedback by the early feedback deadline.

**Restrictions:**

8. Due dates for all term work must be on or before the final day of classes for courses with a final examination. For courses with no final examination, academic assessments can be due on or before the final date of examinations.

9. Tests, quizzes, exams and take home exams worth more than 10% cannot be assigned or due during the last 5 days of classes plus the days(s) between the end of classes and the beginning of examinations. Assignments worth more than 10% that are assigned at the beginning of the course and noted on the course outline, can be due during this time period, provided students are
given sufficient additional detail to enable them to work on the assignment in advance of the due date.

10. Academic obligations cannot be due during the December holiday break or the fall and winter mid-term recesses, with the exception of deferred exams scheduled by the Office of the Registrar.

**Residence Requirements**

Most students complete all undergraduate work at McMaster University. However, students who complete work at other universities must meet the minimum requirements set out below.

To obtain any four- or five-level, first undergraduate degree:

- at least two levels (approximately 60 units of work) beyond Level I, including the final level, must be completed at McMaster University.

To obtain a three-level, first undergraduate degree:

- the final level and at least one other level (a minimum of approximately 60 units of work) must be completed at McMaster University,

  or,

- the final level (approximately 30 units of work) including at least 18 units of program-specific requirements must be completed at McMaster University.

Courses taken at another university on a Letter of Permission will not count toward the residence requirements.

All course work for a second bachelor’s degree must be completed at McMaster University.

**McMaster University Statement on the Collection of Personal Information and the Protection of Privacy**

McMaster University collects and retains personal information of students, alumni and other parties, including but not limited to faculty, staff, visiting academics and private citizens using services provided by McMaster University, under the authority of the *McMaster University Act, 1976*. This information is used for the academic, administrative, employment-related, safety and security, financial and statistical purposes of the University, including for the administration of admissions, registration, awards and scholarships, convocation, alumni relations and other fundamental activities related to being a member of the University community, a user of services provided by McMaster or an attendee of, or applicant to, a public post-secondary institution in the Province of Ontario. The information will be used, among other things, to admit, register and
graduate students, record academic achievement, issue library cards and, where applicable, local transit passes, to provide access to information systems and to operate academic, financial, athletic, recreational, residence, alumni and other University programs. Additionally, this information may be shared with other institutions of higher education in order to administer collaborative programs. Information on admissions, registration and academic achievement may also be disclosed and used for statistical and research purposes by the University, other post-secondary educational institutions and the federal and provincial governments. The names of alumni, their Faculty and program, award information, degree(s) awarded and date of graduation is considered public information and may be published by McMaster University. In addition, student photographs posted by the University in the form of individual pictures or class pictures may be publicly displayed. Aside from the foregoing, the information you provide and any other information placed in a student record, or in a personnel record, will be protected and used in compliance with Ontario’s Freedom of Information and Protection of Privacy Act (RSO 1990) and will be disclosed only in accordance with this Act. If you have any questions about the collection and use of this information please contact the University Registrar, University Hall, Room 209, Student Records, Gilmour Hall, Room 108, or the University Secretary, Gilmour Hall, Room 210, McMaster University.

McMaster University may also collect personal information from other relevant sources including, without limitation, the Ontario Universities’ Application Centre, secondary schools, colleges, universities and other institutions previously attended, including third-party services and test score providers where the items collected form a part of the application or admission process to a university program.

Furthermore, McMaster is required to disclose personal information such as Ontario Education Numbers, student characteristics and educational outcomes to the Ministry of Advanced Education and Skills Development (the “MAESD”; formerly known as the Ministry of Training, Colleges, and Universities). The Ministry collects this data for purposes such as planning, allocating and administering public funding to colleges, universities and other post-secondary educational and training institutions and to conduct research and analysis, including longitudinal studies, and statistical activities conducted by or on behalf of the Ministry for purposes that relate to post-secondary education and training. Any information collected by McMaster for the purposes of self-identification as a member of a specific group (i.e. First Generation, First Nations, etc.) may be subject to disclosure to the MAESD by McMaster and collected by the MAESD pursuant to its statutory authority. Further information on how the MAESD uses personal information is available on the ministry’s website (http://www.tcu.gov.on.ca/).

In addition to collecting personal information for the purposes noted above, McMaster University collects specific and limited personal information on behalf of the McMaster Student Union, the McMaster Association of Part-time Students and/or the McMaster Graduate Students Association. These constituent student groups use personal information for the purpose of membership, administration, elections, annual general meetings, health plans and other related matters only. Please contact the relevant Student Union or Association office if you have questions about this collection, use and disclosure of your personal information and their respective privacy policies.
September 2015

Notification of Disclosure of Personal Information to Statistics Canada

Statistics Canada is the national statistical agency. As such, Statistics Canada carries out hundreds of surveys each year on a wide range of matters, including education. In order to carry out such studies, Statistics Canada asks all colleges and universities to provide data on students and graduates. Institutions collect and provide to Statistics Canada student identification information (student’s name, student ID number), student contact information (address and telephone number), student demographic characteristics, enrolment information, previous education and labour force activity.

The *Federal Statistics Act* provides the legal authority for Statistics Canada to obtain access to personal information held by educational institutions. The information may be used only for statistical purposes, and the confidentiality provisions of the Statistics Act prevent the information being released in any way that would identify a student. Students who do not wish to have their information used are able to ask Statistics Canada to remove their identification and contact information from the national database. For further information, please see Statistics Canada’s web site at: [http://www.statcan.ca](http://www.statcan.ca) or write to the Postsecondary Section, Centre for Education Statistics, 17th Floor, R.H. Coats Building, Tunney’s Pasture, Ottawa, K1A 0T6.

Record Retention

When individuals apply for admission to and enrolment in programs at McMaster they accept the University’s right to collect pertinent personal information. This information is needed to assess qualifications for entry, establish records of performance in programs and courses, provide the basis for University aid and awards and governmental student aid programs, and to assist the University in the academic and financial administration of its affairs. All documentation submitted to the University in support of applications for admission, residence accommodation, University aid and awards, appeals and/or petitions becomes the property of the University.

All application documents are normally destroyed at the end of each admission cycle for applicants who are not accepted, or who do not enrol following acceptance. For applicants who become McMaster students, their application documents are normally destroyed five years after the last term of their enrolment at the University (regardless of whether or not they graduate).

Supporting documentation relevant to government student aid programs (e.g., OSAP) is kept per the retention policies of the Federal and/or Provincial governments. Supporting documentation, by aid year, relevant to the administration of online aid applications, as well as University aid and awards, will normally be destroyed after seven years.

All information needed to produce official transcripts is maintained permanently.
Second Bachelor’s Degree Programs

For admission to a second undergraduate degree program a student must hold a first undergraduate degree. A second degree is not available in all degrees and/or subject areas. See University Graduates Applying for a Second Bachelor’s Degree.

1. All work for the second degree must be completed at McMaster University.
2. Second degree programs may not be available where there is substantial overlap in the requirements of the first degree. See individual Faculty/Program regulations or consult Faculty/Program Offices for exclusions or further information.
3. Extra courses taken while enrolled in a first degree program, or courses completed as a Continuing Student, may, with the approval of the Faculty, be applied to the second degree program.
4. Students must meet the same regulations for continuation and graduation as are applied to students enrolled in a first degree program.
5. Credit from the first two degrees cannot be applied to a third undergraduate degree. To obtain a third undergraduate degree students must complete all program requirements, i.e. approximately 90 units for a three-level degree and approximately 120 units for a four-level degree.

Requirements for Second Bachelor’s Degree Programs

- **Honours Degree following a Three-Level Degree in the Same Subject:** For consideration into an Honours B.A. or B.Sc. degree program following a three-level degree in the same subject, a Cumulative GPA of at least 5.0 in the first degree program is required. For consideration into all other eligible degree programs, a Cumulative GPA of at least 6.0 in the first degree program is required. If admitted, at least 30 units beyond the first degree, including all program requirements, must be completed.

- **B.A. or B.Sc. in Another Subject:** For consideration, students must meet the admission requirements for the program. If admitted, at least 30 units beyond the first degree, including all program requirements, must be completed. Students are not eligible for a second B.A. or B.Sc. degree in a program in which they have been awarded a minor, however, they may apply for an honours second degree in that subject.

- **Honours B.A., Honours B.A.Sc., Honours B.Sc. or Honours B.H.Sc. in Another Subject:** For consideration, students must meet the admission requirements for the program and have a Cumulative GPA of at least 5.0. If admitted, at least 60 units beyond the first degree, including all program requirements, must be completed.

- **B.M.R.Sc.:** For consideration, students must meet the admissions requirements for the program. If admitted, students will be required to complete a minimum of 24 units during Level I of the program. Some of these units may be extra to the degree requirements.

- **B. Eng., B.Tech., and B.A.Sc.:** For consideration, students must meet the admission requirements for the program. If admitted, students must complete at least 60 units beyond the first degree including all program requirements.
McMaster Students Studying at Another University: Letter of Permission (LOP) and Exchange (Study Abroad)

McMaster students who wish to complete courses at another university for transfer credit towards their McMaster degree must be in good academic standing.

Grades obtained in courses at another university will not be included in the calculation of McMaster averages, which may affect consideration for in-course academic awards.

Courses taken at another university cannot be used to satisfy McMaster’s Residence Requirements.

Students may take up to six units at another university toward a Minor.

Letter of Permission (LOP):

Students must obtain necessary approval in advance from their Faculty/Program Office.

Upon completion of course work, if a grade of 60% or better is obtained, the transcript designation reads T indicating transfer credit. If less than a 60% grade is attained, the transcript designation reads NC indicating no credit. If the student withdraws from the course, the transcript designation reads W indicating withdrawn.

Students who do not to use their Letter of Permission or drop the course must supply the Faculty/Program Office with a certified letter from the host university, otherwise a grade of NC will be placed on the transcript.

Exchange (Study Abroad):

Students must obtain necessary approvals in advance from both their Faculty/Program Office and International Student Services.

Upon completion of course work, if a passing grade (as determined by the host university) is obtained, the transcript designation reads T indicating transfer credit. If less than a passing grade is attained, the transcript designation reads NC indicating no credit. If the student withdraws from the course(s), the transcript designation reads W indicating withdrawn.

Students who return from Exchange prior to completion of course work must supply the Faculty/Program Office with a proof of withdrawal from the host university, otherwise grades of NC will be placed on the transcript.

Credit in Courses by Special Assessment (Challenge Examinations)

Students who have acquired knowledge at a different type of institution or in a manner that makes assessment of their qualifications difficult are permitted to seek degree credit through special assessment (Challenge for Credit).
Challenge for credit is not intended to give credit for skills or knowledge gained through high school, college or previous university instruction. The special assessment may include one or more of the following: written examinations, papers, essays, submissions of a substantial body of work, or portfolios, or laboratory tests. Credit can be granted only for those courses listed in the current McMaster calendar. Not all courses in all disciplines are available for challenge. Faculties and departments are free to determine which, if any, of their courses are open for special assessment. Challenges are assessed on a pass/fail basis. The passing grade for a challenge appears on the transcript as COM (Complete) and is not used in computing averages or evaluating honours or scholarship standing, but is counted as a course attempt. Unsuccessful attempts will be noted on the transcript as a grade of F. Special Assessment is not available for a course taken previously and a course may be attempted only once by special assessment. Once you have registered for a course by such means (known as challenge exams) the registration may not be cancelled and you may not withdraw from the course.

Waivers of prerequisites only (i.e. no degree credit) will be at the discretion of the department.

**Voluntary Withdrawal from the University**

Students who wish to permanently or temporarily withdraw from the University must consult their Faculty/Program Office.

Students in receipt of government student aid (e.g., OSAP) and/or University aid or awards should contact the Office of the Registrar, Student Financial Aid & Scholarships.

**Petitions for Special Consideration**

The University wishes to assist students with legitimate difficulties. It also has the responsibility to ensure that degree, program and course requirements are met in a manner that is equitable to all students. Students may submit, in a prompt and timely manner, a Petition for Special Consideration to the Faculty/Program office in those instances where a student acknowledges that the rules and regulations of the University have been applied fairly, but is requesting that an exception to the regulations be made because of special circumstances. Petitions should be submitted in a prompt and timely manner for the relevant term, but no later than July 31 immediately following the Fall/Winter Term or November 15 immediately following the Spring/Summer Term.

Two forms are available in the Offices of the Faculty/Program office:

**Petition for Special Consideration (Form A):**

The Petition for Special Consideration (Form A) is submitted for a variety of issues, including, when a student wishes to have a leave of absence or seeks to depart from University requirements based on compelling medical or personal reasons; or a student believes that an adverse ruling or decision about their academic performance, such as failing a course, or being
required to withdraw from a program for failure to meet program requirements, should be waived because of compelling medical or personal circumstances.

**Petition for Special Consideration: Request for Deferred Examination (Form B):**

The Petition for Special Consideration: Request for Deferred Examination (Form B) is used when a student misses an examination because of compelling medical or personal reasons.

1. Once a student has completed an examination, no special consideration will be granted.
2. A student who misses an examination because of compelling medical or personal reasons may submit a Petition for Special Consideration: Request for Deferred Examination (Form B) to the Faculty/Program Office, normally within five working days of the missed examination.
3. If the reason is medical, the approved McMaster University Medical Form must be used. The student must be seen by a doctor at the earliest possible date, normally on or before the date of the missed exam and the doctor must verify the duration of the illness. Relief will not be available for minor illnesses. If the reason is non-medical, appropriate documentation with verifiable origin covering the relevant dates must be submitted, normally within five working days.
4. In deciding whether or not to grant a petition, the adequacy of the supporting documentation, including the timing in relation to the due date of the missed work and the degree of the student’s incapacitation, will be taken into account.
5. It is the student’s responsibility to check Mosaic Student Center > Deferred Exam Approvals or with the Faculty/Program Office for a decision on the request for a deferred examination. If the deferred examination is granted, the student will be informed officially by means of the notation DEF which will appear against the relevant course on the student’s academic record and via Mosaic > Student Centre > View My Grades.
6. Deferred examinations are written during the next official University deferred examination period. Default of the deferred examination will result in a fail for that examination.
7. Students who have been granted more than one deferred examination may be required by their Faculty/Program Office to reduce their course load during the term in which the deferred examinations are being written. The decision on a reduced load will be made and communicated with the decision on the request for deferred examinations.
8. At the discretion of the Faculty/Program Office, students who have been granted one or more deferred examinations, may not be allowed to enrol in a subsequent term until all deferred examinations have been completed and the Academic Standing calculated. Students will be notified of this decision by their Faculty/Program Office.
9. Students who will be living more than 160 kilometres from Hamilton during the deferred examination period and wish to write their approved deferred examination at an institution other than McMaster must submit a Request to Write Deferred Examination Off-campus Form at least 15 working days prior to the deferred examination period. Students are responsible for making arrangements for a presider to conduct the deferred examination at an outside institution and for paying any fees such as invigilation and return courier.
10. The authority to grant any petitions lies with the Faculty/Program Office and is discretionary. It is imperative that students make every effort to meet the originally-scheduled course requirements and it is a student’s responsibility to write examinations as scheduled.

Decisions made on Petitions for Special Consideration are final. In accordance with the Student Appeal Procedures, decisions made on Petitions for Special Consideration cannot be appealed to the Senate Board for Student Appeals. However, should students believe a decision violates their human rights, they may wish to consult McMaster’s Policy on Discrimination and Harassment: Prevention & Response and visit one of the four intake offices (Equity and Inclusion Office, Student Support & Case Management, Employee/Labour Relations, Professionalism Office in Faculty of Health Sciences) to initiate a complaint.

Requests for Relief for Missed Academic Term Work

The University recognizes that students periodically require relief from academic work for medical or other personal situations. This academic regulation aims to manage these requests by taking into account the needs and obligations of students, instructors and administrators. It is the prerogative of the instructor of the course to determine the appropriate relief for missed term work in his/her course.

Any concerns regarding the granting of relief should be directed to the respective Faculty/Program Office. Requests for relief should be made with a commitment to academic integrity in mind. Requests that deviate from this commitment will be handled under the Academic Integrity Policy and Code of Student Rights and Responsibilities, where appropriate.

1. Relief for missed academic work worth less than 25% of the final grade resulting from medical or personal situations lasting up to three calendar days:

   • Use the McMaster Student Absence Form (MSAF) on-line self-reporting tool. No further documentation is required.
   • Students may submit requests for relief using the MSAF once per term.
   • An automated email will be sent to the course instructor, who will determine the appropriate relief. Students must immediately follow up with their instructors. Failure to do so may negate the opportunity for relief.
   • The MSAF cannot be used to meet a religious obligation or to celebrate an important religious holiday.
   • The MSAF cannot be used for academic work that has already been completed/attempted.
   • An MSAF applies only to work that is due within the period for which the MSAF applies, i.e. the 3-day period that is specified in the MSAF; however, all work due in that period can be covered by one MSAF.
   • The MSAF cannot be used to apply for relief for any final examination or its equivalent. See Petitions for Special Consideration.
2. For medical or personal situations lasting more than three calendar days, and/or for missed academic work worth 25% or more of the final grade, and/or for any request for relief in a term where the MSAF has been used previously in that term:

- Students must report to their Faculty/Program Office to discuss their situation and will be required to provide appropriate supporting documentation (see Documentation Requirements).
- If warranted, the Faculty/Program Office will approve the absence, and the instructor will determine appropriate relief.

**Documentation Requirements**

If the reason for a request for relief is medical, the approved McMaster University Medical Form covering the relevant dates must be submitted. The student must be seen by a doctor at the earliest possible date, normally on or before the date of the missed work and the doctor must verify the duration of the illness.

If the reason is non-medical, appropriate documentation with verifiable origin covering the relevant dates must be submitted, normally within three working days.

In some circumstances, students may be advised to submit a Petition for Special Consideration (Form A) seeking relief for missed academic work. In deciding whether or not to grant a petition, adequacy of the supporting documentation, including the timing in relation to the due date of the missed work and the degree of the student’s incapacitation, may be taken into account. Failure to do so may negate the opportunity for relief.

If the petition is approved, the Faculty/Program Office will notify the instructor(s) recommending relief. It is the prerogative of the instructor of the course to determine the appropriate relief for missed term work in their course.

**Examinations (link to Registrar Office Examinations page)**

Examinations conducted by the Office of the Registrar will appear in the Mosaic Student Centre and may be scheduled in the morning, afternoon, or evening, Monday through Saturday. Other instructor-scheduled tests and examinations may be held throughout each term in compliance with Academic Obligations – Restrictions.

Full details regarding examination procedures conducted by the Office of the Registrar are found in the Undergraduate Examinations Policy.

McMaster student photo identification cards are required at all examinations.

Examinations are not rescheduled for purposes of travel. Students must be available for the entire examination period as listed in the Sessional Dates section.
The Office of the Registrar will reschedule final examinations within the examination period for the reasons listed below. Application to reschedule examinations must be made at least 10 working days before the scheduled examination period. Failure to meet the stated deadline may result in the denial of the application.

- Conflict with religious obligations
- More than one examination scheduled at the same time
- Three examinations in one calendar day (midnight to midnight).
- Three consecutive examinations over two days (e.g., December 14th at 4:00 pm and 7:30 pm and December 15th at 9:00 am).

Students who miss a final examination for medical or personal reasons may submit a Petition for Special Consideration: Request for Deferred Examination (Form B) to their Faculty/Program Office, normally within five working days of the missed examination.

Students who begin a final examination, but are unable to complete it for medical reasons, may submit a Petition for Special Consideration (Form A) to their Faculty/Program Office, normally within five working days of the examination.

Students with disabilities are required to inform Student Accessibility Services of accommodation needs for examinations on or before the last date for withdrawal from a course without failure by default. This allows sufficient time to verify and arrange appropriate accommodation.

**Request to Write Deferred Examinations at an Off-Campus Location**

Students living more than 160 kilometers from Hamilton during the deferred examination period and wishing to write their approved deferred examination at an institution other than McMaster must submit a Request to Write Deferred Examination Off-campus Form at least 15 working days prior to the deferred examination period.

If the deferred examination is written at an off-campus location, any fees incurred are the responsibility of the student. This includes the fee to courier the written examinations back to the Office of the Registrar, Scheduling and Examinations.

For information regarding application for Deferred Examination, see Petitions for Special Consideration: Requests for Deferred Examinations (Form B).

**Academic Evaluations**

**Numeric Grading System**

The results of all courses attempted will appear on the transcript. The method for determining final grades will be given in the course outline. Unless otherwise specified in the course outline,
course results determined on a percentage scale will be converted to an official letter grade, as indicated in the following equivalent percentage scale.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Equivalent Grade Point</th>
<th>Equivalent Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>12</td>
<td>90-100</td>
</tr>
<tr>
<td>A</td>
<td>11</td>
<td>85-89</td>
</tr>
<tr>
<td>A-</td>
<td>10</td>
<td>80-84</td>
</tr>
<tr>
<td>B+</td>
<td>9</td>
<td>77-79</td>
</tr>
<tr>
<td>B</td>
<td>8</td>
<td>73-76</td>
</tr>
<tr>
<td>B-</td>
<td>7</td>
<td>70-72</td>
</tr>
<tr>
<td>C+</td>
<td>6</td>
<td>67-69</td>
</tr>
<tr>
<td>C</td>
<td>5</td>
<td>63-66</td>
</tr>
<tr>
<td>C-</td>
<td>4</td>
<td>60-62</td>
</tr>
<tr>
<td>D+</td>
<td>3</td>
<td>57-59</td>
</tr>
<tr>
<td>D</td>
<td>2</td>
<td>53-56</td>
</tr>
<tr>
<td>D-</td>
<td>1</td>
<td>50-52</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
<td>0-49 – Failure</td>
</tr>
</tbody>
</table>

Non-Numeric Grades and Notations:

AUD – Audit
CAN – Cancelled
COM – Complete
CR - Credit
F – Fail
INC – Incomplete
IP – In Progress
MT – Multi-Term
NC – No Credit
NMR – No Mark Received
P – Pass
T – Transfer Credit
W – Withdrawn
XCH – Exchange
Notations

DEF
EXTRA
REPEAT
UPGRADE

Withdrawn

After the last day for enrolment and course changes, students may withdraw from courses until the last day to withdraw without failure by default. Withdrawn courses will be shown on the student’s transcript with a grade of W. After the last day to withdraw without failure by default, the student will remain enrolled, whether or not they fulfil any further academic obligations, and a final grade will be assigned.

DEF

Courses with the notation DEF have been approved for a deferred examination.

Extra

Courses designated as “Extra” at the time of registration by the Faculty Office are not included as units toward completion of a student’s program. The grades obtained in such courses will not be included in the computation of the Cumulative GPA. However, they will be included in the computation of the Fall-Winter Average and the Spring-Summer Average.

Unused

Courses designated as “Unused” cannot be used to fulfil the requirements for the student’s current degree program. The grades obtained in such courses will be included in the computation of all averages.

Graded Units

Graded units refer to the number of units taken at McMaster for which a letter or Numeric Grade is earned. Graded units do not include courses assessed with a Non-Numeric Grade.

Pass/Fail Courses

Courses evaluated on a Pass/Fail basis are not included in the calculation of averages. The earned units are counted towards degree requirements.

Multi-Term Fall/Winter Courses

Codes for multi-term Fall/Winter courses have an A/B suffix. Part A must always be taken in the Fall Term immediately preceding Part B. Neither Part A nor B of a multi-term course has
academic credit independent of both parts being successfully completed. Students who drop or withdraw from Part A must also withdraw from B.

Upon completion of the Fall Term, a grade of MT indicating *multi-term* will be assigned to Part A and the final grade will be assigned to Part B.

**Cumulative Grade Point Average (Cumulative GPA)**

The Cumulative GPA is the *weighted average* based on the Graded Units taken throughout the undergraduate career. The *Repeating Courses* regulation, effective September 1, 2018, will affect the calculation of subsequent Cumulative GPA.

**Fall-Winter Average**

The Fall-Winter Average is a *weighted average* based on the grades attained in the Fall and Winter Terms. *Overload* courses and *Extra* courses are included in the Fall-Winter Average.

**Spring-Summer Average**

The Spring-Summer Average is a *weighted average* based on the grades attained in the Spring and Summer Term. *Overload* courses and *Extra* courses are included in the Spring-Summer Average.

**Term Grade Point Average (Term GPA)**

The Term GPA is a *weighted average* based on the Graded Units taken in the term.

**Weighted Average**

Weighted average is calculated by multiplying the grade points achieved in each course by the number of units in each course, totaling these results, and then dividing this result by the total number of course units.

Example of a *weighted average* calculation, using the grade points and units for courses attempted:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Points</th>
<th>Units</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-</td>
<td>10</td>
<td>x</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>= 60</td>
</tr>
<tr>
<td>C+</td>
<td>6</td>
<td>x</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>= 18</td>
</tr>
<tr>
<td>B</td>
<td>8</td>
<td>x</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>= 48</td>
</tr>
<tr>
<td>B+</td>
<td>9</td>
<td>x</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>= 27</td>
</tr>
</tbody>
</table>
F \times 6 = 0

\text{Total} \hspace{1cm} 24 \hspace{1cm} 153

To calculate average: $153 \div 24 = 6.4$

**Honour Lists**

Students are reviewed for Deans’ Honour Lists (DHL) and Provost’s Honour List (PHL) each time a minimum of 30 units (may not exceed 6 units assessed with a non-numeric grade) have been completed. Subsequent assessments are based on all units completed since the previous review.

Students will be named to the Deans’ Honour List when a minimum average of 9.5 is achieved.

Students will be named to the Provost’s Honour List when an average of 12.0 is achieved.

**With Distinction**

Graduation With Distinction standing is awarded when a minimum Cumulative GPA of 9.5 is achieved in a degree program. In this case, the Latin phrase *summa cum laude* (“with highest honour”) will appear on the graduate’s diploma.

**Transcripts**

A transcript summarizes a student’s academic career at McMaster University and is available by electronic request through Mosaic. Transcript requests will not be processed for students with outstanding financial accounts at the University or those under investigation for an academic integrity violation.

**Credentials**

A credential is a body of academic work or collection of course work that stands on its own and for which a parchment is issued. McMaster credentials include certificates, diplomas and degrees. A single course is permitted to be counted toward a maximum of two credentials.

**Minors**

Students enrolled in a four- or five-level program (with the exception of the Medical Radiation Sciences programs) are eligible to obtain a Minor in another subject area, provided that the subject area is not integral to the requirements of their degree program. At least 18 units must be completed at McMaster. Students who wish to receive a Minor must consult the appropriate department section of the calendar. McMaster also offers Interdisciplinary Minors and Thematic
**Areas.** To apply for a Minor, students must complete the Minor/Certificate Application in addition to their online Graduation Information Centre (GIC) application. The student’s Faculty will verify that the requirements have been met and, if successful, the transcript will indicate that a Minor has been obtained. Minors cannot be revoked once approved.

**Overload Work**

Students wishing to take more units than prescribed for their Level/program in the Fall-Winter Term or more than 12 units in the Spring-Summer Term (no more than 6 units in either session of that term) must seek permission from their Faculty/Program Office. Normally, a Fall-Winter Average of at least 7.0 in the immediately preceding review period will be required if an overload is to be permitted. Additional academic fees will be assessed for overload work.

**OSAP Eligible Course Load**

OSAP Eligible Course Load or equivalent refers to the 60% minimum course load per term (40% minimum course load per term for students with permanent disabilities) required to be eligible for full-time OSAP government student aid funding.

**Repeating Courses**

Effective September 1, 2018, students may repeat a course twice (i.e. attempt a course three times). Cross-listed courses count as attempts. Grades from every attempt will appear on the academic transcript. The Cumulative GPA will include only the grade earned on the most recent attempt. Units earned will be counted once toward the student’s program requirements, regardless of the number of times the course is repeated. Prior to September 1, 2018 the grades from all attempts are included in the GPA calculation.

**Auditing Courses**

Students currently enrolled in a degree program wishing to audit a course must obtain approval from the course instructor and their Faculty/Program Office. Additionally:

- course requisites must be met
- academic obligations (assignments, test, examinations, etc.) are not completed
- a grade of AUD (audit) will be assigned
- units will not be earned nor applied toward the student’s program requirements
- tuition fees apply
- students will not be permitted to enrol for credit in the course after the Last Day for enrolment and course changes
- students enrolled in a course for credit will not be permitted to change the course to ‘audit’ after the Last Day for enrolment and course changes

Non-McMaster students wishing to audit a course must enrol as a Listener.
Personal Interest Course (PIC)

McMaster University encourages interdisciplinary study and believes undergraduate studies provides an excellent opportunity to explore topics which are new and unfamiliar. Students, however, may be reluctant to take a course if they are unsure of their academic performance for fear of compromising their Cumulative GPA. The Personal Interest Course (PIC) option is designed to encourage students to explore interests outside of their program without affecting their Cumulative GPA.

1. A student can declare a PIC to signify they want an elective course to be assessed on a Credit or No Credit (CR/NC) grading scale.

2. To receive the grade of CR, the student must earn a final mark of at least 50%. Units earned from a successfully completed PIC will be counted in the units required for a student’s degree as applicable.

3. Courses with a final grade of NC do not count as degree credits or as failures, nor are they included in the GPA calculation or averages. Please note, government student aid (e.g., OSAP) will consider a NC grade as a failure.

4. The PIC option is not available for any course that is considered a program requirement (which includes courses listed as possible required courses), independent study, thesis, field study or placement course, or on a list of required courses. Students are responsible for ensuring the course is an elective course for their program. Engineering students should note the PIC option is available only for complementary studies electives.

5. Students may declare a maximum of 3 units of PIC per term to a maximum of 12 units per four- or five-level degree or a maximum of 9 units per three-level degree. A maximum of 6 units of PIC may be used to satisfy requirements toward a Minor.

6. The PIC option is available to undergraduate students registered in a program above Level I, with a Cumulative GPA of at least 3.5, who are enrolled in a Program/Faculty which is participating in the PIC option. Exchange students should seek advice from the International Study Office and Faculty/Program Office.

The PIC option is not available to students who
- are enrolled in the School of Medicine, or
- are enrolled in a Program/Faculty which is not participating in the PIC option (see Faculty Academic Regulations), or
- have graduated and are in a second degree or a non-degree program, e.g., continuing, etc.

7. If a percentage grade in a course is required for future applications to graduate or professional school, the PIC option should not be selected for that course. Students may not subsequently request to have a PIC grade recalculated to a numeric grade. Students must carefully review any government (e.g., OSAP) and University aid and award eligibility rules which may be affected by the use of the PIC option.
8. If the student changes their program of study and a course taken as a PIC becomes a required course, the new Faculty/Program Office may accept the course grade of CR or NC or have the grade converted back into a numeric grade. If a grade is converted back into a numeric grade, there will be no retroactive reconsideration of aid and award.

9. Students cannot use the PIC option for courses in which they have been found guilty of academic dishonesty. In these cases, the grade will be converted into a numeric grade.

**Deadlines:**

1. Students must declare a course as a PIC on Mosaic by the last day for enrollment and course changes date. The student progresses in the course as per normal, and has the option to withdraw from the course as per the normal procedures and deadlines.

2. If the student would rather keep the numeric grade, they must indicate the course is no longer a PIC on Mosaic by the last day for cancelling courses without failure by default and the numeric grade will appear on their transcript.

**Academic Standing Review:**

Each year in May and August (and after deferred examinations) academic standing is reviewed and determined for students who have:

- attempted at least 18 units of work since the last review, or
- may be eligible to graduate.

In the academic standing review, three determinations are made:

- whether a student may graduate
- whether a student may continue at the University
- whether a student may continue in a program.

**Academic Standings:**

**Good Standing**

A student who satisfies the minimum requirements to continue in their program without restriction.

**May Continue in Program - Academic Probation**

Academic probation is assigned when a student:

- achieves a Cumulative GPA between 3.0 and 3.4. If at any future academic standing review their Cumulative GPA falls below 3.5, the academic standing assigned will be May Not Continue at the University.
- returns to studies after being Reinstated. If at any future academic standing review their Cumulative GPA falls below 3.5, the academic standing assigned will be Required to Withdraw from the University.
May Continue in Program - Program Probation

Program Probation is assigned when a student’s Cumulative GPA falls below the minimum requirements to remain in their program. Failure to achieve Good Standing at the next academic standing review will result in their removal from the program. See Faculty specific Minimum Requirements for Entering and Continuing in a Program Beyond Level I.

May Not Continue in Program

This standing is assigned to:
- students who fail to achieve the minimum Cumulative GPA to remain in the program, or
- students previously on Program Probation who fail to achieve Good Standing.

To continue at the University, the student must apply to transfer to another program.

May Not Continue in Faculty

May Not Continue in Faculty is assigned when:
- a student enrolled in a program in the Faculty of Engineering or Business has achieved a Cumulative GPA between 3.0 and the minimum requirements to remain in their Faculty, or
- a student enrolled in a program in the Faculty of Business in Level II or above receives a grade of F in more than 6 units.

To continue at the University, the student must apply to transfer to another program or continue as a transition student for one reviewing period.

May Not Continue at University

May Not Continue at University is assigned when:
- a student achieves a Cumulative GPA below 3.0, or
- a student previously on Academic Probation fails to achieve Good Standing.

The student cannot enroll in courses at the University unless granted Reinstatement.

Required to Withdraw from University

A student who at any time received a standing of Academic Probation and at a future academic standing review achieves a Cumulative GPA below 3.5 will be Required to
Withdraw from the University. The student will be unable to apply for Reinstatement for at least 12 months.

Reinstatement

Students must contact the Office of the Registrar to apply for reinstatement within the application deadlines. Reinstatement is not guaranteed.

If reinstatement is granted, the student is placed on academic probation and their Cumulative GPA is re-set to 0.0 on zero units. At the discretion of the Faculty, the student may retain credit for courses successfully completed. If at any academic standing review after reinstatement the student’s Cumulative GPA falls below 3.5, the student will be required to withdraw from the University.

The student must complete a minimum of 60 units of work after reinstatement to be eligible for Graduation with Distinction or other recognition based on the Cumulative GPA.

Level I Registration and Academic Standing Requirements

Minimum Requirements for Entering and Continuing in a Program Beyond Level I

Graduation

The following minimum Cumulative GPA are required to graduate:

- B.A. – 3.5
- B.A. (Honours) – 5.0
- B.S.W. (Honours), B.A./B.S.W. and B.S.W. – 6.0
- B.Arts Sc. and B.Arts Sc. (Honours) – 5.0
- B.A.Sc. (Faculty of Engineering) – 4.0
- B.A.Sc. (Honours) (Faculty of Science) – 5.0
- B.Com. – 4.0
- B.Com. (Honours) – 5.0
- B.F.A. (Honours) – 5.0
- B.H.Sc. - 5.0
- B.H.Sc. (Honours) – 5.0
- B.H.Sc. (Midwifery) – 6.0

- B.M.R.Sc.* – 4.5
- B.Mus. (Honours) – 5.0
- B.Sc. – 3.5
- B.Sc. (Honours) – 5.0
- B.Sc.Kin. (Honours) – 5.0
- B.Sc.N. – 5.0
- B.Tech – 3.5

*All requirements must be completed within five years from the time of registration in Level II.*

Students who intend to graduate must complete the online Graduation Information Centre form by the appropriate deadline in their final term of study. Students wishing to graduate with a Minor must complete the application in the Minor/Certificate Application Centre.

Degrees will be conferred at the Convocation immediately following the completion of the degree. Students unable to attend the convocation ceremony who wish to attend a later ceremony should consult the Policy on Deferral of Attendance at Convocation and must contact the Office of the Registrar within the prescribed deadlines.

**Parchments, Diplomas and Certificates**

Diplomas will not be released to students with an outstanding financial account with the University.

Diplomas are held for a period of 12 months following the Convocation date before being destroyed. Students requesting diplomas after this period are required to pay a replacement fee.

Graduates may request a duplicate or replacement degree parchment, diploma or certificate (fees apply.)

- A duplicate copy will be issued when requested by a graduate or when the original document has been lost or destroyed.
- The words *duplicate copy* or *reissued* will be affixed to all degree parchments, diplomas or certificates requested in this manner and will bear the signatures of the current Chancellor, President and Vice-Chancellor, and Registrar.
- Damaged parchments must be returned to the Office of the Registrar before the new parchment, diploma or certificate is issued.
GENERAL ACADEMIC REGULATIONS:

Academic Commitments

Students should expect to have academic commitments (e.g., classes, labs, tests, examinations, etc.) Monday through Saturday, normally 8:30 a.m. to 10:00 p.m., but not on Sunday or statutory holidays, as outlined in the Sessional Dates. Students are responsible for meeting all course requirements, including final examinations, as scheduled. Students who require accommodations to meet a religious, Indigenous or spiritual obligation or to celebrate an important religious holiday observances (hotlink to RISO) must make their requests within 10 working days from the beginning of term to their Faculty/Program office.

The Sessional Dates have been moved into the General Academic Regulations document.

Sessional Dates

The academic year is divided into terms, as shown below. Most undergraduate students register for the Fall and Winter terms, which run from September to December and January to April respectively. The Spring/Summer term starts at the beginning of May and ends in early August.

On this page:

Undergraduate Sessional Dates, as approved by Senate:

- 2017 Fall Term
- 2018 Winter Term
- 2017-2018 Courses Spanning both Terms
- 2018 Spring Session
- 2018 Summer Session
- 2018 Spring/Summer Term: Full-Term Courses

2017 Fall Term (62 days)

<table>
<thead>
<tr>
<th>Item</th>
<th>Date(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration Enrolment Begins</td>
<td>To be announced</td>
</tr>
<tr>
<td>Classes begin</td>
<td>Tuesday, September 5</td>
</tr>
<tr>
<td>Last day for registration enrolment and course changes in registration</td>
<td>Wednesday,</td>
</tr>
<tr>
<td>Item</td>
<td>Date(s)</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>Mid-term recess(es)</td>
<td>September 13</td>
</tr>
<tr>
<td>Last day for cancelling withdrawing from courses without failure by default</td>
<td>Monday, October 9 to Sunday, October 15</td>
</tr>
<tr>
<td>Test and Examination Restriction Assessment Ban (See Undergraduate Course Management Policies)</td>
<td>Thursday, November 30 to Thursday, December 7</td>
</tr>
<tr>
<td>Classes end</td>
<td>Wednesday, December 6</td>
</tr>
<tr>
<td>Final Examinations</td>
<td>Friday, December 8 to Thursday, December 21</td>
</tr>
<tr>
<td>Deferred examinations</td>
<td>Tuesday, February 20 to Friday, February 23</td>
</tr>
</tbody>
</table>

### 2018 Winter Term (62 days)

<table>
<thead>
<tr>
<th>Item</th>
<th>Date(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration Enrollment Begins</td>
<td>To be announced</td>
</tr>
<tr>
<td>Classes begin</td>
<td>Thursday, January 4*</td>
</tr>
<tr>
<td>Last day for registration enrollment and course changes in registration</td>
<td>Friday, January 12</td>
</tr>
<tr>
<td>Mid-term recess(es)</td>
<td>Monday, February 19 to Sunday, February 25</td>
</tr>
<tr>
<td>Last day for cancelling withdrawing from courses without failure by default</td>
<td>Friday, March 16</td>
</tr>
<tr>
<td>Good Friday: No classes or examinations</td>
<td>Friday, March 30</td>
</tr>
<tr>
<td>Test and Examination Restriction Assessment Ban (See Undergraduate Course Management Policies)</td>
<td>Tuesday, April 3 to Tuesday, April 10</td>
</tr>
</tbody>
</table>
Classes end
Monday, April 9

Final Examinations
Wednesday, April 11 to Thursday, April 26

Deferred examinations
Monday, June 18 to Thursday, June 21

*The University re-opens on Tuesday, January 2, 2018 after the December holidays; classes begin January 4.

2017-2018 Courses Spanning both Terms (124 days)

<table>
<thead>
<tr>
<th>Item</th>
<th>Date(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration Enrolment Begins</td>
<td>To be announced</td>
</tr>
<tr>
<td>Classes begin</td>
<td>Tuesday, September 5</td>
</tr>
<tr>
<td>Last day for registration enrolment and course changes in registration</td>
<td>Wednesday, September 13</td>
</tr>
<tr>
<td>Mid-term recess(es)</td>
<td>Monday, October 9 to Sunday, October 15 and, Monday, February 19 to Sunday, February 25</td>
</tr>
<tr>
<td>Last day for cancelling withdrawing from courses without failure by default</td>
<td>Friday, March 16</td>
</tr>
<tr>
<td>Good Friday: No classes or examinations</td>
<td>Friday, March 30</td>
</tr>
<tr>
<td>Test and Examination Restriction Assessment Ban (See Undergraduate Course Management Policies)</td>
<td>Tuesday, April 3 to Tuesday, April 10</td>
</tr>
<tr>
<td>Classes end</td>
<td>Monday, April 9</td>
</tr>
<tr>
<td>Mid-Term Tests Level (I)</td>
<td>Friday, December 8 to Thursday, December</td>
</tr>
<tr>
<td>Item</td>
<td>Date(s)</td>
</tr>
<tr>
<td>------------------------------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td><strong>Final Examinations</strong></td>
<td>Wednesday, April 11 to Thursday, April 26</td>
</tr>
<tr>
<td><strong>Deferred examinations</strong></td>
<td>Monday, June 18 to Thursday, June 21</td>
</tr>
</tbody>
</table>

**2018 Spring Session (34 days)**

<table>
<thead>
<tr>
<th>Item</th>
<th>Date(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classes begin</td>
<td>Monday, April 30</td>
</tr>
<tr>
<td>Last day for registration enrolment and course changes in registration</td>
<td>Monday, May 7</td>
</tr>
<tr>
<td>Victoria Day: No classes</td>
<td>Monday, May 21</td>
</tr>
<tr>
<td>Last day for cancelling withdrawing from courses without failure by default</td>
<td>Wednesday, May 30</td>
</tr>
<tr>
<td>Classes end</td>
<td>Friday, June 15</td>
</tr>
<tr>
<td>Final Examinations</td>
<td>As arranged by instructor in class time</td>
</tr>
<tr>
<td>Deferred Examinations</td>
<td>2018 Fall Mid-Term Recess Period</td>
</tr>
</tbody>
</table>

**2018 Summer Session (34 days)**

<table>
<thead>
<tr>
<th>Item</th>
<th>Date(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classes begin</td>
<td>Monday, June 18</td>
</tr>
<tr>
<td>Last day for registration enrolment and course changes in registration</td>
<td>Monday, June 25</td>
</tr>
<tr>
<td>Canada Day Observation: No classes</td>
<td>Monday, July 2</td>
</tr>
<tr>
<td>Item</td>
<td>Date(s)</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>---------------------------------------------------</td>
</tr>
<tr>
<td>Last day for cancelling withdrawing from courses without failure by default</td>
<td>Wednesday, July 18</td>
</tr>
<tr>
<td>Classes end</td>
<td>Friday, August 3</td>
</tr>
<tr>
<td>Civic Holiday: No classes</td>
<td>Monday, August 6</td>
</tr>
<tr>
<td>Final Examinations</td>
<td>As arranged by instructor in class time</td>
</tr>
<tr>
<td>Deferred Examinations</td>
<td>2018 Fall Mid-Term Recess Period</td>
</tr>
</tbody>
</table>

**2018 Spring/Summer Term: Full-Term Courses (68 days)**

<table>
<thead>
<tr>
<th>Item</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Classes begin</td>
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<td>Monday, May 7</td>
</tr>
<tr>
<td>Victoria Day: No classes</td>
<td>Monday, May 21</td>
</tr>
<tr>
<td>Canada Day Observation: No classes</td>
<td>Monday, July 2</td>
</tr>
<tr>
<td>Last day for cancelling withdrawing from courses without failure by default</td>
<td>Wednesday, July 18</td>
</tr>
<tr>
<td>Classes end</td>
<td>Friday, August 3</td>
</tr>
<tr>
<td>Civic Holiday: No classes</td>
<td>Monday, August 6</td>
</tr>
<tr>
<td>Final Examinations</td>
<td>As arranged by instructor in class time</td>
</tr>
<tr>
<td>Deferred Examinations</td>
<td>2018 Fall Mid-Term Recess Period</td>
</tr>
</tbody>
</table>

**Student Academic Responsibility Responsibilities**

**Academic**
In its commitment to helping students achieve their academic goals, McMaster University makes available numerous tools and resources, including the Undergraduate Calendar, advisement reports and academic advisors. However, students must assume certain responsibilities. They include:

Students must assume certain responsibilities. They include:

- meeting admission requirements and application deadlines for their intended program(s) of study
- applying to that program by the stated deadline
- selecting courses that meet the program requirements
- completing courses in an order that meets prerequisite requirements
- selecting and completing courses in an order that meets requisite and program requirements
- becoming familiar with and respecting University Sessional Dates, the General Academic Regulations and their Faculty/Program /School specific regulations and the Regulations for Aid and Awards as found in the appropriate section of this Calendar.

Experience has shown that students who do not follow these guidelines may experience academic consequences such as cancellation of registration in courses, course enrolment, completion of courses that are not counted toward their degree or delayed graduation.

In addition to the responsibilities listed above, students are expected to:

- become familiar with and respect the Senate Policies
- keep their student account in good standing, paying all charges on time by their respective due dates
- be aware that changes to course load and program may affect eligibility for government and University aid and awards (e.g. OSAP, work programs, bursaries, scholarships, etc.) Please contact the Office of the Registrar, Student Financial Aid & Scholarship, if you have questions about changes to your eligibility.
- consult with Student Accessibility Services in a timely manner to make necessary disability related accommodation requests for special needs

Student Communication Responsibility

It is the student’s responsibility to:
• maintain current contact information with the University, including address, phone numbers, and emergency contact information
• use the university provided e-mail address or maintain a valid forwarding e-mail address
• regularly check the official University communications channels, including the Mosaic Student Centre. Official University communications are considered received if sent by postal mail, by fax, or by e-mail to the student’s designated primary e-mail account via their @mcmaster.ca alias account
• accept that forwarded e-mails may be lost and that e-mail is considered received if sent via the student’s @mcmaster.ca alias account

Academic Regulations

This section has been moved and now serves as the introduction to the General Academic Regulations.

This section outlines the general undergraduate academic regulations of the University. Students must read and comply with both these regulations and those set out by their Faculty elsewhere in this Undergraduate Calendar, as applicable. In the event of a conflict between the Faculty’s program regulations and the General Academic Regulations, the program regulations take precedence.

The regulations which follow are the general regulations of the University. You should read both these general academic regulations and your Faculty regulations which may be more specific. They appear in the Faculty sections of this Calendar.

Since the Academic Regulations are continually reviewed, the University reserves the right to change the regulations in this section of the Calendar. The University also reserves the right to cancel the academic privileges of a student at any time should the student’s scholastic record or conduct warrant so doing.

In the event there is a conflict between the program regulations and the general regulations in this chapter, the program regulations take precedence.

Faculties are authorized to use discretion in special situations by taking into account past practice, the spirit of the regulations, and extraordinary circumstances. Students who believe their situations warrant special consideration should consult the appropriate Faculty/Program Office of the Associate Dean.

The Academic Regulations listed below are effective as of September 1993. These regulations apply to all undergraduate students admitted or readmitted to the University from September 1993 onward.

The language in the Academic Obligations section below is proposed language in the Undergraduate Course Management Policy. A working group in 2016-17 reviewed and drafted most of the language and UGC is expected to review/approve in the fall of 2017. The Early Feedback section was re-written by CASS, with expected review and approval by UGC in the fall of 2017. The group working on the academic regulations rewrite noted the Undergraduate Course Management Policy is a policy written for faculty members/instructors and is unlikely to be seen by students. The language should be included in the General Academic Regulations.

Academic Obligations

Due dates and evaluations are described in course outlines except where other University policies apply, e.g., SAS accommodations, deferred exams, etc. When students are aware of their progress early in a course they can make informed decisions. Restrictions are placed on
academic obligations to enable students to plan their work schedules.

1. Student learning in undergraduate courses should be assessed on more than one occasion. To that end, no single academic obligation (e.g., essay, test, examination, etc.) should have a value of more than 75% of the final grade without approval from the Department Chair or Associate Dean’s Office. Clinical, placement, thesis and capstone courses are exempt.

2. For students requiring relief from an academic obligation, it is at the discretion of the instructor to determine the nature of the relief. In cases such as this, students can be offered the choice of another assessment or the option of writing a final examination which may be worth more than 75% of the course grade.

**Early Feedback:**

3. All students must receive feedback regarding their progress prior to the final date by which a student may cancel the course without failure by default.

4. For Level I and Level II courses, this feedback must equal a minimum of 20% of the final grade.

5. For Level III courses and above, this feedback must equal a minimum of 10% of the final grade.

6. For courses where it is difficult to achieve a numeric grade due to the design of the course (e.g., supervised study, thesis, capstone, inquiry, independent research/study, experiential courses, etc.), clear and early feedback must be provided.

7. When academic obligations are completed by the due dates in the course outline, early feedback will be received by the final date by which a student can cancel a course without failure by default. Students who use the MSAF process and other petitionable accommodations may not receive feedback by the early feedback deadline.

**Restrictions:**

8. Due dates for all term work must be on or before the final day of classes for courses with a final examination. For courses with no final examination, academic assessments can be due on or before the final date of examinations.

9. Tests, quizzes, exams and take home exams worth more than 10% cannot be assigned or due during the last 5 days of classes plus the days(s) between the end of classes and the beginning of examinations. Assignments worth more than 10% that are assigned at the beginning of the course and noted on the course outline, can be due during this time period, provided students are given sufficient additional detail to enable them to work on the assignment in advance of the due date.
University Regulations

Residence Requirements

While most students will complete all their undergraduate work at McMaster University, the minimum requirements set out below apply to. However, students who take part of their work complete work at other institutions, universities must meet the minimum requirements set out below.

In order to obtain any four- or five-level, first undergraduate degree, you must complete:

- at least two of the levels (approximately 60 units of work) beyond Level 1, including the final level, must be completed at McMaster University.

To obtain a three-level, first undergraduate degree, you may satisfy the residence requirements either:

- by completing the final level and at least one other level (a minimum of approximately 60 units of work) must be completed at McMaster University;
- or,
- by completing the final level (approximately 30 units of work) at McMaster University, including at least 18 units of program-specific courses.

The work used to satisfy the residence requirements must be completed at McMaster University; work taken at another university on a Letter of Permission will not count toward the minimum residence requirements.

All the course work for a second bachelor’s degree must be completed at McMaster University.

ENROLMENT—Committee believes most of the Enrolment section is not a regulation but rather instructions to students – exceptions are noted. The information is being conveyed to students through websites, instructions, etc.

Policy on Access to Undergraduate Courses

McMaster’s policy on access to Undergraduate courses is designed to ensure that resources are properly managed while enabling students to enrol in required courses so that their program admission requirements and course requisites can be met, and that their program of study is not extended. Moved to the first section of the regs.

1. Enrolment capacities are set on all undergraduate courses taking into account enrolment projections along with resources, enrolment trends and type of course (required or elective).
2. If need exceeds approved capacity, enrolment capacities for courses will be reviewed and may be adjusted.
3. Faculties and Department Offices are responsible for determining which courses require seats to be reserved. These reserved seats must be managed so that students are able to
complete program admission requirements, meet course requisites and enrol in courses required to meet their program of studies in a timely manner.

4. Where students are selecting from a list of required courses, access to a specific course is not guaranteed when there is another course available to meet a specific degree requirement.

5. The University reserves the right to change a student’s enrolment in classes should the need occur (e.g. low enrolment, urgent timetable changes, etc). Moved to the Student Responsibilities Academic Section.

Enrolment:

The purpose of enrolment is to officially record your program and courses. Information on how to enrol is available online at: [http://registrar.mcmaster.ca/category/enrol/](http://registrar.mcmaster.ca/category/enrol/). You must enrol in courses during the official registration period designated for each session or term. You are responsible for ensuring that you’re enrolment information is complete, and that your course selections meet the requirements of your degree. Academic counselling is available from your Faculty or Program Office to assist you in course selections.

Admission to Programs

Admission to and transfer between programs must be approved by the Office of the Associate Dean of your Faculty.

Selection of Courses

Before you select the courses you wish to take, please read the requirements for your program in the appropriate Faculty sections of this Calendar. You are responsible for ensuring that your course selection meets the requirements of your degree. If you fail to meet the program requirements, you will not be eligible to graduate. Select the courses required for your program; then select your electives. Ensure that you have completed the courses which are listed as prerequisites, have completed or chosen courses that are listed as co-requisites and that permissions have been obtained, if required. If you do not have the course requisites, you will not be able to take the course selected.
**Multi-Term Fall/Winter Courses Policy**

This section moved to the Academic Evaluations section.

Codes for multi-term Fall/Winter courses have an A/B suffix. Part A must always be taken in the Fall Term immediately preceding Part B. Neither Part A nor B of a multi-term course has academic credit independent of both parts being successfully completed. Students who drop or withdraw from Part A must also withdraw from B.

Upon completion of the Fall Term, a grade of MT indicating *multi-term* will be assigned to Part A and the final grade will be assigned to Part B. Students who withdraw from Part B are not eligible to receive academic credit for Part A.

**Prior to Spring/Summer Term 2015:**

All undergraduate courses had course codes of 4 alpha-numeric digits and were administered as a singular course (e.g. ENGLISH 2G06 CANADIAN LITERATURE).

**Effective Spring/Summer Term 2015:**

All undergraduate course codes will retain the 4 alpha-numeric digits. Courses that span more than one term (e.g. both Fall and Winter terms), will have the characters A and B added to the code. Therefore, all courses with an additional A/B suffix are multi-term courses. (e.g. ENGLISH 2G06A/B CANADIAN LITERATURE). The A/B S suffix (e.g. HTHSCI 3A15 A/B S) indicates that the course may be delivered as either a multi-term course or within a single term.

Neither Part A nor Part B of a multi-term course has academic credit or value independent of both parts being successfully completed. Students who drop or cancel the ‘A’ portion of a course are not eligible to receive academic credit for the ‘B’ portion (and vice-versa). Part A must always precede Part B and both must be taken sequentially within the same academic year. Upon completion of the first Term, the ‘A’ portion of the course will be included on the transcript with a grade designation of MT (Multi-Term). Final grades will not be determined until both A and B components have been completed.

The last day for adding or dropping as well as the last day for cancelling without failure by default for multi-term courses are reflected in the *Sessional Dates*.

**Changes to Enrolment Withdrawal from Courses**

Moved to Academic Evaluations section

The last day for adding or dropping courses is approximately one week after classes begin for each term. (please see the tables in the *Sessional Dates* section for the relevant dates for each term of the academic year.) After the above-mentioned period, the last day for enrolment and course changes, you students may withdraw from courses until the last day to withdraw without failure by default. Withdrawn courses will be shown on the student’s transcript with a W notation grade of W. After the last day to withdraw without failure by default, this date, you the
Student will remain enrolled, whether or not they attend classes, fulfill any further academic obligations, and a final grade will be assigned. Your transcript will show a grade of F for any course not successfully completed. Changes to your course load may also affect your fees and your eligibility for scholarships and financial aid such as OSAP.

You are responsible for ensuring that your course selection meets the requirements of your degree. You should review your personal advisement report on the working day following each time you drop or add courses, and contact an Academic Advisor in the Office of the Associate Dean of your Faculty if you have questions. Changes to your course load may also affect your fees and your eligibility for scholarships and financial aid such as OSAP.

Limit on Level I Courses: In most Faculties, you may not obtain credit in more than 42 units of Level I courses in a three-level program, or more than 48 units in a four-level program.

Eligibility for Awards

See Undergraduate Academic Awards chapter in this Calendar for more information.

Overload Work

This section has been moved to the Academic Evaluations section.

If you Students wishing to take more than the normal number of units prescribed for their Level/program in the Fall-Winter Term or more than 12 units in the Spring-Summer Term (no more than 6 units in either session of that term) in a Level, you may seek only with the permission of their Faculty/Program Office and the Associate Dean of your Faculty. Normally, a Fall-Winter Average of at least 7.0 in the immediately preceding review period will be required if an overload is to be permitted. Additional academic fees will be assessed for overload work. For further information please visit http://www.mcmaster.ca/bms/student/.

Load in Spring/Summer Term

This section has been moved to the Academic Evaluations section.

If you wish to take more than 12 units in the Spring/Summer term, or more than six units in either session of that term, you may so only with the permission of the Office of the Associate Dean of your Faculty.

Repetition of Courses

This section has been moved to Academic Evaluations.

Students may repeat courses that have been failed or for which credit has been obtained a number of times, with the exception of the students in the Faculty of Business who may only repeat courses with permission of the Student Experience—Academic Office (DSB 112) or for which they have failed. The grades for all attempts appear on the transcript and enter into the
computation of the Grade Point Average. However, only one successful attempt will enter into
the computation of credit earned towards your degree.

Repeating Courses

Effective September 1, 2018, students may repeat a course twice (i.e. attempt a course three times).
Cross-listed courses count as attempts. Grades from every attempt will appear on the academic transcript.
The Cumulative GPA will include only the grade earned on the most recent attempt. Units earned will be
counted once toward the student’s program requirements, regardless of the number of times the course is
repeated. Prior to September 1, 2018 the grades from all attempts are included in the GPA calculation.

Auditing Courses  This section has been moved to Academic Evaluations.

If you are a Students currently enrolled student in a degree program and you do not wishing to
have credit for a course, you may, with the audit a course must obtain approval from the course
instructor of the Chair of the Department and the Office of the Associate Dean, audit the course.
and their Faculty/Program Office. Additionally: You must satisfy the prerequisite for the course,
but will not complete assignments nor write the final examinations. You will not be permitted to
enrol for credit in the course after the enrolment deadline for the term has passed. Please see

• course requisites must be met
• academic obligations (assignments, test, examinations, etc.) are not completed
• a grade of AUD (audit) will be assigned
• units will not be earned nor applied toward the student’s program requirements
• tuition fees apply
• students will not be permitted to enrol for credit in the course after the Last Day for
  enrolment and course changes
• students enrolled in a course for credit will not be permitted to change the course to
  ‘audit’ after the Last Day for enrolment and course changes

Non-McMaster students wishing to audit a course must enrol as a Listener.

Note: The Financial Information section includes a section titled “Listeners” but nothing titled
“Auditing”.

Letters of Permission

If you are in good academic standing at McMaster and if you wish to attend another university to
take courses for credit towards a McMaster degree, you must obtain permission ahead of time.
To do this you must seek a Letter of Permission from the Office of the Associate Dean. This
request can be initiated in the Student Centre in Mosaic. Please take note of any conditions that
might apply, including the requirement of a grade of at least C— for transfer credit. You should
note that the grades obtained in courses taken at another university will not be included in the
calculation of averages nor count toward the load required for Undergraduate awards. Students taking courses on a Letter of Permission must continue to carry the course load specified by aid and awards programs at McMaster should they wish to be considered.

McMaster Students Studying at Another University: Letter of Permission (LOP) and Exchange (Study Abroad)

McMaster students who wish to complete courses at another university for transfer credit towards their McMaster degree must be in good academic standing.

Grades obtained in courses at another university will not be included in the calculation of McMaster averages, which may affect consideration for in-course academic awards.

Courses taken at another university cannot be used to satisfy McMaster’s Residence Requirements.

Students may take up to six units at another university toward a Minor.

Letter of Permission (LOP):

Students must obtain necessary approval in advance from their Faculty/Program Office.

Upon completion of course work, if a grade of 60% or better is obtained, the transcript designation reads T indicating transfer credit. If less than a 60% grade is attained, the transcript designation reads NC indicating no credit. If the student withdraws from the course, the transcript designation reads W indicating withdrawn.

Students who do not use their Letter of Permission or drop the course must supply the Faculty/Program Office with a certified letter from the host university, otherwise a grade of NC will be placed on the transcript.

Exchange (Study Abroad):

Students must obtain necessary approvals in advance from both their Faculty/Program Office and International Student Services.

Upon completion of course work, if a passing grade (as determined by the host university) is obtained, the transcript designation reads T indicating transfer credit. If less than a passing grade is attained, the transcript designation reads NC indicating no credit. If the student withdraws from the course(s), the transcript designation reads W indicating withdrawn.

Students who return from Exchange prior to completion of course work must supply the Faculty/Program Office with a proof of withdrawal from the host university, otherwise grades of NC will be placed on the transcript.
Voluntary Withdrawal from the University

Students who wish to permanently or temporarily withdraw from the University must consult their Faculty/Program Office.

Students in receipt of government student aid (e.g., OSAP) and/or University aid or awards should contact the Office of the Registrar, Student Financial Aid & Scholarships.

If you wish to withdraw from the University, you must consult the appropriate Office of the Associate Dean. Your student identity card must be surrendered to the Office of the Associate Dean. Your course record will be handled as outlined above in Changes to Enrolment. If you are in receipt of government (e.g., OSAP) and/or University aid or awards, please also contact the Office of the Registrar, Student Financial Aid & Scholarships.

Transfer of Credit between Faculties

Committee believes the language in the calendar regarding transferring programs and transfer credit is not a general regulation. Information on this belongs in the Faculty sections.

Transfer of credit between Faculties is handled by the Office of the Associate Dean to which you wish to transfer. It is possible that full credit may not be given at the time of transfer between Faculties and additional courses may need to be taken.

Transfer between Programs

If you wish to transfer from one program to another, you should discuss the possibility with the appropriate Office of the Associate Dean to which you wish to transfer. It is possible that full credit may not be given at the time of transfer between Faculties and additional courses may need to be taken.

Reinstatement

Moved to follow the Academic Standing Section.

A. May Not Continue at the University

If you are ineligible to continue at the University (i.e. the Academic Standing on your last grade report was May Not Continue at University) and you wish to apply for reinstatement to a particular program, please contact the Office of the Registrar to obtain the appropriate application form. Students are considered for reinstatement for September entry or for May entry only.

You will be required to submit the following information along with your application:

- A brief summary of the circumstances relevant to your lack of academic success.
- Reasons for selection of program indicated.
- Reasons for selection of courses/program indicated.
Activities since last enrolled at the University, including all academic work. You should provide evidence that you will now be able to succeed in a post-secondary program. Please refer to the website of the Faculty offering your selected program for further advice.

If applicable, you should support your application with appropriate documentation (e.g. from a doctor, lawyer, therapist).

Reinstatement is not guaranteed. There is limited room for students who have been unsuccessful in their previous studies.

If at any review after reinstatement your Grade Point Average (GPA) falls below 3.5, you will be required to withdraw from the University for a period of at least 12 months.

B. Required to Withdraw from University

If you are required to withdraw from the University because your GPA falls below 3.5 at any review after reinstatement, you may apply for reinstatement only after you have been away from the University for a period of at least 12 months. Please contact the Office of the Registrar to obtain the appropriate application form and follow the procedure above.

Calculation of Grade Point Average Following Reinstatement after Poor Academic Performance:

Effective September 1997, if you are reinstated at the University, your Grade Point Average will be reset to 0.0 on zero units, although you may (at Faculty discretion) retain credit for prior work. If you are reinstated, you will be on academic probation. You must complete a minimum of 60 units of work after reinstatement to be eligible for Graduation with Distinction or other recognition based on the Grade Point Average.

Students must contact the Office of the Registrar to apply for reinstatement within the application deadlines. Reinstatement is not guaranteed.

If reinstatement is granted, the student is placed on academic probation and their Cumulative GPA is reset to 0.0 on zero units. At the discretion of the Faculty, the student may retain credit for courses successfully completed. If at any academic standing review after reinstatement the student’s Cumulative GPA falls below 3.5, the student will be required to withdraw from the University.

The student must complete a minimum of 60 units of work after reinstatement to be eligible for Graduation with Distinction or other recognition based on the Cumulative GPA.

Study Abroad —— See Section McMaster Students Studying at Another University: Letter of Permission (LOP) and Exchange (Study Abroad)
If you wish to engage in international study internationally, you may do so either by:

- participating in one of the formal exchange programs that exist between McMaster and a number of universities in other countries;
- participating in one of the programs available through specific Faculties; or,
- independent study abroad.

For details on the programs available and information on how to apply, please contact your Academic Advisor and/or the International Student Services Office.

Formal exchange programs are those in which McMaster has an agreement with another institution, involving a temporary exchange of students. As an exchange student, you enrol and pay your tuition fees, and supplementary fees at McMaster. No tuition is paid at the foreign institution. If you are interested in participating in a formal exchange program, you can obtain further information and an application form from the International Student Services Office. Applications are normally due mid-January for exchanges expected to begin the following September. Admission is by selection. A registration checklist is available to assist you in making all necessary arrangements.

McMaster also offers other programs which allow you to spend all or part of your third year of a four-year program at another institution. You enrol but do not pay tuition at McMaster. These programs are not available at universities with which McMaster University has a formal exchange agreement. For more information on these programs, please see your Academic Advisor or the International Student Services Office.

Students must recognize and accept the fact that in many countries of the world, especially the newly-emerging nations, change may be the only constant. There are no guarantees that certain courses will be offered or that housing will be as one might expect. Spending time on an exchange program or an independent study abroad program offers an opportunity to develop one’s adaptability and resourcefulness in the face of new situations. McMaster University cannot be held accountable for unforeseen changes in the host country.

For information about programs and universities, please contact the International Student Services Office.

**Academic Standing and Program Requirements**

**Academic Standing**

**Academic Standing Review:**

Each year in May and August (and after deferred examinations) Academic standing is reviewed and determined in May and August each year for students who have:

- have attempted at least 18 units of work since the last review, or
• may be eligible to graduate at the next Convocation.

In the review of academic standing, three sets of decisions are made:
• whether a student may graduate;
• whether a student may continue at the University; and,
• whether a student may continue in a program.

**Academic Standings:**

**Good Standing**

A student who satisfies the minimum requirements to continue in their program without restriction.

**May Continue in Program - Academic Probation**

Academic probation is assigned when a student:
• achieves a Cumulative GPA between 3.0 and 3.4. If at any future academic standing review their Cumulative GPA falls below 3.5, the academic standing assigned will be May Not Continue at the University.
• returns to studies after being Reinstated. If at any future academic standing review their Cumulative GPA falls below 3.5, the academic standing assigned will be Required to Withdraw from the University.

**May Continue in Program - Program Probation**

Program Probation is assigned when a student’s Cumulative GPA falls below the minimum requirements to remain in their program. Failure to achieve Good Standing at the next academic standing review will result in their removal from the program. See Faculty specific Minimum Requirements for Entering and Continuing in a Program Beyond Level I.

**May Not Continue in Program**

This standing is assigned to:
• students who fail to achieve the minimum Cumulative GPA to remain in the program, or
• students previously on Program Probation who fail to achieve Good Standing.

To continue at the University, the student must apply to transfer to another program.

**May Not Continue in Faculty**
May Not Continue in Faculty is assigned when:

- a student enrolled in a program in the Faculty of Engineering or Business has achieved a Cumulative GPA between 3.0 and the minimum requirements to remain in their Faculty, or
- a student enrolled in a program in the Faculty of Business in Level II or above receives a grade of F in more than 6 units.

To continue at the University, the student must apply to transfer to another program or continue as a transition student for one reviewing period. Engineering and Business Faculties provide a definition for transition student in their faculty pages.

May Not Continue at University

May Not Continue at University is assigned when:

- a student achieves a Cumulative GPA below 3.0, or
- a student previously on Academic Probation fails to achieve Good Standing.

The student cannot enroll in courses at the University unless granted Reinstatement.

Required to Withdraw from University

A student who at any time received a standing of Academic Probation and at a future academic standing review achieves a Cumulative GPA below 3.5 will be Required to Withdraw from the University. The student will be unable to apply for Reinstatement for at least 12 months.

Minimum Requirements to Continue at the University

All students must maintain a Grade Point Average (GPA) of at least 3.5 at each review to continue at the University. Under certain circumstances, as described below, students may be allowed to continue on academic probation for one reviewing period with a GPA of 3.0 to 3.4. If your GPA is less than 3.0, you may not continue at the University.

Level I Registration and Academic Standing Requirements This section is controlled by the Faculty/Program offices, committee did not review.

Minimum Requirements for Entering and Continuing in a Program Beyond Level I This section is controlled by the Faculty/Program offices, committee did not review.

Minors Moved to Academic Evaluations section.
If you are Students enrolled in a four- or five-level program (with the exception of the Medical Radiation Sciences programs which is a three-level program offered over a four-year period), you are eligible to obtain a Minor in another subject area, provided that the subject area is not integral to the requirements of their degree program. At least 18 units must be completed at McMaster. You should check the calendar requirements statement for your program in the case of Science programs, or check with your Faculty in the case of other programs, for subject areas that are excluded from consideration as a Minor in your program. If you Students who wish to receive a Minor, you should consult the heading Minor in the appropriate department’s listing section of the calendar. McMaster also offers many different minors including those in Archaeology, Globalization Studies and Jewish Studies (see Interdisciplinary Minors and Thematic Areas.) You will be responsible for ensuring that you enrol in the required Minor courses. Normally, you must complete a minimum of 24 units in the Minor subject. No more than six of these units can be at Level I, unless otherwise stated in the specific requirements of the minor. At least 18 units must be completed at McMaster.

In the final year of your program, when you complete your profile in the Graduation Information Centre (GIC) application, you must indicate your desire to receive a Minor in the chosen subject. The student’s Faculty Reviewing Committee will verify that the requirements have been met and, if successful, your transcript will indicate that a designation for Minor has been obtained in that area. Minors cannot be revoked once approved. (see Note 3 under Second Bachelor’s Degree Programs.)

The Specialized Minor in Commerce for Students Completing a Single Honours B.A. in Humanities requires an application for admission after Level I. See the Faculty of Humanities section for more information.

Second Bachelor’s Degree Programs

For admission to a second undergraduate degree program you must hold a first undergraduate degree, whether it be a three-level, four-level, or five-level degree. The minimum admission requirements and program of study for the second degree depend on the subject areas of the two degrees. A second degree is not available in all degrees and/or subject areas. See University Graduates Applying for a Second Bachelor’s Degree.

1. All work for the second degree must be completed at McMaster University.
2. A second degree is not available in all subject areas. See individual Faculty/Program regulations or consult Faculty/Program Offices for exclusions or further information.
3. You will not be admitted to a Second degree programs may not be available where there is substantial overlap in the requirements of the first degree. See individual Faculty/Program regulations or consult Faculty/Program Offices for exclusions or further information.
4. Minors will not be revoked to permit later registration in a three-year second degree in the same subject. Students may return for a second degree in a subject in which they have obtained a Minor, but only at the Honours level. (See Minors)
5. Extra courses taken while you are enrolled in a first degree program, or courses completed as a Continuing Student, may, with the approval of the Faculty, be applied to the second degree program.

6. You Students must meet the same standard regulations for continuation and graduation as are applied to students enrolled in a first degree program.

7. Credit from the first two degrees cannot be applied to a third undergraduate degree. To obtain a third undergraduate degree you students must take the complete program complete all program requirements, i.e. approximately 90 units for a three-level degree and approximately 120 units for a four-level degree.

**Requirements for Second Bachelor’s Degree Programs**

- **Honours Degree following a Three-Level Degree in the Same Subject:** For consideration entry into an Honours B.A. or B.Sc. degree program following a three-level degree in the same subject, a Grade Point Average Cumulative GPA of at least 5.0 in the first degree program is required. For entry consideration into all other eligible degree programs, a Grade Point Average Cumulative GPA of at least 6.0 in the first degree program is required. If admitted, you must take at least 30 units beyond the first degree, including all Honours program requirements specified for the program, must be completed. In some Faculties, this includes a minimum number of units of work in the discipline.

- **B.A. or B.Sc. in Another Subject:** For consideration entry, you students must meet the admission requirements for the program. If admitted, you must complete at least 30 units beyond the first degree, including all program requirements, must be completed. In some Faculties, this includes a minimum number of units of work in the discipline. Students are not eligible for a second B.A. or B.Sc. degree in a program in which they have been awarded a minor, however, they may apply for an honours second degree in that subject.

- **Honours B.A., Honours B.A.Sc., Honours B.Sc. or Honours B.H.Sc. in Another Subject:** For consideration entry, you students must meet the admission requirements for the program and have a Grade Point Average Cumulative GPA of at least 5.0. For admission to applicable Honours B.Sc. programs, applicable Honours B.A.Sc. programs or applicable Honours B.A. programs. If admitted, you must complete at least 60 units beyond the first degree, including all Honours program requirements, must be completed. specified for the program.

- **B.M.R.Sc.:** For consideration, students must meet the admissions requirements for the program. If admitted, students will be required to complete a minimum of 24 units during Level I of the program. Some of these units may be extra to the degree requirements.

- **B. Eng., B.Tech., and B.A.Sc.:** For consideration entry, you students must meet the admission requirements for the program. If admitted, you students must complete at least 60 units beyond the first degree including all program requirements.

**Notes**

1. All work for the second degree must be completed at McMaster University.
2. A second degree is not available in all subject areas. You will not be admitted to a second degree program where there is substantial overlap in the requirements. See individual Faculty/Program regulations or consult Faculty/Program Offices for exclusions or further information.
3. Minors will not be revoked to permit later registration in a three-level second degree in the same subject. Students may return for a second degree in a subject in which they have obtained a Minor, but only at the Honours level. (See Minors)

4. Extra courses taken while you are enrolled in a first degree program, or courses completed as a Continuing Student, may, with the approval of the Faculty, be applied to the second degree program.

5. You must meet the same standards for continuation and graduation as are applied to students enrolled in a first degree program.

6. Credit from the first two degrees cannot be applied to a third undergraduate degree. To obtain a third undergraduate degree you must take the complete program, i.e., approximately 90 units for a three-level degree and approximately 120 units for a four-level degree.

Credit in Courses by Special Assessment (Challenge Examinations)

This section comes from the Admissions pages. The Admissions pages will need to be adjusted and reference the regulation here.

If you have acquired knowledge at a different type of institution or in a manner that makes assessment of your qualifications difficult, you may be permitted to seek degree credit through special assessment (Challenge for Credit).

Challenge for credit is not intended to give credit for skills or knowledge gained through high school, college or previous university instruction. The special assessment may include one or more of the following: written examinations, papers, essays, submissions of a substantial body of work, or portfolios, or laboratory tests. Credit can be granted only for those courses listed in the current McMaster calendar. Not all courses in all disciplines are available for challenge.

Faculties and departments are free to determine which, if any, of their courses are open for special assessment. Challenges are assessed on a pass/fail basis. The passing grade for a challenge appears on the transcript as COM (Complete) and is not used in computing averages or evaluating honours or scholarship standing, but is counted as a course attempt. Unsuccessful attempts will be noted on the transcript as a grade of F. Special Assessment is not available for a course taken previously and a course may be attempted only once by special assessment. Once you have registered for a course by such means (known as challenge exams) the registration may not be cancelled and you may not withdraw from the course.

Waivers of prerequisites only (i.e. no degree credit) will be at the discretion of the department.

Deans’ Honour List

DHL and PHL has been moved to the Academic Evaluations Section.

Each year outstanding students with a minimum average of 9.5 on at least 30 units are named to the Deans’ Honour List. Students will be assessed at the reviewing period (either after the Fall and Winter terms or Spring/Summer term) when a minimum of 30 units (may not exceed 6 units
that are pass/fail) has been completed since the previous Deans’ Honour List review. At each review the assessment will be based on all units completed since the previous Deans’ Honour List review.

**Provost’s Honour Roll**

Each year outstanding students with a 12.0 average on at least 30 units (usually their Fall-Winter Average) are named to the Provost’s Honour Roll. Students will always be assessed at the same time and using the same average calculation as applied to the Deans’ Honour List assessment (may not exceed 6 units that are pass/fail). (See Deans’ Honour List section above)

**Honour Lists**

Students are reviewed for Deans’ Honour Lists (DHL) and Provost’s Honour List (PHL) each time a minimum of 30 units (may not exceed 6 units assessed with a non-numeric grade) have been completed. Subsequent assessments are based on all units completed since the previous review.

Students will be named to the Deans’ Honour List when a minimum average of 9.5 is achieved.

Students will be named to the Provost’s Honour List when an average of 12.0 is achieved.

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**Petitions for Special Consideration**

The University wishes to assist students with legitimate difficulties. It also has the responsibility to ensure that degree, program and course requirements are met in a manner that is equitable to all students. Students may submit, in a prompt and timely manner, a Petition for Special Consideration to the Office of the Associate Dean of their Faculty (Faculty office) or Program Office in those instances where a student acknowledges that the rules and regulations of the University have been applied fairly, but is requesting that an exception to the regulations be made because of special circumstances. Petitions should be submitted in a prompt and timely manner for the relevant term, but no later than July 31 immediately following the Fall/Winter Term or November 15 immediately following the Spring/Summer Term.

Two forms are available in the Offices of the Faculty/Program Office: Associate Deans (Faculty office).

**Petition for Special Consideration (Form A):**

The Petition for Special Consideration (Form A) is submitted for a variety of issues, including, when a student wishes to have a leave of absence or seeks to depart from University
requirements based on compelling medical or personal reasons; or a student believes that an adverse ruling or decision about his/her academic performance, such as failing a course, or being required to withdraw from a program for failure to meet program requirements, should be waived because of compelling medical or personal circumstances.

**Petition for Special Consideration: Request for Deferred Examination (Form B):**

The Petition for Special Consideration: Request for Deferred Examination (Form B) is used when a student misses an examination because of compelling medical or personal reasons.

**Notes:**

1. Once a student has completed an examination, no special consideration will be granted.

2. A student who misses an examination because of compelling medical or personal reasons may submit a Petition for Special Consideration: Request for Deferred Examination (Form B) to the Faculty/Program Office, normally within five working days of the missed examination.

3. If the reason is medical, the approved McMaster University Medical Form must be used. The student must be seen by a doctor at the earliest possible date, normally on or before the date of the missed exam and the doctor must verify the duration of the illness. Relief will not be available for minor illnesses. If the reason is non-medical, appropriate documentation with verifiable origin covering the relevant dates must be submitted, normally within five working days.

4. In deciding whether or not to grant a petition, the adequacy of the supporting documentation, including the timing in relation to the due date of the missed work and the degree of the student’s incapacitation, will be taken into account.

5. It is the student’s responsibility to check Mosaic Student Center > Deferred Exam Approvals or with the Faculty/Program Office of the Associate Dean for a decision on the request for a deferred examination. If the deferred examination is granted, the student will be informed officially by means of the notation DEF which will appear against the relevant course on the student’s academic record and via Mosaic > Student Centre > View My Grades.

6. Deferred examinations are written during the next official University deferred examination period. Examination and deferred examination dates appear in the Sessional Dates section of this Calendar. Default of the deferred examination will result in a fail for that examination.

7. Students who have been granted more than one deferred examination may be required by their Faculty/Program Office to reduce their course load during the term in which the deferred examinations are being written. The decision on a reduced load will be made and communicated with the decision on the request for deferred examinations.

8. At the discretion of the Faculty/Program Office, students who have been granted one or more deferred examinations, may not be allowed to enrol in a subsequent term or session until all deferred examination(s) have been completed and the Academic Standing calculated. Students will be notified of this decision by their Faculty/Program Office.

9. Students who will be living more than 160 kilometres from Hamilton during the deferred examination period and wish to write their approved deferred examination at an institution other than McMaster must submit a Request to Write Deferred Examination Off-campus Form (PDF) at least 15 working days prior to the deferred examination period. Students are
responsible for making arrangements for a presider to conduct the deferred examination at an outside institution and for paying any fees such as invigilation and return courier.

10. The authority to grant any petitions lies with the Faculty/Program eOffice and is discretionary. It is imperative that students make every effort to meet the originally-scheduled course requirements and it is a student’s responsibility to write examinations as scheduled.

Decisions made on Petitions for Special Consideration are final. In accordance with the Student Appeal Procedures, decisions made on Petitions for Special Consideration cannot be appealed to the Senate Board for Student Appeals. However, should students believe a decision violates their human rights, they may wish to consult McMaster’s Policy on Discrimination and Harassment: Prevention & Response and visit one of the four intake offices (Equity and Inclusion Office, Student Support & Case Management, Employee/Labour Relations, Professionalism Office in Faculty of Health Sciences) to initiate a complaint. However, if a student believes that a decision is a violation of his/her human rights, he or she must contact the office of the Human Rights and Equity Services in room 212 of the McMaster University Student Centre, to initiate a complaint.

Requests for Relief for Missed Academic Term Work

The University recognizes that students periodically require relief from academic work for medical or other personal situations. This academic regulation aims to manage these requests by taking into account the needs and obligations of students, instructors and administrators. It is the prerogative of the instructor of the course to determine the appropriate relief for missed term work in his/her course.

Any concerns regarding the granting of relief should be directed to the respective Faculty/Program Office. Requests for relief should be made with a commitment to academic integrity in mind. Requests that deviate from this commitment will be handled under the Academic Integrity Policy and Student Code of Student Rights and Responsibilities Conduct, where appropriate.

1. Relief for missed academic work worth less than 25% of the final grade resulting from medical or personal situations lasting up to three calendar days:

   Relief for missed academic work worth less than 25% of the final grade resulting from medical or personal situations lasting up to three calendar days:
   
   • Use the McMaster Student Absence Form (MSAF) on-line self-reporting tool. No further documentation is required.
   • Students may submit requests for relief using the MSAF once per term.
   • An automated email will be sent to the course instructor, who will determine the appropriate relief. Students must immediately follow up with their instructors. Failure to do so may negate the opportunity for relief.
   • The MSAF cannot be used to meet a religious obligation or to celebrate an important religious holiday.
   • The MSAF cannot be used for academic work that has already been completed/attempted.
• An MSAF applies only to work that is due within the period for which the MSAF applies, i.e. the 3-day period that is specified in the MSAF; however, all work due in that period can be covered by one MSAF.
• The MSAF cannot be used to apply for relief for any final examination or its equivalent. See Petitions for Special Consideration above.

2. For medical or personal situations lasting more than three calendar days, and/or for missed academic work worth 25% or more of the final grade, and/or for any request for relief in a term where the MSAF has been used previously in that term:

For medical or personal situations lasting more than three calendar days, and/or for missed academic work worth 25% or more of the final grade, and/or for any request for relief in a term where the MSAF has been used previously in that term:
• Students must report to their Faculty/Program Office to discuss their situation and will be required to provide appropriate supporting documentation (see Documentation Requirements below).
• If warranted, the Faculty/Program Office will approve the absence, and the instructor will determine appropriate relief.

Documentation Requirements

If the reason for a request for relief is medical, the approved McMaster University Medical Form covering the relevant dates must be submitted. The student must be seen by a doctor at the earliest possible date, normally on or before the date of the missed work and the doctor must verify the duration of the illness.

If the reason is non-medical, appropriate documentation with verifiable origin covering the relevant dates must be submitted, normally within three working days.

In some circumstances, students may be advised to submit a Petition for Special Consideration (Form A) seeking relief for missed academic work. In deciding whether or not to grant a petition, adequacy of the supporting documentation, including the timing in relation to the due date of the missed work and the degree of the student’s incapacitation, may be taken into account. Failure to do so may negate the opportunity for relief.

If the petition is approved, the Faculty/Program Office will notify the instructor(s) recommending relief. It is the prerogative of the instructor of the course to determine the appropriate relief for missed term work in his/her their course.

Examinations (link to Registrar Office Examinations page)

The Office of the Registrar schedules and conducts most final examinations, and December mid-year examinations for full-year multi-term Level I courses. See the Sessional Dates section in...
Examinations conducted by the Office of the Registrar will appear in the Mosaic Student Centre and during these dates may be scheduled in the morning, afternoon, or evening, Monday through Saturday. Other instructor-scheduled tests and examinations may be held throughout each term in compliance with the Academic Obligations - Restrictions Assessment Ban.

Assessment Ban

1. Purpose:

The Assessment Ban is intended to enable students to continue to attend classes and start preparing for examinations held during the official University examination period. There is a university-wide ban on examinations and tests in the final week of classes: see below for exemptions. Each year the dates will be listed in the Sessional Dates section of the Undergraduate Calendar.

2. Application:

   a. Assignments worth more than 10% of the final course grade cannot be assigned during the examination ban period.
   b. Tests and exams cannot be scheduled during the examination ban period.
   c. Take home exams worth more than 10% of the final course grade cannot be due during the examination ban period.

3. Exemptions:

   a. Tests, including lab tests, are exempt when they have the following characteristics:
      - The test is held in the normal class or lab time slot;
      - The test is worth no more than 10% of the final course grade.

   b. Requests for a waiver of the ban must be approved by the Faculty or Program Office before being considered by Undergraduate Council.

Note: The Assessment Ban does not apply to the M.D., B.H.Sc. (Midwifery), B.H.Sc. (Physician Assistant), or to Levels 2 and above of the Medical Radiation Sciences programs.

Full details regarding examination procedures conducted by the Office of the Registrar are found in the Undergraduate Examinations Policy.

Examinations Conducted by the Office of the Registrar

McMaster student photo identification cards are required at all examinations.
If you arrive at an examination without presenting a proper McMaster Student I.D. card you will not be admitted to the room and will be required (before being seated) to obtain a single use supplemental photo for that exam only; a $30.00 fee applies. No additional time is given to compensate for examination time missed.

- You may only use books, papers or instruments during an examination if they are specifically prescribed on the examination paper. No examinations books or supplies are to be removed from the room.
- Conversation or any form of communication between students is forbidden in the examination room.
- All mobile phones, smart phones, smart watches and web accessible electronic devices must be turned off and must not be in the student’s possession during the exam.
- No food is permitted and drinks must be in a spill proof container.
- The University is not responsible for lost or stolen articles.
- Items (including back packs) that are not required to write the examination should not be brought into the examination as they must be left at the side of the room at your own risk.
- Handbags or small personal belongings may be placed underneath your chair but not on your desk.
- You are expected to use the washroom before or after and not during an examination.
- You are responsible for writing the correct examination from the right instructor at the place and time indicated on your personal examination timetable in Mosaic.
- Students arriving late will be admitted only within the first 30 minutes of the start time of the exam and will not be given extra time.

Examinations are not rescheduled for purposes of travel. You **students** must be available for the entire examination period as listed in the **Sessional Dates** section.

The Office of the Registrar will reschedule final examinations within the examination period for the reasons listed below. Application to reschedule examinations and where applicable, acceptable documentation must be supplied must be made at least 10 working days before the scheduled examination period. Failure to meet the stated deadline may result in the denial of the application. Special examination arrangements may be made upon application to the Office of the Registrar, Scheduling and Examinations, in some circumstances, such as:

- Conflict with religious obligations
- More than one examination scheduled at the same time
- Three examinations in one calendar day (midnight to midnight). **Examples follow:**
  - 9:00am, 12:30pm and 4:00pm
  - 12:30pm, 4:00pm and 7:30pm
  - 9:00am, 4:00pm and 7:30pm
  - 9:00am, 12:30pm and 7:30pm
- Three consecutive examinations over two days (e.g., December 14th at 4:00 pm and 7:30 pm and December 15th at 9:00 am). **Examples follow:**
and where applicable, acceptable documentation must be supplied.

If you Students who miss miss a final examination for medical or personal reasons you may submit a Petition for Special Consideration: Request for Deferred Examination (Form B) with supporting documentation to their Office of the Associate Dean of your Faculty/Program Office, normally within five working days of the missed examination.

If you Students who begin a final examination, but are unable to complete it for medical reasons, you may submit a Petition for Special Consideration (Form A) with supporting documentation to their Office of the Associate Dean of your Faculty/Program Office, normally within five working days of the examination.

Students with disabilities are required to inform Student Accessibility Services of accommodation needs for examinations on or before the last date for withdrawal from a course without failure by default. This allows sufficient time to verify and arrange appropriate accommodation. Failure to meet the stated deadline may result in the denial of special accommodation. See Academic Facilities, Student Services and Organizations, Student Accessibility Services section of this Calendar, or contact that office.

Request to Write Deferred Examinations at an Off-Campus Location

Students living more than 160 kilometers from Hamilton during the deferred examination period and wishing to write their approved deferred examination at an institution other than McMaster must submit a Request to Write Deferred Examination Off-campus Form (PDF) at least 15 working days prior to the deferred examination period.

If the deferred examination is written at an off-campus location, any fees incurred are the responsibility of the student. This includes the fee to courier the written examinations back to the Office of the Registrar, Scheduling and Examinations.

Deferred Examination dates appear in the Sessional Dates section of this Calendar.

For information regarding application for Deferred Examination, see Petitions for Special Consideration: Requests for Deferred Examinations (Form B).

GRDES-Academic Evaluations

Numeric Grading System

The results of all courses attempted will appear on your transcript. The method for determining your final grades will be given in the course outline. Unless otherwise specified in the course outline, course results determined on a percentage scale will be converted to an official letter grade, as indicated in the following equivalent percentage scale: which follows. The results of all courses attempted will appear on your transcript as letter grades.
Before submitting a failing grade, your instructor reassesses whatever examples of your work are available.

To satisfy prerequisite requirements, a grade of at least D– is required, unless otherwise stated.

You retain credit for all courses with grades of D– or better, except in those programs for which a higher grade is specified in the program regulations. (This bullet point is a program regulation and programs need to convey this information in their regulations when it applies.)

Since September 1982, the grading scale has been:

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<thead>
<tr>
<th>Grade</th>
<th>Equivalent Grade Point</th>
<th>Equivalent Percentages</th>
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<tr>
<td>A+</td>
<td>12</td>
<td>90-100</td>
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<td>A</td>
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<tr>
<td>F</td>
<td>0</td>
<td>0-49 – Failure</td>
</tr>
</tbody>
</table>

Non-Numeric Grades and Notations: Added from the transcript legend

AUD – Audit
CAN – Cancelled
COM – Complete
CR - Credit
F – Fail
INC – Incomplete
IP – In Progress
MT – Multi-Term
NC – No Credit
NMR – No Mark Received
P – Pass
T – Transfer Credit  
W – Withdrawn  
XCH – Exchange  

Notations  

DEF  
EXTRA  
REPEAT  
UPGRADE  

**DEF**  

Courses with the notation DEF have been approved for a deferred examination.  

**Extra**  
Moved from the Glossary  

Extra Courses are those courses designated as “Extra” at the time of registration as “Extra” by the Faculty Office, which are not included as units toward completion of a student’s program. The grades obtained in such courses will not be included in the computation of the Cumulative GPA. However, they will be included in the computation of the Fall-Winter Average and the Spring-Summer Average.  

**Unused**  

Courses designated as “Unused” cannot be used to fulfil the requirements for the student’s current degree program. The grades obtained in such courses will be included in the computation of all averages.  

**Graded Units**  

Graded units refer to the number of units taken at McMaster for which a letter or Numeric Grade is earned. Graded units do not include courses assessed with a Non-Numeric Grade.  

**Pass/Fail Courses**  

Pass/Fail Courses: Courses evaluated on a Pass/Fail basis are not included in the calculation of averages. The earned units are counted towards degree requirements.  

**The definitions for averages shown below have been moved from the glossary. The Weighted Average Example was already in this section.**  

**Full-load Average (FA)** is based on the successful completion of a Full Load of course units (see Full Load definition), and includes only courses taken in the Fall/Winter session. Overload units (those above Full Load) and Extra courses taken during the Fall/Winter session are included in the FA.  

**Cumulative Grade Point Average (Cumulative GPA)**
The grade point average (Cumulative GPA) is the weighted average based on the Graded Units taken throughout the undergraduate career. The Repeating Courses regulation, effective September 1, 2018, will affect the calculation of subsequent Cumulative GPA, grades obtained in all courses taken. Failed courses are included in the GPA calculation.

**Fall-Winter Average**

The Fall-Winter Average is a weighted average based on the grades attained in the Fall and Winter Terms. Overload courses and Extra courses are included in the Fall-Winter Average.

**Spring-Summer Average**

The Spring-Summer Average is a weighted average based on the grades attained in the Spring and Summer Term. Overload courses and Extra courses are included in the Spring-Summer Average.

**Term Grade Point Average (Term GPA)**

The Term GPA is a weighted average based on the Graded Units taken in the term.

**Weighted Average**

Weighted average is calculated by multiplying the grade points achieved in each course by the number of units in each course, totaling these results, and then dividing this result by the total number of course units.

Example of a weighted average calculation, using the grade points and units for courses completed attempted:

<table>
<thead>
<tr>
<th>Course</th>
<th>Grade</th>
<th>Grade Points</th>
<th>Course Units</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-</td>
<td>10</td>
<td>x</td>
<td>6</td>
<td>= 60</td>
</tr>
<tr>
<td>C+</td>
<td>6</td>
<td>x</td>
<td>3</td>
<td>= 18</td>
</tr>
<tr>
<td>B</td>
<td>8</td>
<td>x</td>
<td>6</td>
<td>= 48</td>
</tr>
<tr>
<td>B+</td>
<td>9</td>
<td>x</td>
<td>3</td>
<td>= 27</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
<td>x</td>
<td>6</td>
<td>= 0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total Points</td>
<td>153</td>
</tr>
</tbody>
</table>

To calculate Average: 153 ÷ 24 = 6.4

**OSAP Eligible Course Load**
OSAP Eligible Course Load or equivalent refers to the 60% minimum course load per term (40% minimum course load per term for students with permanent disabilities) required to be eligible for full-time OSAP government student aid funding.

**Personal Interest Course (PIC)**

McMaster University encourages interdisciplinary study and believes undergraduate studies provides an excellent opportunity to explore topics which are new and unfamiliar. Students, however, may be reluctant to take a course if they are unsure of their academic performance for fear of compromising their Cumulative GPA. The Personal Interest Course (PIC) option is designed to encourage students to explore interests outside of their program without affecting their Cumulative GPA.

1. A student can declare a PIC to signify they want an elective course to be assessed on a Credit or No Credit (CR/NC) grading scale.

2. To receive the grade of CR, the student must earn a final mark of at least 50%. Units earned from a successfully completed PIC will be counted in the units required for a student’s degree as applicable.

3. Courses with a final grade of NC do not count as degree credits or as failures, nor are they included in the GPA calculation or averages. Please note, government student aid (e.g., OSAP) will consider a NC grade as a failure.

4. The PIC option is not available for any course that is considered a program requirement (which includes courses listed as possible required courses), independent study, thesis, field study or placement course, or on a list of required courses. Students are responsible for ensuring the course is an elective course for their program. Engineering students should note the PIC option is available only for complementary studies electives.

5. Students may declare a maximum of 3 units of PIC per term to a maximum of 12 units per four- or five-level degree or a maximum of 9 units per three-level degree. A maximum of 6 units of PIC may be used to satisfy requirements toward a Minor.

6. The PIC option is available to undergraduate students registered in a program above Level I, with a Cumulative GPA of at least 3.5, who are enrolled in a Program/Faculty which is participating in the PIC option. Exchange students should seek advice from the International Study Office and Faculty/Program Office.

The PIC option is not available to students who
- are enrolled in the School of Medicine, or
- are enrolled in a Program/Faculty which is not participating in the PIC option (see Faculty Academic Regulations), or
- have graduated and are in a second degree or a non-degree program, e.g., continuing, etc.
7. If a percentage grade in a course is required for future applications to graduate or professional school, the PIC option should not be selected for that course. Students may not subsequently request to have a PIC grade recalculated to a numeric grade. Students must carefully review any government (e.g., OSAP) and University aid and award eligibility rules which may be affected by the use of the PIC option.

8. If the student changes their program of study and a course taken as a PIC becomes a required course, the new Faculty/Program Office may accept the course grade of CR or NC or have the grade converted back into a numeric grade. If a grade is converted back into a numeric grade, there will be no retroactive reconsideration of aid and award.

9. Students cannot use the PIC option for courses in which they have been found guilty of academic dishonesty. In these cases, the grade will be converted into a numeric grade.

**Deadlines:**

1. Students must declare a course as a PIC on Mosaic by the last day for enrollment and course changes date. The student progresses in the course as per normal, and has the option to withdraw from the course as per the normal procedures and deadlines.

2. If the student would rather keep the numeric grade, they must indicate the course is no longer a PIC on Mosaic by the last day for cancelling courses without failure by default and the numeric grade will appear on their transcript. Please note, once declared as PIC, the course counts towards the maximum 12-unit limit regardless of whether or not the course is graded as a PIC.

**Graduation**

Graduation With Distinction has been moved to Academic Evaluations.

Graduation With Distinction standing will be awarded if a minimum Grade Point Average (Cumulative GPA) of 9.5 is achieved in a degree program. In this case, the Latin phrase *summa cum laude* (“with highest honour”) will appear on the graduate’s diploma.

The following minimum Cumulative GPA Grade Point Averages are required to graduate:

- B.A. – 3.5
- B.A. (Honours) – 5.0
- B.S.W. (Honours), B.A. /B.S.W. and B.S.W. – 6.0
- B.Arts Sc. and B.Arts Sc. (Honours) – 5.0
- B.A.Sc. (Faculty of Engineering) – 4.0
- B.A.Sc. (Honours) (Faculty of Science) – 5.0
- B.Com. – 4.0
- B.Com. (Honours) – 5.0
- B.F.A. (Honours) – 5.0
- B.H.Sc. – 6.0 (on all graded courses) 5.0
• B.H.Sc. (Honours) – 5.0
• B.H.Sc. (Midwifery) – 6.0
• B.M.R.Sc.* – 4.5
• B.Mus. (Honours) – 5.0
• B.Sc. – 3.5
• B.Sc. (Honours) – 5.0
• B.Sc.Kin. (Honours) – 5.0
• B.Sc.N. – 5.0
• B.Tech – 3.5

*All requirements must be completed within five years from the time of registration in Level II.

Please see the graduation regulations for individual Health Sciences programs in the Faculty of Health Sciences section.

If, at the time of graduation, you Students who fail to meet the requirements for an Honours degree, you may seek to transfer to another program.

If you are enrolled in Level III of an Honours program and wish to transfer to a three-level degree program to be eligible for graduation at the next Convocation, you must submit your request through your Mosaic Student Centre by May 15 for Spring Convocation, and by October 15 for Fall Convocation (if these dates fall on a Saturday or a Sunday, the next business day will be the deadline). If permission is granted, you must complete your profile in the online Graduation Information Centre.

If you are scheduled to graduate from a three-level program and wish to be considered to transfer to Level IV of an Honours program rather than graduate, you must submit your request through your Mosaic Student Centre by May 15 for Spring Convocation, and by October 15 for Fall Convocation (if these dates fall on a Saturday or a Sunday, the next business day will be the deadline). The decision regarding your eligibility to transfer will appear in your submitted service request in the Mosaic Student Centre. If you are not eligible to transfer, you will graduate from your three-level program as scheduled.

The graduation information struck out above should be pared down and put into faculty pages (if relevant).

During the term in which you Students who intend to graduate who expect to complete their your graduation requirements, you must complete your profile in the online Graduation Information Centre form by the appropriate deadline in their final term of study., available at http://registrar.mcmaster.ca/grad. If you wish to Students wishing to graduate with receive a Minor in addition to your major program of studies, you must complete the application in the Minor/Certificate Application Centre. indicate this in your profile in the Graduation Information Centre as well.
Degrees will be conferred Students will graduate with their degree. You must take the degree at the Convocation immediately following the completion of the appropriate degree work. Students unable to attend the convocation ceremony who wish to attend a later ceremony should consult the Policy on Deferral of Attendance at Convocation and must contact the Office of the Registrar within the prescribed time deadlines.

These next two bullet points have been moved to the Parchments, Diplomas and Certificates section: Diplomas will not be released to students with an outstanding account with the University.

Diplomas are held for a period of 12 months following the Convocation date before being destroyed. Students requesting diplomas after this period are required to pay a replacement fee.

Duplicate and Replacement Parchments, Diplomas and Certificates

Diplomas will not be released to students with an outstanding financial account with the University.

Diplomas are held for a period of 12 months following the Convocation date before being destroyed. Students requesting diplomas after this period are required to pay a replacement fee.

Graduates may request a duplicate or replacement degree parchment, diploma or certificate (fees apply.)

- A duplicate copy will be issued when requested by a graduate a student requires or when the original document has been lost or destroyed.
- The words duplicate copy or reissued will be affixed to all degree parchments, diplomas or certificates requested in this manner and will bear the signatures of the current Chancellor, President and Vice-Chancellor, and Registrar.
- Damaged parchments must be returned to the Office of the Registrar before the new parchment, diploma or certificate is issued.

Records Policy

Transcripts

A transcript summarizes a student’s academic career at McMaster University and are available by electronic request through Mosaic. Academic terms do not appear on transcripts until the first day of classes in the term has passed. Transcripts are only released for students in good standing; transcript requests will not be processed for students with outstanding financial accounts at the University or those under investigation for an academic integrity violation.

Transcripts summarize a student’s academic career at McMaster University and are available by electronic request through Mosaic. Please contact the Office of the Registrar for questions related to transcript requests.
Transcripts
Office of the Registrar, Services
Room 108, Gilmour Hall
McMaster University
L8S 4L8
Phone: (905) 525-4600
Fax: (905) 527-1105
http://registrar.mcmaster.ca/services/transcripts

NOTE: Academic terms do not appear on transcripts until the first day of classes in the term has passed.

There is no charge for transcripts; however, charges for rush, fax or courier services apply (http://registrar.mcmaster.ca/category/services/transcripts/) and are due at the time of order. Requests received by mail or fax must include credit card information along with the signature of the student and card owner (if different from the student). Please allow five to seven business days for processing; mail delivery times vary and are beyond the control of the University.

Credentials This language comes from the Senate Policy on Diplomas and Certificates and is now in the Academic Evaluations section.

A credential is a body of academic work or collection of course work that stands on its own and for which a parchment is issued. McMaster credentials include certificates, diplomas and degrees. A single course is permitted to be counted toward a maximum of two credentials.

Record Retention Policy This section has been moved to much earlier in the regulations.

When you individuals apply for admission to McMaster University and enrolment in programs at McMaster the University, you they accept the University’s right to collect pertinent personal information. This information is needed to assess your qualifications for entry, establish records of performance in programs and courses, provide the basis for University aid and awards and governmental student aid programs funding, and to assist the University in the academic and financial administration of its affairs. All documentation that you submitted to the University in support of applications for admission, residence accommodation, or financial University aid and awards, or any appeals and/or petitions, becomes the property of the University. You are
notified of your academic performance in courses through the Mosaic Student Centre > View My Grades

All application documents are normally destroyed at the end of each admission cycle for applicants who are not accepted, or who do not enrol following acceptance. For applicants who become McMaster students, their application documents are normally destroyed five years after the last term of their enrolment at the University (regardless of whether or not they graduate).

Supporting documentation relevant to government student aid programs (e.g., OSAP) is kept per the retention policies of the Federal and/or Provincial governments. Supporting documentation, by aid year, relevant to the administration of online aid applications, as well as University aid and awards, will normally be destroyed after seven years.

All information needed to produce official transcripts is maintained permanently. If you are not accepted, or if you fail to enrol following acceptance, your documentation is normally destroyed at the end of each admissions cycle. If you reapply, you must resubmit any previous documentation and any additional academic information.

Supporting documentation relevant to your admission to, and performance at, the University will normally be eliminated five years after the end of your enrolment at the University (regardless of whether you graduate).

Supporting documentation relevant to government student aid (e.g. OSAP) is kept per the retention policies of the Federal and/or Provincial governments. Supporting documentation, by aid year, relevant to the administration of online aid applications, as well as University aid and awards, will normally be eliminated after seven years.

McMaster University Statement on the Collection of Personal Information and the Protection of Privacy

This section has been moved to much earlier in the regulations.

McMaster University collects and retains personal information of students, alumni and other parties, including but not limited to faculty, staff, visiting academics and private citizens using services provided by McMaster University, under the authority of the McMaster University Act, 1976. This information is used for the academic, administrative, employment-related, safety and security, financial and statistical purposes of the University, including for the administration of admissions, registration, awards and scholarships, convocation, alumni relations and other fundamental activities related to being a member of the University community, a user of services provided by McMaster or an attendee of, or applicant to, a public post-secondary institution in the Province of Ontario. The information will be used, among other things, to admit, register and graduate students, record academic achievement, issue library cards and, where applicable, local transit passes, to provide access to information systems and to operate academic, financial, athletic, recreational, residence, alumni and other University programs. Additionally, this information may be shared with other institutions of higher education in order to administer collaborative programs. Information on admissions, registration and academic achievement may
also be disclosed and used for statistical and research purposes by the University, other post-
secondary educational institutions and the federal and provincial governments. The names of
alumni, their Faculty and program, award information, degree(s) awarded and date of graduation
is considered public information and may be published by McMaster University. In addition,
student photographs posted by the University in the form of individual pictures or class pictures
may be publicly displayed. Aside from the foregoing, the information you provide and any other
information placed in a student record, or in a personnel record, will be protected and used in
compliance with Ontario’s Freedom of Information and Protection of Privacy Act (RSO 1990)
and will be disclosed only in accordance with this Act. If you have any questions about the
collection and use of this information please contact the University Registrar, University Hall,
Room 209, Student Records, Gilmour Hall, Room 108, or the University Secretary, Gilmour
Hall, Room 210, McMaster University.

McMaster University may also collect personal information from other relevant sources
including, without limitation, the Ontario Universities’ Application Centre, secondary schools,
colleges, universities and other institutions previously attended, including third-party services
and test score providers where the items collected form a part of the application or admission
process to a university program.

Furthermore, McMaster is required to disclose personal information such as Ontario Education
Numbers, student characteristics and educational outcomes to the Ministry of Advanced
Education and Skills Development (the “MAESD”; formerly known as the Ministry of Training,
Colleges, and Universities). The Ministry collects this data for purposes such as planning,
allocating and administering public funding to colleges, universities and other post-secondary
educational and training institutions and to conduct research and analysis, including longitudinal
studies, and statistical activities conducted by or on behalf of the Ministry for purposes that relate
to post-secondary education and training. Any information collected by McMaster for the
purposes of self-identification as a member of a specific group (i.e. First Generation, First
Nations, etc.) may be subject to disclosure to the MAESD by McMaster and collected by the
MAESD pursuant to its statutory authority. Further information on how the MAESD uses
personal information is available on the ministry’s website (http://www.tcu.gov.on.ca/).

In addition to collecting personal information for the purposes noted above, McMaster
University collects specific and limited personal information on behalf of the McMaster Student
Union, the McMaster Association of Part-time Students and/or the McMaster Graduate Students
Association. These constituent student groups use personal information for the purpose of
membership, administration, elections, annual general meetings, health plans and other related
matters only. Please contact the relevant Student Union or Association office if you have
questions about this collection, use and disclosure of your personal information and their
respective privacy policies.

September 2015

**Notification of Disclosure of Personal Information to Statistics Canada**

This section has been moved to much earlier in the regulations.
Statistics Canada is the national statistical agency. As such, Statistics Canada carries out hundreds of surveys each year on a wide range of matters, including education. In order to carry out such studies, Statistics Canada asks all colleges and universities to provide data on students and graduates. Institutions collect and provide to Statistics Canada student identification information (student’s name, student ID number), student contact information (address and telephone number), student demographic characteristics, enrolment information, previous education and labour force activity.

The *Federal Statistics Act* provides the legal authority for Statistics Canada to obtain access to personal information held by educational institutions. The information may be used only for statistical purposes, and the confidentiality provisions of the Statistics Act prevent the information being released in any way that would identify a student. Students who do not wish to have their information used are able to ask Statistics Canada to remove their identification and contact information from the national database. For further information, please see Statistics Canada’s web site at: [http://www.statcan.ca](http://www.statcan.ca) or write to the Postsecondary Section, Centre for Education Statistics, 17th Floor, R.H. Coats Building, Tunney’s Pasture, Ottawa, K1A 0T6.
FACULTY OF HUMANITIES

PROPOSAL FOR A CONCURRENT CERTIFICATE IN LEADERSHIP & CROSS-CULTURAL LITERACY

1 Certificate Overview

The concurrent Certificate in Leadership & Cross-cultural Literacy builds on the two leadership and mentorship courses (HUMAN 3LM3 and 4LM3) first offered by the Faculty of Humanities in 2015, which have been extremely well-received by students from across the University. The Certificate fills a critical need for undergraduate students to learn about and develop professional skills that are highly desirable for the pursuit of graduate studies, professional programs, and employment opportunities, following undergraduate studies. A key objective of the course sequence is to help students develop leadership skills within a rigorous academic framework that balances both theory and practice.

1.1 Broader context

There is a growing awareness of a global shortage of effective leadership. In the World Economic Forum’s last Outlook on the Global Agenda report (2015), a lack of leadership was identified as the third most significant challenge facing the regions of the world (after deepening income inequality and persistent jobless growth). According to the respondents to the survey that informed the Outlook report, the most sought-after leadership qualities are: ‘a global interdisciplinary perspective; long-term, empirical planning; strong communication skills; a prioritization of social justice and well-being over financial growth; empathy; courage; morality; and a collaborative nature.’ According to the same survey, ‘four out of the five regions prioritized training, coaching and mentoring as the best way to develop tomorrow’s leaders.’ In short, ethical and effective leadership is widely desired.

It is also well known that workplace-based leadership training programs are ‘missing the mark’ demographically. An international survey of employees participating in leadership training programs found that the average age of participation in a leadership training program was 42, but that the average age of supervisors was 33. Many studies point to a global leadership deficit, or leadership crisis.

The certificate program proposed here follows a model of leadership development that has been shown to be translatable and effective across different cultures and generations. Students will gain valuable insights into their strengths and weaknesses through critical and scaffolded self-assessments, and guided reflection. Reflective practice, which underpins the model of leadership development adopted for the certificate, has been recognized by researchers as indispensable for a comprehensive leadership program ‘that fosters personal integration of theory and practice over time in a manner that is both reiterative and reflective.’

The innovative embedded mentorship program that is part of the core leadership courses, and that pairs senior undergraduate students with new international students, enables leadership students to put skills into practice in a structured and guided manner – a manner that affords all participants safe spaces for the development of mentor-mentee relationships.

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1 It is worth noting that survey respondents in all regions of the world appear uniformly concerned with this leadership deficit: 92% in N America and Sub-Saharan Africa; 85% in Europe, the Middle East and N Africa; 84% in Latin America; 83% in Asia.


2 Academic Merit

As outlined below, the certificate helps students develop the key competencies for career development, regardless of whether or not they are seeking employment immediately upon graduation.

2.1 Learning Outcomes

Upon completion of the Certificate in Leadership & Cross-Cultural Literacy, students will have achieved a deep understanding of, and critical experience in, the application and articulation of the following career-readiness core competencies:

- ethical behaviour and practices;
- effective oral and written communication, including presentation skills;
- teamwork and collaboration;
- interdisciplinary and creative thinking;
- the management of self and others using empathetic skills;
- cross-cultural fluency;
- career management skills – the identification and articulation of one’s skills, strengths and career aspirations based on evidence and reflective practice.

These competencies have been identified by NACE (the National Association of Colleges and Employers), an American organization dedicated to the employment of university graduates, as key competencies necessary for career readiness.4

2.2 Certificate Requirements

Any student in an undergraduate degree program at McMaster may declare the certificate, at the time of graduation, and upon completion of the following courses. See Appendix 1 for detailed course descriptions of existing Philosophy courses. Non-McMaster credit may not be utilized in fulfilment of certificate requirements.

Requirements (15 units)

<table>
<thead>
<tr>
<th>3 units</th>
<th>Ethics requirement (one of)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PHILOS 2D03 – BIOETHICS</td>
</tr>
<tr>
<td></td>
<td>PHILOS 2N03 – BUSINESS ETHICS</td>
</tr>
<tr>
<td></td>
<td>PHILOS 2TT3 – ETHICAL ISSUES IN COMMUNICATION</td>
</tr>
<tr>
<td></td>
<td>PHILOS 2YY3 – INTRODUCTION TO ETHICS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12 units</th>
<th>Leadership &amp; cross-cultural literacy required courses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HUMAN 3CM3 – LEADERSHIP: CROSS-CULTURAL MENTORING LAB</td>
</tr>
<tr>
<td></td>
<td>HUMAN 3LM3 – FOUNDATIONS OF LEADERSHIP</td>
</tr>
<tr>
<td></td>
<td>HUMAN 4RM3 – LEADERSHIP: RELATIONSHIP MANAGEMENT</td>
</tr>
<tr>
<td></td>
<td>HUMAN 4CL3 – LEADERSHIP CAPSTONE: THEORY &amp; PRACTICE</td>
</tr>
</tbody>
</table>

4 After establishing a task force, and collecting significant survey data from public and private sector employers (2015), NACE identified seven competencies associated with career readiness for university graduates ([http://www.nacweb.org/career-readiness/competencies/career-readiness-defined/](http://www.nacweb.org/career-readiness/competencies/career-readiness-defined/)). NACE represents 98% of research universities in the US, and numerous American and global organizations representing diverse employers.
2.3 Calendar description of core courses

Students wishing to complete the concurrent Certificate in Leadership & Cross-cultural Literacy must complete all of the following courses. The prerequisite structure ensures that the capstone can only be completed by students who have completed all other certificate requirements; no Level IV course can be completed without 3LM3, Foundations of Leadership. All courses require completion of an online application.

**HUMAN 3CM3 – Leadership: Cross-Cultural Mentoring Lab**
3 unit(s)
Through on-campus experiential placements (embedded mentorship), students will participate in the peer mentoring of international students in the McMaster English Language Development (MELD) program. Students receive upfront training and ongoing support in mentorship, using aspects of the learning-centred mentoring paradigm (reciprocity, collaboration and the elaboration of mutually-defined goals). Students document their learning through a structured portfolio. Prior to beginning mentorship placements, students will participate in intensive training workshops (start of term) on: second language learning, reflective practice, goal-setting, and cross-cultural communication.
Lecture and placements (three hours), training sessions; one term
Prerequisite(s): Registration in Level II or above of any program; completion of online application; and permission of the Associate Dean (Humanities) or delegate

**HUMAN 3LM3 – Foundations of Leadership**
3 unit(s)
Effective leaders possess strong ethical values, emotional and social intelligence, excellent communication skills, and creativity; they have empathy, and are able to influence and inspire through informed, reasoned arguments. Students will explore how these elements fit together in various leadership models and how they apply cross-culturally. They will also take several assessments that measure their developing skills, as well as engage in reflective practice to increase self-awareness. Students apply these leadership skills through the peer-to-peer mentoring of first year international students in the McMaster English Language Development (MELD) program. Student learning is document through a structured portfolio.
Lecture and discussion (two hours), placement (one hour); one term
Prerequisite(s): Registration in Level II and HUMAN 3CM3, or registration in Level III or above of any program; completion of online application; and permission of the Associate Dean (Humanities) or delegate

**HUMAN 4RM3 - Leadership: Relationship Management**
3 unit(s)
Team work, conflict management, negotiation, giving and receiving feedback, communicating vision and expectations – these are all key elements of leadership. Ultimately, succeeding in these areas is about managing relationships. Building upon the foundational elements of leadership already acquired, students will gain a deeper awareness of their own and others’ motivations, strengths, filters, and responses to conflict, of and how to apply this knowledge to communicate effectively.
Three hours; one term
Prerequisite(s): HUMAN 3LM3; and permission of the Associate Dean (Humanities) or delegate
Anti-requisite(s): HUMAN 4LM3
HUMAN 4CL3 – Leadership Capstone: Theory and Practice
3 unit(s)
Working with a faculty supervisor, students will combine theory and practice by conducting in-depth research on a chosen aspect of leadership followed by proposing and, in most cases, implementing a practical application of that knowledge.
Three hours; one term
Prerequisite(s): One of PHILOS 2D03, 2N03, 2TT3 or 2YY3; and HUMAN 3CM3, 3LM3 and 4RM3 (or 4LM3); completion of online application; and permission of the Associate Dean (Humanities) or delegate
First offered in 2019/20

2.4 Competencies at a glance

The table below illustrates the links between courses and core competencies.

The last two rows illustrate the type of learning that predominates in each course. The penultimate row shows the relative anticipated distribution of theory (●) and practice (○) in each course (each course has been arbitrarily assigned four possible symbols). The final row demonstrates the courses in which guided reflective practice figures prominently in the assessment method.

<table>
<thead>
<tr>
<th>COMPETENCY</th>
<th>ETHICS REQUIREMENT</th>
<th>CROSS-CULTURAL</th>
<th>FOUNDATIONS OF LEADERSHIP</th>
<th>RELATIONSHIP MANAGEMENT</th>
<th>CAPSTONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethical behaviour/practices</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Communication skills</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Collaboration</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Creative thinking</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Self-management; empathy</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cross-cultural fluency</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Career management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theory ~ practice (experiential)</td>
<td>●●●●</td>
<td>○○○○</td>
<td>●●●●</td>
<td>●●●●</td>
<td>●●●●</td>
</tr>
<tr>
<td>Reflective practice</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

3 Statement of Academic Responsibility

The Dean’s Office, Faculty of Humanities, will oversee the administration of the concurrent Certificate in Leadership & Cross-cultural Literacy, in conjunction with the MELD Program Office. The MELD program will have direct oversight of all mentorship labs, and assumes responsibility for vetting of student applications to mentorship roles working with MELD students, for the training and ongoing support of students in these roles, and for the pairing of mentors and mentees.
Appendix I

Course Descriptions – Ethics Requirement (Philosophy courses)

Students completing the concurrent Certificate in Leadership & Cross-cultural Literacy must complete one of:

**PHILOS 2Y3 - Introduction to Ethics**
3 unit(s)
An introduction to moral philosophy and its application to contemporary moral problems. Topics may include the objectivity of values, the nature of moral judgments, rights and duties, virtues, and consequentialism.
Two lectures, one tutorial; one term
**Prerequisite(s):** Registration in Level II or above

**PHILOS 2D03 - Bioethics**
3 unit(s)
An introduction to moral philosophy, through a consideration of issues in health care ethics. Topics such as abortion, human experimentation, euthanasia, and genetic screening will be investigated.
Two lectures, one tutorial; one term
**Prerequisite(s):** Registration in Level II or above
**Antirequisite(s):** HTHSCI 3L03, PEACEST 2D03
**Cross-list(s):** RELIGST 2C03

**PHILOS 2N03 - Business Ethics**
3 unit(s)
An analysis of ethical issues arising in contemporary business life. Sample topics include: fair and unfair competition; responsibilities towards employees, society and the environment; honesty and integrity in business; the moral status of corporations.
Two lectures, one tutorial; one term
**Prerequisite(s):** Registration in Level II or above
**Antirequisite(s):** COMMERCE 2SB3

**PHILOS 2TT3 - Ethical Issues in Communication**
3 unit(s)
This course will examine ethical issues as they arise in interpersonal communication, social media, and mass communication. The dominant moral theories and approaches to moral decision-making will be analyzed and put to use to help students understand and evaluate concrete examples.
Two lectures, one tutorial; one term
**Prerequisite(s):** Registration in Level II or above
**Antirequisite(s):** CMST 2TT3, 3N03, PEACEST 2TT3, 3N03
Proposal for Concurrent Certificate

Faculty of Social Sciences

Proposal for a Concurrent Certificate in Applied Social Sciences Research

1.0 Certificate Overview

15-18 units

1.1 Context

Canadian employers increasingly prioritize hiring employees with a range of soft skills, rather than industry-specific or functional knowledge. These skills include working well with others, written and organized communication, problem solving, and analytical skills. Despite evidence that in the medium-term that earnings of social science graduates mostly catch up with those in STEM fields, enrolments in the social sciences have grown more slowly than those in STEM fields. The rapid growth of post-graduate diplomas and certificates at Ontario colleges also reflects an interest among university graduates for hands-on experience, training, and credentialing in specific skills, including many of the research methodologies already offered as part of social science undergraduate degrees. This proposed concurrent certificate aims to provide opportunities for interested students to acquire broader exposure and competencies in applied research methods to meet the needs of the labour market and student interests. It also provides a way to reflect these types of skill development within the structure of a certificate.

2.0 Academic Merit

As outlined below, the certificate helps students develop the key competencies for career development, regardless of whether or not they are seeking employment immediately upon graduation.

2.1 Learning Outcomes

Upon completion of the Certificate in Applied Social Sciences Research, students will have had the opportunity to achieve a deeper understanding of the following competencies, along with ability to apply them in practice:

- Identify and define appropriate methods for studying a wide range of topics;
- Define and operationalize concepts;
- Statistical/quantitative data analysis (including the use of software);
- Qualitative data analysis (including the use of software);
- Create original surveys/questionnaires;
- Identify, gather and clean (original and secondary) data;
- Presentation of research findings.
2.2 Certificate Requirements

Any McMaster student in an undergraduate degree program in the Faculty of Social Sciences or in a Combined Honours degree program with a Social Sciences subject may declare the certificate, at the time of graduation, and upon completion of the following courses. Non-McMaster credit may not be utilized in fulfilment of certificate requirements.

Students are advised to consult with the Undergraduate Chair or Academic Advisor for their program of study in Social Sciences to ensure individual courses (such as their project plan for an Independent Study course) meet the criteria of a research course.

Requirements (15-18 units)

3 units  Foundations Course in Research Methods in the Social Sciences
SOCSCI 1RM3  HOW DO WE KNOW?: DOING SOCIAL SCIENCES RESEARCH (See description below)

6-9 units  Research Methods and/or Analysis courses

ANTHROP 3IS3  Independent Study in Anthropology
ANTHROP 3K03  Archaeological Interpretation
ANTHROP 3P03  Doing Ethnography: Theory and Research Methods
ECON 2B03  Analysis of Economic Data
ECON 3E03  Applied Econometrics (formerly ECON 3WW3)
ECON 4F03  Methods of Inquiry in Economics (formerly ECON 3F03)
ECON 4FF3  Research Methods in Economics (formerly ECON 3FF3)
ECON 4G03  Econometrics II
GEOG 3MA3  Research Methods in Human Geography
GEOG 3MB3  Statistical Methods
GEOG 4GA3  Applied Statistical Analysis
HLTHAGE 2A03  Research Methods in Health and Aging I
HLTHAGE 3B03  Advanced Research Inquiry
HLTHAGE 3G03  Community Based Research
HLTHAGE 3I03  Independent Study in Health, Aging and Society
HLTHAGE 3G03  Community Based Research
HLTHAGE 3G03  Community Based Research
INDIGST 2M03  Indigenous Research Methods and Ethics
INDIGST 2MM3  Indigenous Ways of Knowing: Theory
LABRST 3H03  Research Methods
LABRST 3J03  Independent Study
POLSCI 2NN3  Politics by Design
POLSCI 3NN3  Statistical Analysis of Primary Data
POL SCI 4SS3  Public Opinion and Policy
PNB 2XE3  Descriptive Statistics
PNB 3XE3  Inferential Statistics
PNB 3RM3  Research Methods Lab
PSYCH 3MT3  Psychometrics
PSYCH 4KK3  Bayesian Inference
RELIGST 3F03  Approaches to the Study of Religion
SOCPSY 2K03  Research Methods in Social Psychology
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCSCI 2J03</td>
<td>Introduction to Statistics</td>
</tr>
<tr>
<td>SOCWORK 2A06 A/B</td>
<td>Theory, Process and Communication Skill for Social Work</td>
</tr>
<tr>
<td>SOCIOL 2Z03</td>
<td>Introduction to Sociological Research</td>
</tr>
<tr>
<td>SOCIOL 3FF3</td>
<td>Introductory Statistics for Sociology</td>
</tr>
<tr>
<td>SOCIOL 3W03</td>
<td>Historical Methods in Sociology</td>
</tr>
<tr>
<td>SOCIOL 4FF3</td>
<td>Applications of Quantitative Methods in Social Sciences</td>
</tr>
</tbody>
</table>

**3-6 units Experiential/Capstone courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTHROP 3CC6</td>
<td>Archaeological Field School</td>
</tr>
<tr>
<td>ANTHROP 4D03</td>
<td>Practicing Anthropology: Ethics, Theory, Engagement</td>
</tr>
<tr>
<td>ANTHROP 4G03</td>
<td>Independent Research I</td>
</tr>
<tr>
<td>ANTHROP 4GG3</td>
<td>Independent Research II</td>
</tr>
<tr>
<td>ECON 4A03</td>
<td>Honours Economics Analysis</td>
</tr>
<tr>
<td>ECON 4AA3</td>
<td>Honours Economics Specialist Seminar</td>
</tr>
<tr>
<td>GEOG 3ME3</td>
<td>Environmental Studies Field Camp</td>
</tr>
<tr>
<td>GEOG 3MF3</td>
<td>Human Geography Field Camp</td>
</tr>
<tr>
<td>GEOG 3M13</td>
<td>Geography Internship</td>
</tr>
<tr>
<td>GEOG 4MF3</td>
<td>Senior Human Geography Field Camp</td>
</tr>
<tr>
<td>GEOG 4MT6 A/B</td>
<td>Senior Thesis</td>
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<tr>
<td>GEOG 4MS3</td>
<td>Independent Study</td>
</tr>
<tr>
<td>HLTHAGE 3BB3</td>
<td>Field Experience</td>
</tr>
<tr>
<td>HLTHAGE 3EE3</td>
<td>The Practice of Everyday Life: Observations and Inquiry</td>
</tr>
<tr>
<td>HLTHAGE 3I03</td>
<td>Independent Study in Health, Aging and Society</td>
</tr>
<tr>
<td>HLTHAGE 4Z06 A/B</td>
<td>Health, Aging and Society Thesis</td>
</tr>
<tr>
<td>INDIGST 4A03</td>
<td>Storytelling and Environmental Conservation</td>
</tr>
<tr>
<td>INDIGST 4T06A/B</td>
<td>Honours Thesis</td>
</tr>
<tr>
<td>LABRST 4A06 A/B</td>
<td>Research and Field Experience</td>
</tr>
<tr>
<td>POLSCI 4Z06 A/B</td>
<td>Honours Essay</td>
</tr>
<tr>
<td>POLSCI 4ZZ6 A/B</td>
<td>Experiential Learning in Research</td>
</tr>
<tr>
<td>PNB 4D06 A/B</td>
<td>Senior Thesis</td>
</tr>
<tr>
<td>PNB 4D09 A/B</td>
<td>Senior Honours Thesis</td>
</tr>
<tr>
<td>PNB 4J03</td>
<td>Inquiry in Psychology, Neuroscience &amp; Behaviour</td>
</tr>
<tr>
<td>PNB 4Q03 A/B S</td>
<td>Advanced Individual Library Study</td>
</tr>
<tr>
<td>PNB 4QQ3 A/B S</td>
<td>Advanced Individual Lab Study</td>
</tr>
<tr>
<td>RELIGST 4RP6 A/B</td>
<td>Honours Thesis</td>
</tr>
<tr>
<td>SOCPsy 4IS3</td>
<td>Independent Research</td>
</tr>
<tr>
<td>SOCPsy 4IS6 A/B</td>
<td>Independent Research</td>
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<tr>
<td>SOCPsy 4ZZ6 A/B</td>
<td>Social Psychology Research Project</td>
</tr>
<tr>
<td>SOCSSCI 3F03 A/B</td>
<td>Social Sciences in Action</td>
</tr>
<tr>
<td>SOCWORK 3DD6 A/B</td>
<td>Field Practicum I</td>
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<tr>
<td>SOCWORK 4DD6 A/B</td>
<td>Field Practicum II</td>
</tr>
<tr>
<td>SOCIOL 4M03</td>
<td>Directed Research I for Honours Students</td>
</tr>
<tr>
<td>SOCIOL 4MM6 A/B</td>
<td>Directed Research for Honours Students</td>
</tr>
<tr>
<td>SOCIOL 4N03</td>
<td>Directed Research II for Honours Students</td>
</tr>
<tr>
<td>SOCIOL 4VV3</td>
<td>Introduction to Post-Graduate Research in Sociology</td>
</tr>
</tbody>
</table>
2.3 Competencies at a glance

The concurrent certificate is intended to recognize students’ competencies to integrate social sciences skills and knowledge when performing quantitative or qualitative analyses within their program of study. The coursework will provide the working knowledge required in statistics, principles of experimental design, survey and data analysis techniques, and qualitative methodologies. This may include learning to understand and use some of the statistical and qualitative software packages available. Students will learn how to apply research methods to real social science phenomenon and interpretation of findings. Students are encouraged to complete a research, experiential or capstone project in their program of study.

3.0 Statement of Academic Responsibility

The Associate Dean’s Office, Faculty of Social Sciences, will oversee the administration of the concurrent Certificate in Applied Social Sciences Research.

New Courses:

**SOCSCI 1RM3 HOW DO WE KNOW?: DOING SOCIAL SCIENCES RESEARCH**

This course provides students with a glimpse in at the diversity among the types of research methods used within the social sciences. Students will learn how we study the things we do, such as economic inequality, access to health care, changing patterns of crime, the interplay of religious practice and civil rights, by providing students with basic concepts and language related to conducting research.

**Prerequisite:** Registration in Social Sciences I and credit or registration in SOCSCI 1SS3; or registration in Level II or above in a program in the Faculty of Social Sciences.

Three hours; one term

Enrollment cap: 100 TBD

Reserve Capacities: SS1 50%; SS2 50%

**Justification:** This new course is being created as a broad overview course on research methods in the Social Sciences for a new concurrent Certificate in Applied Social Sciences Research. This course is not intended to replace the introductory research methods courses within each program, but rather to demonstrate the diversity of methods used across the Social Sciences.
### A. Department & Program Information (Complete all fields):

<table>
<thead>
<tr>
<th>Academic Designation:</th>
<th>Certificate and Diploma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Name:</td>
<td>Payroll Compliance Practitioner Certificate</td>
</tr>
<tr>
<td>Name of Representative:</td>
<td>Anne Dwyer, Program Manager</td>
</tr>
<tr>
<td>Proposed Date/Term of Program Start:</td>
<td>Spring 2018 (May 2018)</td>
</tr>
<tr>
<td>Date of Submission:</td>
<td>December 12, 2017</td>
</tr>
</tbody>
</table>

### B. Faculty Statement (Required):

Refer to attached letter of support from Associate Dean (Academic), Dr. Susan McCracken, DeGroote School of Business.

### C. Academic Merit (Complete all fields; write “not applicable” as needed):

#### i. Program Overview:

The Payroll Compliance Practitioner Certificate (PCP) is designed to develop and/or enhance the core competencies, compliance knowledge and skills necessary for those looking to pursue a career in payroll or those looking to enhance their current payroll knowledge. McMaster University’s Payroll Compliance Practitioner certificate will provide learners with the foundation needed to succeed in a career in payroll, including an understanding of legislative compliance requirements of an organization's annual payroll cycle. It provides the compliance knowledge required to process an organization’s annual payroll cycle, effectively communicate payroll information to all stakeholders, and understand the accounting function as it relates to payroll.

Learners will be required to complete 5 core courses (15.0 units). Upon successful completion of the 5 content modules, participants will be awarded McMaster University’s Payroll Compliance Practitioner Certificate. Program courses will be available in both in-class and online formats.
Courses will use a combination of experiential learning activities (i.e. presentations, case studies, facilitated group discussions, group work) and traditional teaching methods to cover the fundamental concepts in payroll compliance. Emerging trends, theories, practices and core competencies will be discussed to aid in the learning process and ensure that course content is current and relevant.

The program’s instructors will be practitioners in the field and will emphasize the use of experiential learning techniques.

The Payroll Compliance Practitioner Certificate will be an open enrolment program (see “Program Admission Requirements” and “Program Pre-requisites” sections below).

<table>
<thead>
<tr>
<th>ii. Learning Objectives:</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Payroll Compliance Practitioner Certificate is designed to prepare payroll practitioners to manage the compliance requirements of an organization's annual payroll cycle, deliver clear and reliable payroll information, and contribute a payroll perspective to organizational policy and strategy discussions. Specifically, graduates will be able to:</td>
</tr>
<tr>
<td>- Demonstrate awareness of ethical practices and professional standards as applied to the payroll profession</td>
</tr>
<tr>
<td>- Demonstrate awareness of organizational structure and the role of payroll practices within an organization</td>
</tr>
<tr>
<td>- Communicate all aspects of organizational remittances, accounting and year-end requirements to internal, external and government stakeholders</td>
</tr>
<tr>
<td>- Recognize appropriate organizational, legal, and professional policies that regulate payroll professionals</td>
</tr>
<tr>
<td>- Demonstrate a thorough understanding of the compliance requirements</td>
</tr>
<tr>
<td>- Apply federal and provincial legislation to payroll</td>
</tr>
<tr>
<td>- Develop knowledge and skills applicable to the Canadian</td>
</tr>
<tr>
<td>Payroll Association’s Payroll</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>• Calculate regular individual pay, non-regular individual pay, and termination payments</td>
</tr>
<tr>
<td>• Calculate organizational remittances to federal, provincial and third party stakeholders</td>
</tr>
<tr>
<td>• Complete a Record of Employment (ROE)</td>
</tr>
<tr>
<td>• Prepare accounting documentation for payroll</td>
</tr>
<tr>
<td>• Complete year-end documentation</td>
</tr>
</tbody>
</table>

### iii. Meeting Learning Objectives:

The Payroll Compliance Practitioner Certificate uses a series of academic courses to achieve the stated program objectives. Individual course objectives are mapped to the overall program objectives. The delivery format and teaching methods are structured to have a maximum effect on achieving the learning objectives.

### iv. Program Admission Requirements:

The Payroll Compliance Practitioner Certificate will be an open enrolment program. Potential learners will not be required to apply to the program for admission; however, in order to comply with the Certificates and Diploma, admission policy from Undergraduate Council, students who wish to enter the program must

- Have an Ontario Secondary School Diploma, or equivalent
- Be a mature student as defined in the Undergraduate Calendar of McMaster University; or
- Be deemed an exceptional case by the Centre for Continuing Education

In order to ensure that students have the basic capabilities necessary to be successful in the program’s academic courses, learners are required to have the following pre-requisite knowledge and/or skills:

- Knowledge and skills with general computer applications, such as keyboarding, file management, spreadsheets and word processing;
- Familiarity with internet browsers and web surfing
- English Language Proficiency requirements: Completion of TOEFL exam with minimum acceptable score of **IBT:**
| v. Program Pre-requisites (if applicable): | n/a |
| vi. Program Completion Requirements: | Students must complete all 5 core courses (15 units) in order to qualify for the Payroll Compliance Practitioner Certificate. |
| viii. Program Delivery Format: | All program courses will be available in both in-class and online formats. The online payroll compliance courses are taken directly with the Canadian Payroll Association. In-class offerings will include a mixture of lecture and experiential learning activities, such as case studies, presentations, individual and group work and are the preferred method of instruction for the payroll compliance practitioner courses. Online delivery will use primarily asynchronous activities designed to present the fundamental concepts and theories in payroll compliance and promote the application to the workplace and professional practice. Course activities will include instructor video lecture/presentations, discussion board topics, web-based learning activities, as well as, experiential learning activities (i.e. case studies, group discussions, projects). |
| ix. Student Evaluations (Grading Process): | Each course will include an evaluation component. The evaluation will consist of assignments, case studies, presentations, individual or group projects, participation, mid-term and a final examination or a combination thereof. Where appropriate, evaluations will be structured to evaluate students’ level of competency in achieving overall learning objectives. |
| x. Course Evaluation: | For each course, students will complete an evaluation that explores content, delivery, materials, method of evaluation and instruction. |
| xi. Course Instruction: | Instructors for courses will be selected from a pool of qualified applicants. In compliance with McMaster’s Senate and Undergraduate Council Guidelines for Certificates and Diplomas, |
Selection will be based on academic background and/or experience within the field. Instructors will have the equivalency of a Master’s Degree or significant professional and teaching experience within the field. Instructors for payroll compliance legislation, fundamentals of payroll 1 and fundamentals of payroll 2 courses are required to be certified either as a PCP - Payroll Compliance Practitioner or a CPM - Certified Payroll Manager.

### xii. Credit Towards Degree Programme Studies:

The academic credit courses included in the certificate program can be used for credit towards degree program studies in accordance with the normal academic rules specified by the Faculty offering the degree.

### xiii. Program Advanced Standing:

**Option A:**
Learners entering the Payroll Compliance Practitioner Certificate, who have completed Payroll Compliance Legislation, and/or Payroll Fundamentals 1, and/or Payroll Fundamentals 2, through the Canadian Payroll Association, may be eligible to apply the 3 courses to the Payroll Compliance Practitioner Certificate for a maximum of three transfer credits (9 units).

**Option B:**
Learners who have completed equivalent coursework in business communications or financial accounting may be eligible to apply for a maximum of one transfer credit (3 units).

Approved transfer credit will be approved by the Program Manager based on the following criteria:

- courses must have an 80% overlap in content/curricula and a similar number of classroom or contact hours;
- courses must have been taken within the last five years;
- courses must have been taken from an accredited academic institution and listed on an official transcript with a grade of “C-“ or better.

*NOTE: Learners may apply and qualify for only one of the above options.*
D. Statement of Financial Viability:

“I have reviewed the business case and financial projections, which includes enrolment projections and costs. Sources of revenue for this program include tuition, as well as supplementary fees (MAPS) and other fees (transfer credit fees and deferred exam fees). Initial startup costs are minimal, since 2 of the 5 courses are currently offered under existing CCE programs. Expenses are typical and include marketing costs, as well as typical ongoing delivery costs (such as instructor honoraria, materials, advertising and administration)”.

Lorraine Carter, Director, Centre for Continuing Education, November 2017

E. Statement of Administrative Responsibilities:

The human and systems infrastructure to support the following functions exists within CCE. Costs will be fully covered by tuition.

Responsibilities for the programs are as follows:

- Budget development and monetary responsibilities
- Program and Course Development
- Course Registrations/Administration
- Supervision of Instructors to ensure University policies and practices are adhered to; course are taught according to program requirements and standards
- Marketing and Promotions

DeGroote School of Business

The DeGroote School of Business will act as academic liaison and is charged with the responsibility of on-going academic review and assessment of curriculum. In return for services rendered, the DeGroote School of Business will receive an annual stipend at the end of each fiscal year during which the program records a surplus.

F. Listing of Courses

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Required/Elective</th>
<th>Academic Units</th>
<th>Proposed Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Communications</td>
<td>Required</td>
<td>3.0</td>
<td>Currently offered each term</td>
</tr>
<tr>
<td>Payroll Compliance Legislation</td>
<td>Required</td>
<td>3.0</td>
<td>Spring 2018</td>
</tr>
<tr>
<td>Payroll Fundamentals 1</td>
<td>Required</td>
<td>3.0</td>
<td>Spring or Fall 2018</td>
</tr>
<tr>
<td>Introductory Financial Accounting</td>
<td>Required</td>
<td>3.0</td>
<td>Currently offered each term</td>
</tr>
<tr>
<td>Payroll Fundamentals 2</td>
<td>Required</td>
<td>3.0</td>
<td>Fall 2018 or Winter 2019</td>
</tr>
</tbody>
</table>

Notes: Courses are to be taken in the order, as listed above.
**Required Course Descriptions:**

**Business Communications** (3 units)
Canada's business environment requires that business people communicate effectively, persuasively and ethically in written, verbal and interpersonal communications. During this course, students will learn how to plan, write and review a variety of business communications vehicles from presentations to letters to informational reports and business proposals. Using a combination of teaching methods – lectures, discussion, small group, in-class writing and editing projects, and in-class tutorials, this course will help develop participant’s critical thinking and analysis, research, writing, editing and presentation skills. Special emphasis will be placed on developing appropriate business language skills (spelling, grammar, punctuation, voice and tone).

**Payroll Compliance Legislation** (3 units)
This course will provide students with the payroll-related legislation affecting organizations, as well as the tools to find information and apply that information to different payroll scenarios. Students who complete the course will know the payroll compliance responsibilities that affect organizations, be able to comprehend legislation and effectively communicate these to all stakeholders. (Pre-requisite: BUS 850 Business Communications or equivalent Recommended Pre-requisite: Thorough understanding of mathematical principles will increase the probability of success in this course. Some students might consider taking ACC 929 Preparatory Mathematics to brush up on skills.)

**Payroll Fundamentals 1** (3 units)
Students who complete this course will be able to apply payroll legislation and calculate individual pay. This includes all components of individual pay from remuneration, through deductions, to net pay for both regular and non-regular situations. Students will have the content and skills to effectively communicate all aspects of the individual pay calculation process to external and internal stakeholders. (Prerequisite: Payroll Compliance Legislation)

**Introductory Financial Accounting** (3 units)
This course explores the basic principles and techniques underlying the financial statements typically issued to the general public. Generally accepted accounting principles, the accounting transaction cycle, financial statements and the specific items, which make up the balance sheet are examined. (Recommended ahead of Payroll Fundamentals 2)

**Payroll Fundamentals 2** (3 units)
Students who complete this course will be able to calculate and report the government and third party remittances, year end requirements, discuss payroll technology solutions and account for payroll at the compliance level for the organization. Students will be able to effectively communicate these organizational processes and requirements to internal and external stakeholders. (Prerequisite: Payroll Fundamentals 1. Recommended: Introductory Financial Accounting)
Letter of Endorsement and Statement of Academic Merit

DATE: November 7, 2017

TO: Certificate and Diploma Committee of Undergraduate Council

FROM: Dr. Susan McCracken, Associate Dean (Academic), DeGroote School of Business

RE: Payroll Compliance Practitioner Certificate

We have reviewed the submission to Undergraduate Council for a Payroll Compliance Practitioner Certificate presented by the Centre for Continuing Education in affiliation with the DeGroote School of Business. We have determined that the program meets the standards of academic rigour held by the DeGroote School of Business and that the program is comprehensive and appropriate.

Our support and endorsement of the proposed Payroll Compliance Practitioner Certificate is based on our assessment that the objectives of the program are viable. Additionally, the courses in it will fulfill these objectives.

We are delighted to work with the Centre for Continuing Education in mounting this Certificate program, and believe it will serve a growing market demand continuing education that is certificate-based.

On behalf of the DeGroote School of Business, we are pleased to endorse this submission.

Associate Dean (Academic)
DeGroote School of Business

Cc: Lorraine Carter, Director, CCE
Suzanne Brown, Assistant Director, CCE
Joint MUFA-SCA Ad-Hoc Drafting Committee to Revise the Faculty General Grievance Procedure

Terms of Reference

I  Preamble

The Faculty General Grievance Procedure was approved by the Senate and the Board of Governors in 1999. In recognition that the University landscape has evolved considerably since then, the McMaster University Faculty Association (MUFA) has expressed interest in updating the Procedure. The Senate Committee on Appointments (SCA) proposes a joint MUFA-SCA Ad-Hoc Drafting Committee undertakes this work commencing in fall 2017.

II  Mandate

The Joint Ad-Hoc Committee (“the Committee”) is tasked with reviewing the Faculty General Grievance Procedure (“the Procedure”) and proposing which, if any, changes should be recommended for approval through the governing bodies.

III  Responsibilities

As part of its deliberations, the Committee will consider and make recommendations concerning:

1. The scope of the Procedure, including what is included and excluded from its jurisdiction;
2. The role, composition, and processes of Grievance Review Panels;
3. Time limitations for filing grievances determined to be within the scope of the Procedure;
4. Processes and rules of procedure for Hearings Committees convened under the Procedure;
5. Record keeping requirements that are consistent with the University’s obligations under the Freedom of Information and Protection of Privacy Act (FIPPA); and,
6. Housekeeping updates as required.

IV  Research and Consultation

In order to fulfill its mandate, the Committee shall:

7. Undertake a review of related McMaster University policies to identify what circumstances are addressed elsewhere and what policy gaps may exist;
8. Conduct an environmental scan of comparable policies at peer institutions;
9. Seek the input of relevant stakeholders;
10. Consult the University Secretary regarding best practices for record keeping under FIPPA; and,
11. Review any other documents the Committee deems relevant to aid in the fulfillment of its mandate.

V Membership

As proposed by MUFA and SCA.

The University Secretariat will provide support to the Ad-Hoc Drafting Committee.

VI Reporting

The Committee will keep the MUFA Executive and SCA informed of its progress through its mandate and will ensure that their views on any proposed revisions are properly considered.

Before submitting its recommendations to the governing bodies for approval, the Committee will provide MUFA with the opportunity to review and confirm its support for the recommendations.

The expected date of completion for the recommendations is June 30, 2018.
MEMORANDUM

Date: January 2, 2018
To: Senate Executive Committee and Senate Committee
From: Dr. Robert Baker, Vice-President (Research)
Re: Revisions to the Intellectual Property Policy

Background

Commercialization of research has long been a strategy of McMaster University, with oversight provided by the office of the Vice-President (Research) and the McMaster Industry Liaison Office (MILO). The Joint Intellectual Property Policy to encompass the activities of Hamilton Health Sciences and St. Joseph’s Healthcare Hamilton, was created and approved in June 2004. Since that time, we have had commercialization successes and are continuing to engage with researchers to encourage the intellectual development and innovation of the research community in a manner that benefits the knowledge creators, institutions, and society.

As part of a review of the IP Policy, we have recognized that the IP Board, as set out in the IP Policy, has been defunct for some time. In part, this is due to the very large size and diversity of the membership, as well as the lack of clarity on the role and responsibilities of the IP Board. Over the last few years, matters that would normally have gone for IP Board resolution have been minimal, and have been successfully dealt with by the three VP (Research) in consultation with MILO. As such, the need for a large IP Board is far less obvious than initially contemplated when the Joint IP Policy was drafted in 2004.

The need for a properly functioning IP Board is underlined by both the federal Standing Committee on Industry, Science and Technology and the provincial Office of the Auditor General sponsoring reviews and studies on intellectual property and technology transfer from post-secondary institutions to industry. The outcomes of these studies may provide suggestions for refinements to the University’s IP Policy and it will be important to have a functioning IP Board that can study and respond to any proposed changes.


Recommendation

That the Joint Intellectual Property Policy be amended, as indicated in the attached draft, to recreate the constitution of the Intellectual Property Board such that the members will consist of the three Vice-Presidents (Research) for each of McMaster, Hamilton Health Sciences (HHS), and St. Joseph’s Healthcare Hamilton (SJHH), plus the Executive Director of the McMaster Industry Liaison Office (MILO), two others from the university and one other from each of the hospitals. This would be a reduction from the previous 18 member Intellectual Property Board to 8 members.

This recommendation has been discussed, and agreed to in principle, by the Deans of all six faculties. We also have the support of all of the faculty members (including those with cross-appointments with the hospitals) who had served previously as IP Board members. In addition, both
VPs Research from HHS and SJHH are in agreement with this revised IP Policy and brought this forward to their respective Boards. Both of these Boards reviewed and approved the revisions. Last, the University Planning Committee has also reviewed the revisions.

Next Steps

In consultation with the members of the teaching and research community, the newly structured IP Board will continue to review on a regular basis any further changes or clarifications to improvement of this policy, particularly in light of any recommendations that may come from the current federal and provincial government reviews.
1 Introduction and Objectives

1.1 The purpose of McMaster University (hereinafter the “University”), Hamilton Health Sciences (“HHS”) and St. Joseph’s Healthcare Hamilton (“SJHH”) includes the discovery, communication, and preservation of knowledge. The vision of the University, HHS and SJHH includes the achievement of international distinction for creativity, innovation and excellence.

1.2 Discoveries are an objective of the University, HHS and SJHH (collectively the “Institutions”). As a part of their obligation to society in general, the Institutions and their members have a responsibility to communicate these discoveries to the public. Some of these discoveries may have commercial value which should be exploited to the mutual advantage of those concerned. If the use of these discoveries can be limited or controlled by physical or legal means, the discoveries may also be referred to as “intellectual property.”

1.3 The objectives of this policy are to:

(a) encourage any member of the Institutions who may have created or discovered intellectual property to disseminate that property to the public in a manner that benefits both the member and the Institutions;
(b) recognize and uphold the principles of academic and research integrity in the possible commercialization of intellectual property;

(c) develop a body of knowledge and expertise within the Institutions in order to permit the continued successful commercialization of intellectual property in the future;

(d) outline clearly the ownership rights in any newly created or discovered intellectual property as between the Institutions and their members and the obligation for related costs and the division of related revenues;

(e) provide for the rights and obligations of the Institutions and their members in protecting and exploiting any newly created or discovered intellectual property;

(f) provide exclusions for certain types of intellectual property from this policy; and

(g) provide for the rights and obligations of the Institutions among themselves for the responsibilities and benefits arising under this policy.

1.4 It is possible that, at times, the academic and research missions of the Institutions may conflict with the potential commercialization of intellectual property. As the academic and research missions of the Institutions should take priority, the following principles shall take precedence over any other aspect of this policy where applicable:

(a) Academic Researchers, as defined in section 2.1, have the right initially to determine whether or not any new creation or discovery for which they are responsible should be commercialized. Prior to making such a decision, the Institutions may be asked to review any such creation or discovery and provide advice on the possible commercial value thereof. In spite of such a review, the Academic Researcher shall be solely responsible for the decision to proceed with commercialization;

(b) Members of the Institutions who are involved in the commercialization of any creation or discovery may be asked to withhold publication of any material or not to make any presentation thereof only for a reasonable period of time not exceeding six (6) months from the time full disclosure is made. This period of time shall be used to assess the intellectual property and to allow for any applicable legal protection to be put into place;
(c) No member of the Institutions shall be required to engage in any work or research which prohibits the results of the work or research from publication or disclosure to the public unless:

(i) that person is engaged in a position where it is contemplated that they would not normally be expected to publish the result of their work or research; or

(ii) that person provides their informed consent to engage in such work or research, and, in the case of any Student, their involvement in the work or research does not conflict or jeopardize the timely completion of any academic requirements and that the Institutional Student Affairs Office, as that term is defined in section 2.4 below, has agreed to such participation.

2 Definitions

In this policy, the following terms, when capitalized, shall have the following meanings:

2.1 “Academic Researcher” means someone who is a Member of the Institutions and whose appointment contemplates that they will conduct research and be responsible for the publication or other dissemination of the results of that research or be responsible for teaching of Students. For greater certainty and without limitation, an Academic Researcher shall include:

(a) a member of the University Teaching Staff; and
(b) someone who holds an appointment to the medical staff of SJHH or HHS;

and shall not include:

(c) a research technician;
(d) a research nurse; or
(e) any other staff member who works under the direct supervision of an Academic Researcher.

The determination of who is an Academic Researcher shall be the responsibility of the IP Board;

2.2 “Disclosure Form” means the form established under section 7 hereof;
2.3 "HHS" means Hamilton Health Sciences Corporation incorporated under the laws of the Province of Ontario.

2.4 "Institutional Student Affairs Office" means the office of the institution (which may include institutions such as hospitals, universities and community colleges other than SJHH, HHS and the University) that is responsible for the academic progress of a student. For a University Student that is enrolled in a graduate program it is the School of Graduate Studies; for a University Student that is enrolled in an undergraduate program it is the Dean’s office of the relevant Faculty. The determination of which is the correct office shall be the responsibility of the IP Board;

2.5 The “IP Board” means the Joint Institutional Intellectual Property Board created herein and comprises the membership described in section 3.5;

2.6 “IP Creator” has the meaning defined in section 5.1 hereof;

2.7 “Intellectual Property” means databases, audio-visual material, electronic circuitry, biotechnology and genetic engineering products, computer software recorded in any format, inventions, discoveries and all other products of research (which inventions, discoveries or other products are capable of protection pursuant to any law of Canada or any other country or which may be otherwise licensable) where any of the foregoing are created, whether by discovery, invention or otherwise by an IP Creator as hereinafter defined;

2.8 “Member of an Institution” or “Member of the Institutions” or any similar phrase means anyone who:

(a) holds any appointment as a member of the medical staff of any of the Institutions;

(b) is a member of the University Teaching Staff;

(c) is an employee of any type of any of the Institutions;

(d) holds any other type of office or privileges at any of the Institutions; or

(e) is a Student at any of the Institutions.

2.9 “ORCIPMILO” means the McMaster Industry Liaison Office of Research Contracts & Intellectual Property of the University;

2.10 “SJHH” means St. Joseph’s Healthcare Hamilton, a division of the St. Joseph’s Health System;
2.11 “Student” includes:

(a) a University Student;

(b) a person following a program at any of the Institutions as a Post-Doctoral Fellow, Clinical Fellow, Medical Intern or Medical Resident; and

(c) anyone else who is engaged in a course of study at any of the Institutions or at any other institution (which may include institutions such as hospitals, universities and community colleges other than the Institutions).

The determination of who is a Student shall be the responsibility of the IP Board;

2.12 the “University” means McMaster University created under the McMaster University Act, 1976;

2.13 “University Student” has the same meaning as the term “student” is defined in the McMaster University Act, 1976;

2.14 “University Teaching Staff” has the same meaning as the term “teaching staff” is defined in the McMaster University Act, 1976;

3 Responsibility for this Policy

3.1 ORCIP MILO is responsible for providing the administrative needs of this policy.

3.2 The Executive Director of the ORCIP MILO is responsible for the administration of this policy and shall be responsible to the Vice-President (Research and International Affairs) of the University.

3.3 The Vice-President (Research and International Affairs) of the University shall consult as necessary with the Vice-President Research and Corporate Development of HHS and the Vice-President Research Institute of SJHH on the operations of the ORCIP MILO (the three Vice-Presidents being the “Institutional Vice-Presidents”).

3.4 The Intellectual Property Board of the University existing at January 1, 2005, is continued as the Joint Institutional Intellectual Property Board.

3.5 The Joint Institutional Intellectual Property Board shall consist of the following members:

(a) Vice-President (Research & International Affairs) of the University, who shall act as Chair of the Board;
(b) Vice-President, Research and Corporate Development of HHS, who shall act as a vice-Chair of the Board;

(c) Vice-President, Research Institute of SJHH, who shall act as a vice-Chair of the Board;

(d) The Executive Director of the ORCIPMIL, who shall act as Secretary of the IP Board;

(e) Two (2) other persons who have experience in the commercialization of intellectual property appointed by the President of the University, after consultation with the Vice-President, Research and the Faculty Deans;

(f) One (1) person who has experience in the commercialization of intellectual property appointed by the President of HHS after consultation with the Vice-President, Research of HHS;

(g) One (1) person who has experience in the commercialization of intellectual property appointed by the President of SJHH after consultation with the Vice-President, Research Institute of SJHH.

(d) Five (5) members of the University Teaching Staff appointed by the President of the University, after consultation with the Vice-President (Research & International Affairs) and the President of the McMaster University Faculty Association;

(e) Three (3) other persons who have experience in the commercialization of intellectual property appointed by the Board of Governors of the University on the recommendation of the President of the University;

(f) Two Academic Researchers of HHS appointed by the President of HHS, after consultation with the Vice-President, Research and Corporate Development of HHS;

(g) One (1) other person who has experience in the commercialization of intellectual property appointed by the Board of Directors of HHS on the recommendation of the President of HHS;

(h) Two Academic Researchers of SJHH appointed by the President of SJHH, after consultation with the Vice-President, Research of SJHH;

(i) One (1) other person who has experience in the commercialization of intellectual property appointed by the Board of Trustees of SJHH on the recommendation of the President of SJHH.

Comment [YG1]: Recommended change: Reduce number to improve efficiency and productivity of the group. Discussion was this would include 3 VPRs, Exec Director MILO, plus 1 additional delegate from each hospital, to ensure quorum and equal representation.
Terms for those described in paragraphs (e) through (jg) above shall be for a term of up to three (3) years which may be extended for no more than two (2) additional terms.

3.6 The IP Board shall from time to time establish its own rules of procedure which shall be consistent with practices within the Institutions. Such rules shall also provide that when the IP Board is acting in a quasi-judicial fashion in making decisions that rules of natural justice shall be applied.

3.7 Quorum of the IP Board shall be a simple majority thereof provided that there shall be at least two members present from an Institution when dealing with any matters arising from that Institution.

3.8 The duties of the IP Board shall include:

(a) the specific decisions referred to in sections 2.1, 2.4, 2.11, 3.6, 4.3(d), 4.4, 6.4, 6.6, 7.1, 10.2, 10.3, 11.2, 12, 13.3, 14.3, 14.4, 14.8, 15.2 and 16 hereof;

(b) preparing an annual report to the Senate and Board of Governors of the University, the Board of Directors of HHS and the Board of Trustees of SJHH on intellectual property and its commercialization;

(c) the recommendation to the Senate and the Board of Governors of the University, the Board of Directors of HHS and the Board of Trustees of SJHH of any revisions required to this or any other Institutional Policy relating to intellectual property;

(d) the resolution of issues of disputed discovery among two or more IP Creators of the same intellectual property, the entitlement to any portion of Net Revenues of any IP Creator or the division of Net Revenues as between IP Creators; and

(e) the resolution of any other issues relating to the commercialization of intellectual property at the Institutions including, without limitation, the decision whether or not to proceed with commercialization in the case of joint IP Creators where there is no unanimous agreement among them as to commercialization.

3.9 The IP Board has exclusive jurisdiction over the application, interpretation and administration of this policy. Any claim made by any IP Creator or anyone making any claim hereunder shall be submitted to the IP Board for final determination.

3.10 Every order, decision or proceeding of the IP Board is final and shall not be questioned, reviewed, prohibited or restrained by any court or be made the subject of any proceedings in or any process of any court, whether by way of injunction or certiorari or otherwise on any ground, including the ground that the order, decision or proceeding is beyond the jurisdiction of the IP Board.
4 Intellectual Property Covered by this Policy

4.1 Intellectual Property has the meaning defined in section 2.7 hereof.
4.2 In the case of members of the Institutions who are not Academic Researchers, Intellectual Property shall include anything created or discovered by them when the terms of their employment require them to engage in the activity that resulted in the creation or discovery;

4.3 Intellectual Property shall not include:

(a) copyright in traditional academic materials such as, without limitation, lecture notes, laboratory manuals, articles, books, artifacts, works of visual art, maps, charts, plans, photographs, engravings, sculptures and music, no matter in which format any of the foregoing materials may have been recorded or embodied including, without limitation, a computer readable format, where any of the foregoing material has been created by someone who is an Academic Researcher unless they have otherwise agreed to treat any such material as Intellectual Property hereunder;

(b) computer software that is either ancillary to or the functional equivalent of any of the items described in paragraph (a) hereof where such material has been created by someone who is an Academic Researcher;

(c) anything created or discovered by a member of the Institutions in the course of demonstrably private research outside of their normal Institutional duties or in the course of activities as a consultant to outside persons when such consulting activities otherwise comply with applicable Institutional policies on such activities and have been properly reported as required by those policies;

(d) provided that there has not been a significant use of Institutional resources (the level of which shall be determined by the IP Board) and provided that the work otherwise complies with applicable Institutional policies, anything independently created or discovered by a Student as part of the academic requirements of a program or course of study; or

(e) any material which is in the public domain.

4.4 Any member of the Institutions can seek a binding opinion from the IP Board as to whether or not any particular matter is or is not Intellectual Property within the scope of this policy.

5 Persons Covered by this Policy

5.1 In this policy, the term “IP Creator” means an individual who:

(a) creates or discovers any Intellectual Property; and
5.2 Acceptance of the terms and conditions of this policy shall be a condition of appointment, employment, enrolment, or use as the case may be, of:

(a) every member of any of the Institutions; and
(b) every person who is permitted to use any facilities of any of the Institutions in a manner which is normally not available to a member of the general public except on special request.

5.3 This policy shall come into force on January 1, 2005. All matters related to Intellectual Property at any of the Institutions shall be governed by this policy after this date.

6 Decision to Commercialize

6.1 An IP Creator who is an Academic Researcher may make the decision to commercialize any newly created or discovered Intellectual Property. The decision and the disclosure of the creation or discovery must be made and communicated to the Institutions at least six (6) months prior to any publication or presentation that would have the effect of putting the new Intellectual Property in the public domain through notification to MILO with sufficient lead time to allow for timely evaluation of the discovery and sufficient time to file for patents or other appropriate means of intellectual property protection. Failure to do so could lead to loss of ability to file for intellectual property protection.

6.2 In the event that a decision to commercialize any newly created or discovered Intellectual Property has the effect of requiring any Student to be delayed in the presentation of any material required for the successful completion of the Student’s academic requirements, the delay cannot be more than six (6) months from the time that the Student first advises the Institutional Student Affairs Office and the ORCIPMILO of the Student’s ability to make such a presentation.

6.3 A decision to commercialize any Intellectual Property shall bind the IP Creator to the procedure established by this policy.

6.4 In the event that any newly created or discovered Intellectual Property is the result of the joint effort among more than one IP Creator, the decision to commercialize may proceed with the unanimous consent of the joint IP Creators failing which the matter will be referred to the IP Board for a decision.
6.5 In the case of any newly created or discovered Intellectual Property created by someone who is not an Academic Researcher, the decision to commercialize shall be made by that person's supervising Academic Researcher or the Vice-President of the relevant administrative unit of the applicable Institution.

6.6 In the case of any newly created or discovered Intellectual Property created by a Student, the decision to commercialize may proceed with the unanimous consent of:

(a) the Student;
(b) the Student's academic supervisor;
(c) any other collaborators; and
(d) the senior officer of the applicable Institutional Student Affairs Office.

In the event that there is no unanimous agreement the matter shall be referred to the IP Board for a decision.

6.7 In the event that a decision is made not to commercialize any newly created or discovered Intellectual Property, such Intellectual Property shall be, for the purposes of this policy, considered to have been dedicated to the public domain from the date of the first publication describing the Intellectual Property.

7 Disclosure

7.1 A disclosure to the Institutions of the creation or discovery of any new Intellectual Property shall be made in the form established by the IP Board from time-to-time (hereinafter the “Disclosure Form.”) The ORCIPMILO shall provide reasonable assistance to the IP Creator in the completion of the Disclosure Form.

7.2 A copy of the Disclosure Form shall be sent to the appropriate Departmental Chair.

7.3 In some cases, an IP Creator may wish to provide limited disclosure of the creation or discovery of any new Intellectual Property to third parties. Such disclosure shall be permitted only if the IP Creator has arranged for the third parties receiving such information to have signed a non-disclosure agreement in form and substance satisfactory to the Institutions.

7.4 In some cases, a member of the Institutions may wish to provide material or products (such as, without limitation, biological or genetic samples) to third parties. Such material or products may be transferred only if the member of the Institutions has arranged for the third parties receiving such material or products to have signed a material transfer agreement in form and substance satisfactory to the Institutions.
8 Receiving Disclosures and Materials

8.1 In some cases, members of the Institutions may wish to receive disclosure from third parties of the creation or discovery of intellectual property of those third parties. The receipt of such disclosure shall be permitted if the IP Creator has entered into appropriate arrangements in form and substance satisfactory to the Institutions with the third parties providing such disclosure.

8.2 In some cases, members of the Institutions may wish to receive material or products (such as, without limitation, biological or genetic samples) from third parties. Such material or products may be received only if the member has entered into appropriate arrangements in form and substance satisfactory to the Institutions with the third parties providing such materials or products.

9 Initial Ownership of Intellectual Property

9.1 Subject to section 15.4 hereof, the University shall be the nominal owner of all newly created or discovered Intellectual Property arising at any of the Institutions.

9.2 An IP Creator shall only deal with newly created or discovered Intellectual Property in accordance with this policy.

9.3 Notwithstanding sections 9.1 and 9.2 hereof, certain agreements (such as grants, sponsorships, research and affiliation agreements) have been or will be entered into by the Institutions with third parties. Such agreements may contain provisions whereby Intellectual Property is transferred, assigned, licensed or otherwise disposed of to such third parties. The provisions of such agreements shall supersede this policy:

(a) when the agreement involves the work of a Student, when the senior officer of the applicable Institutional Student Affairs Office has approved that the agreement shall so supersede; and

(b) when the applicable Institutional Vice President, and any member who is an Academic researcher who may be affected by such agreement have approved that the agreement shall so supersede;

failing which this policy shall continue to apply in precedence to such agreement.

10 Retention of Ownership Right

10.1 After a Disclosure Form has been received by the ORCIPMILO, a review will be conducted which will include an assessment of the potential commercial value of the Intellectual Property.
10.2 With respect to any Intellectual Property, the IP Board may decide that:

(a) the Institutions are interested in proceeding with the protection and commercialization of the intellectual Property; or

(b) the Institutions have no further interest in the Intellectual Property.

10.3 In the case where the IP Board has decided that the Institutions have no further interest in the Intellectual Property, the Intellectual Property may:

(a) at the request of the applicable Institution other than the University, be transferred to that Institution on such terms and conditions as the IP Board may prescribe; or

(b) failing such an Institutional request, and at the request of the original IP Creator, and subject to section 12, be transferred to the IP Creator on such terms and conditions as the IP Board may prescribe.

11 Transfer of Institutionally-Owned Intellectual Property

11.1 An IP Creator who is an Academic researcher may request that ownership of Intellectual Property be transferred to the IP Creator. Such a request may only be made with respect to Intellectual Property for which a Disclosure Form has been filed. A decision by the IP Board on the IP Creator’s request shall be made within six (6) months provided that the Institutions and IP Creator may agree in writing to further extensions of this time as may be required.

11.2 The IP Board shall not unreasonably withhold approval of the IP Creator’s request. The IP Board’s approval shall be subject to such reasonable terms and conditions that the IP Board may establish at the time of such approval and subject to section 12. Such terms and conditions shall take into account the provisions of section 14 providing for the sharing of revenues.

11.3 No resources of the Institutions shall be available to an IP Creator to whom Intellectual Property has been transferred except by means of an appropriate research contract. For greater certainty and without limitation, the IP Creator shall be solely responsible for any accounting or reporting requirements and the costs related to any professional advice required relating to Intellectual Property so assigned.
12 Assignments from Institutions

In the event that ownership of any Intellectual Property is being assigned away from the Institutions, the IP Board shall normally include the following terms and conditions in any such assignment:

(a) A royalty free non-exclusive perpetual licence for non-commercial academic and research purposes for the Intellectual Property in favour of the Institutions and all of the members of the Institutions while working at the Institutions;

(b) The right to reasonably consent to any further assignments or transfers of the Intellectual Property; and

(c) A Provision acknowledging that no resources of the Institutions shall be available to further develop the Intellectual Property without an appropriate research agreement.

13 Commercialization of Intellectual Property

13.1 The IP Creator shall be consulted in the commercialization by the Institutions of Intellectual Property. Such consultation will include exploring the opportunities for further research to be performed by the IP Creator or others at the Institutions, the potential revenues which may arise and the payment of costs related to patent applications and other aspects of commercializing the Intellectual Property.

13.2 The IP Creator shall have no responsibility for the payment of any costs relating to the commercialization by the Institutions of Intellectual Property.

13.3 The actual method of commercializing Intellectual Property shall be the determination of the IP Board.

13.4 In the event that the IP Board determines that the Institutions no longer wish to continue to commercialize any Intellectual Property, the Institutions may discontinue such efforts provided that there are no outstanding contractual commitments relating thereto, and further provided that sections 10.3 and 12 are complied with.

13.5 ORCIPMILQ will report periodically to the IP Creator on the commercialization of Intellectual Property created by the IP Creator and the revenues arising therefrom.
14 Revenue Sharing with IP Creators

14.1 In this section, the term Gross Revenues (when used in its capitalized form) shall mean all revenue or other consideration generated by the commercialization of Intellectual Property.

14.2 In this section, the term Net Revenues (when used in its capitalized form) shall mean Gross Revenues less:

(a) all out-of-pocket direct expenses of the person pursuing such commercialization including any patent application fees or fees reasonably paid to third parties for any relevant purpose; and

(b) all deductions normally made according to generally accepted accounting practices in Canada including an appropriate allocation of any indirect costs or other direct costs of any of the Institutions relating to the generation of the Intellectual Property.

The actual determination of the components of Net Revenues in any particular case shall be the determination of the IP Board.

14.3 With respect to any Intellectual Property commercialized by the Institutions the IP Board shall decide that the Net Revenues shall be paid in the following fashion:

(a) 50% of Net Revenues shall be retained by the Institutions; and

(b) 50% of Net Revenues shall be paid to the IP Creators or reinvested in further research. The actual proportion to be paid to the IP Creators or reinvested in further research shall be decided by the IP Board based on any representations that the IP Creator wishes to make.

Provided that the IP Board may decide in the case of IP Creators that are not Academic Researchers and at the request of the Institution or Institutions involved that some other lesser portion of Net Revenues shall be paid to the IP Creators the actual percentage of which shall be the sole determination of the IP Board based on any representations that the Institution involved or the IP Creator wishes to make.

14.4 With respect to any Intellectual Property commercialized by the IP Creator, the Institutions shall normally require that they be paid twenty-five percent (25%) of the Net Revenues arising from the commercialization of the Intellectual Property. The IP Board, based on any representations that the IP Creator wishes to make, shall decide what proportion of the Net Revenues accruing to the IP Creator shall be paid to the Institutions.
The actual percentage to be used in a particular case shall be the decision of the IP Board and shall take into account the nature of the Intellectual Property and its likely method of commercialization and whether the Institutions have the potential for generating further research contracts relating to the Intellectual Property.

14.5 In the event that any return on Intellectual Property that is commercialized is in the form of an equity investment, the foregoing percentages shall be considered in determining an equitable sharing of such equity between the Institutions and the IP Creator.

14.6 Any monies to be paid to an IP Creator shall, if in excess of $10,000 per year, be reported on and paid semi-annually and otherwise reported on and paid annually.

14.7 Prior to payment of any monies to an IP Creator, the Director shall ensure that a plan for the reimbursement of costs incurred by any of the Institutions is in place.

14.8 In the event that there is more than one IP Creator for any Intellectual Property, the IP Board, after consultation with the IP Creators, shall approve the list of IP Creators and the division of any revenues among them which shall be commensurate with their relative contributions to the Intellectual Property. Any dispute relating to either the relative contributions of multiple IP Creators or their revenue entitlement shall be decided in accordance with any applicable existing procedure or, in the event that no such procedure exists, by the IP Board in accordance with rules and procedures established by the IP Board.

15 Institutional Sharing

15.1 For the purposes of this section, the following words shall have the following meanings:

(a) “Jointly-appointed Personnel” means members of the Institutions who hold appointments to more than one of the Institutions;

(b) “HHS facilities” means research or other facilities that are clearly identified as being the responsibility of HHS;

(c) “SJHH facilities” means research or other facilities that are clearly identified as being the responsibility of SJHH; and

(d) “University facilities” means research or other facilities that are clearly identified as being the responsibility of the University.

15.2 The Institutions shall share the Net Revenues arising under section 13 hereof as follows:
(a) In the case of Intellectual Property arising from work done by someone who is a member of the University and is not Jointly-appointed Personnel and that work does not involve the use of HHS facilities or SJHH facilities, the University shall receive 100% of the Institutional share;

(b) In the case of Intellectual Property arising from work done only in University facilities by someone who is Jointly-appointed Personnel, the University shall receive 50% of the Institutional share and, if the person holds only one additional appointment, the Institution to which the person holds the additional appointment shall receive 50% of the Institutional share or, if the person holds appointments to both HHS and SJHH, HHS and SJHH shall each receive 25% of the Institutional share.

(c) In the case of Intellectual Property arising from the use of HHS facilities alone or only in combination with University facilities, the University shall receive 50% of the Institutional share and HHS shall receive 50% thereof;

(d) In the case of Intellectual Property arising from the use of SJHH facilities alone or only in combination with University facilities, the University shall receive 50% of the Institutional share and SJHH shall receive 50% thereof; and

(e) In the case of Intellectual Property arising from the use of facilities at both of HHS and SJHH, the University shall receive 50% of the Institutional share, and SJHH and HHS shall each receive 25% of the Institutional share.

15.3 All of the costs related to the operation of ORCIPMILO shall be paid by the University and only applied against the commercialization of any Intellectual Property as provided for in Section 14 hereof.

15.4 In the case of Intellectual Property arising from the use of either SJHH facilities or HHS facilities alone by someone who is only a member of SJHH or HHS and is not Jointly-appointed Personnel, SJHH or HHS, as the case may be, may, on a case-by-case basis agree with the University as represented by ORCIPMILO that section 9.1 shall not apply and that SJHH or HHS, as the case may be, shall be the initial nominal owner of the Intellectual Property.

15.5 If any dispute arises among the Institutions either relating to any matter in this section 15 or with respect to any other matter under this policy, the Institutions agree to work in good faith to resolve their differences amicably. The Institutions agree to the following series of steps in the event that they are not able to resolve any such dispute:
(a) Initially, the Institutional Vice-Presidents in person shall meet to attempt to resolve the issue;

(b) If the foregoing meeting fails to resolve the issue, a meeting shall be convened including the Presidents of the Institutions and the Chairs of the University Board of Governors and the Board of Trustees of SJHH and the Board of Directors of HHS all in person and without delegates to attempt to resolve the issue;

(c) If the foregoing meeting fails to resolve the issue, the matter shall be arbitrated by a panel of three arbitrators pursuant to the *Arbitrations Act* (Ontario) each Institution choosing one of the three arbitrators. Any such arbitral decision will be final and not subject to any further review.

### 16 Quinquennial Review

This policy shall be reviewed by the IP Board on a regular basis (at least once every 3 years) in prior to January 1, 2010 consultation with the members of the teaching and research community. The IP Board shall, as part of such review, provide input and recommendations for the improvement of this policy.

### REVISION HISTORY

**Original University Policy**

Approved by Senate: May 27, 1998
Approved by Board of Governors: June 11, 1998

**Joint Institutional Policy**

Approved by University Senate: June 9, 2004
Approved by University Board of Governors: June 10, 2004
Approved by HHS Board of Directors: June 22, 2004
Approved by SJHH Board of Trustees: June 17, 2004

Comment [YG2]: In looking at IP Policies from other universities in Canada and US, as well as other policies at McMaster, HHS, SJH; there is no consistency in having a required review of the policy. This was originally put in since it was a new policy that involved the 3 institutions and so this was to ensure that it would be reviewed to see if it still worked for all.
REPORT TO SENATE
FROM THE
UNIVERSITY PLANNING COMMITTEE

FOR APPROVAL

I. Program Closures

At its meeting of January 30, 2018, the University Planning Committee approved, for recommendation to Senate, proposals to close the following programs:

i. Honours Bachelor of Health Sciences Global Health Specialization (Attachment I)
   The Honours Bachelor of Health Sciences Global Health Specialization has been under review for the last two years. The Level III entry program was restructured last year and further review has lead to the decision to close the specialization rather than further revising it. The result of the closure will enhance student engagement with global health content rather than diminish it; Honours B.H.Sc. students will be able to concentrate their studies through the Interdisciplinary Minor in Global Health and can opt to do a senior thesis in the subject. The final intake into the Global Health Specialization will be September 2018.

   The University Planning Committee now recommends,

   that Senate approve the closure of the Honours Bachelor of Health Sciences Global Health Specialization program, for recommendation to Senate, effective September 2019, as outlined in Attachment I.

ii. Addiction Careworker Diploma (Attachment II)

iii. Addiction Studies Certificate (Attachment II)

   These two programs have a longstanding history as very successful, flagship programs at the Centre for Continuing Education. However, there have been significant changes in the field, most notably an increased emphasis on professionalization, that have required substantial revision of the programs. In order to best facilitate and signal these changes, it was determined that the current programs would be closed and two new programs will be developed. The proposal is to close the program following the final intake date of February 15, 2018; students in the program will have 18 months to complete the program as it winds down. Students who have completed less than 50% of the current program may transfer into the new program.

   The University Planning Committee now recommends,

   that Senate approve the closure of the Addiction Careworker Diploma and Addiction Studies Certificate programs, effective February 16, 2018, as outlined in Attachment II.
II Establishment of New Programs

At the same meeting, the University Planning Committee approved the business cases for the following new programs.

i. **Master of Science in Psychotherapy Program**
   The proposed *Master of Science in Psychotherapy* program is a professional, course-based program that will include several experiential training opportunities to prepare students for a career as psychotherapy practitioner. The focus of the program will be to provide students with a solid understanding of and competency in the delivery of evidence-based psychotherapies for a range of mental health disorders and related problems.

ii. **Doctor of Philosophy in Statistics Program**
    The proposed *Doctor of Philosophy in Statistics* program is a research-focused program that will train students to develop theory, methods, and tools for the analysis of increasingly diverse emerging data types. Recent growing interest in data has resulted in a notable increase in the number of students in the Ph.D. program in Mathematics who choose to specialize in Statistics. The establishment of a dedicated Ph.D. program in Statistics will enable growth in this area.

Senate: FOR APPROVAL/INFORMATION
February 14, 2018
SUMMARY
The BHSc (Hons) Program proposes to formally discontinue the Global Health Specialization (GHS) sub-plan in favour of a revised approach to global health curriculum that will provide more flexibility and interdisciplinarity for students with an interest in global health, and closer collaboration with other departments and faculties. It should be noted that although this is technically a program closure, the restructuring actually enhances student access to global health studies and simultaneously makes better use of resources by addressing a mismatch between demand for opportunities to study global health and completion rates of the GHS itself.

The new structure of the global health curriculum for BHSc (Hons) students will be more flexible, allowing students to engage at a level corresponding to their individual interests. A major component of the restructuring is the incorporation of BHSc HTHSCI global health courses as part of the Interdisciplinary Minor in Globalization & Health in the new Theme of Globalization & Health; this integration was accomplished in a very productive collaboration with the Institute for Globalization & the Human Condition and the Faculty of Social Sciences over the past year.

Under the proposed changes, students can take just a few courses on global health, pursue the Interdisciplinary Minor in Globalization & Health focused in the new Theme of Globalization & Health, or opt for an intensity of exposure equivalent to the old GHS by completing the minor and pursuing a senior project or thesis in global health through the existing HTHSCI 4G courses (which will continue to exist).

A modified version of the GHS is included in the current submission to UGC as a transitional measure for students who entered the BHSc (Hons) Program in 2016; this cohort will have the opportunity to apply for Level III entry to the GHS in Fall 2018, which will be the last intake into the Specialization.

KEY ISSUES MOTIVATING RESTRUCTURING
The Global Health Specialization (GHS) is a Level II-entry sub-plan of the BHSc (Hons) degree that was introduced in 2008. In assessing the status of the GHS over the past 2 years, we have come to the conclusion that it would be desirable to create a new structure within which students could pursue a focus in global health in their studies, but not as an exclusive specialization with competitive entry at Level II.

1. **EXCESS DEMAND PLUS SIGNIFICANT RATE OF NON-COMPLETION**: After a competitive entry process for spots at the Level II entry point, a significant proportion of students in the GHS would leave the Specialization before completing it. Most often this is because they were admitted to professional programs and transferred to graduate after Year 3, with another smaller fraction of
students leaving the GHS for other reasons prior to completion of 4th year. Over the past 4 years, completion rates of the GHS, compared with the excess demand for the GHS, are as follows:

<table>
<thead>
<tr>
<th></th>
<th>GHS completion rate</th>
<th>excess demand (fraction of applicants not accepted to the GHS in that cohort)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>78%</td>
<td>47%</td>
</tr>
<tr>
<td>2015</td>
<td>73%</td>
<td>24%</td>
</tr>
<tr>
<td>2016</td>
<td>70%</td>
<td>33%</td>
</tr>
<tr>
<td>2017</td>
<td>40%</td>
<td>56%</td>
</tr>
</tbody>
</table>

This mismatch between completion and demand has several undesirable consequences:

- Senior HTHSCI courses in global health were often significantly under-enrolled. Although the majority of these courses were open to students outside the GHS by permission of the instructor, there was limited uptake (most likely due to the fact that the 2nd year courses in Global Health were restricted to students in the GHS, and so there was no clear ‘pipeline’ for non-GHS students to the senior level courses).

- The mismatch between the demand and the rates of completion resulted in many students interested in the GHS who were not admitted to the Specialization in Year 2, yet significant excess capacity to teach more students in the GHS by Year 4 because of the departure of students prior to completion.

2. DESIRE FOR MORE FLEXIBLE ENGAGEMENT WITH STUDIES IN GLOBAL HEALTH: Under the previous structure, students had to apply to the specialization at the end of Level I, before they had exposure to global health curriculum. Because Level II was the only entry point, it created some undesirable dynamics in student decisions about the specialization: some students would apply (and enter) the GHS even if they were not entirely committed, simply because there would be no future opportunity to do so; at the same time, others entered the Specialization at Level II but changed their minds later on, contributing to the excess unused capacity in the GHS.

3. ENHANCE INTERDISCIPLINARITY: Global health is an inherently interdisciplinary field. We were interested in enhancing the interdisciplinarity of the global health curriculum, both in terms of BHSc (Hons) students taking courses relevant to global health in other departments, and in having students from other programs with an interest in global health able to take the BHSc HTHSCI courses offered in that area.

PROCESS THUS FAR

We initiated these processes in our curriculum changes presented to UGC in Fall 2016, indicating that there would be no Level II intake into the GHS in 2017-18 as the Specialization underwent restructuring, and that students in that cohort would be offered a revised form of the specialization for a Level III entry. At that time we communicated to UGC that we were pursuing a collaborative enterprise with the Institute for Globalization & the Human Condition and the Faculty of Social Sciences to incorporate the BHSc global health HTHSCI courses into the existing Interdisciplinary Minor in Globalization & Health (IMGH). In addition, we indicated that we had held consultations with students in the program in the Fall of 2016 and they were broadly supportive of the goals of the restructuring process that we have pursued this past year.
At this point, the restructuring of the global health curriculum in BHSc (Hons) stands thusly:

1. **MODIFICATIONS TO THE IMGH:** After a very constructive and collaborative process with the Institute for Globalization & the Human Condition and the Faculty of Social Sciences, changes to the IMGH to incorporate the BHSc HTHSCI courses on global health are on the current UGC agenda. The revised IMGH has created a new theme on “Globalization and Health”, integrating the existing BHSc HTHSCI courses that previously comprised the GHS as well as courses related to globalization and health from other departments and programs.

2. **MODIFIED FORM OF THE GHS FOR CURRENT LEVEL II STUDENTS:** In our 2016 presentation of curriculum changes to UGC, we indicated that students in Level I in 2016 (for whom there would be no intake to the GHS in 2017) would be able to apply to enter a revised form of the GHS in Level III in 2018-19 as a transitional measure.

   The structure of that transitional form of the GHS for this cohort is included in these curriculum revisions; it is comprised of a Level III entry, requiring a comparable number of units of course work in global health as the GHS.

   Note that students in this cohort who are interested in global health do not necessarily have to pursue the GHS; with the changes to the IMGH, they will also have the option of pursuing a minor focused on the Globalization & Health Theme in the revised minor if they wish, and they will be counselled accordingly pending approval.

3. **COMMUNICATION TO CURRENT LEVEL I STUDENTS:** For students who entered Level I of the BHSc (Hons) Program in September 2017, the Undergraduate Calendar Copy for 2017-18 indicated that those Level I students interested in global health should consult with a student advisor.

   Level I students this year have been counselled that the global health curriculum is being restructured, and that they will be able to pursue their interests in global health under a revised structure to be announced after approval by UGC. In addition, changes to the prerequisites for our Level II course in Global Health, HTHSCI 2DS3 – Complexities of Disease States, opens the opportunity for early exposure to global health to a larger number of interested students.

4. **REVISION OF CALENDAR COPY:** In the calendar revisions brought forward to UGC for 2018-19, the Program Overview section has been revised to reflect these changes, communicating clearly to BHSc (Hons) students and applicants that opportunities to focus their studies on global health continues to exist in the BHSc (Hons) Program, albeit in a different structure.
I am writing to request your support in the closure of the Addiction Careworker Diploma and Addiction Studies Certificate program offered through the Centre for Continuing Education (CCE). In its place we propose to launch a fully revised Certificate and Diploma program aligned to meet the current needs of addiction professionals.

History
CCE has offered studies in addiction since the 1980s. Courses and formal programming have undergone various transformations over the decades while the Academic Submission for the current Addiction Certificate and Diploma program was approved in 2001. Since 2001, the program has undergone regular updates to the curriculum to keep abreast with emerging trends and changing needs in the addiction field.

Description of the Current Program
The Addiction Careworker Diploma is a series of 10 courses including six core courses and four electives. In the Addiction Studies Certificate, the student completes any 15 units of study.

Diploma Core Courses (all required)
- ADD 827 Introduction to Addiction (3 units)
- ADD 828 Problem Management Skills for Helpers (3 units)
- ADD 829 Concepts and Dimensions of Group Work Practice (3 units)
- ADD 830 Solution Focused Approaches in Addiction Counselling (3 units)
- ADD 874 Pharmacology and Drug Abuse (2 units)
- ADD 862 Case Management and Report Writing (2 units)
Skill Development Elective Courses (4 units required)
- ADD 888 Assessment of Addictive Behaviour (2 units)
- ADD 876 Concurrent Disorders in Addiction (2 units)
- ADD 122 Counselling Techniques in Addiction Practice (2 units)
- ADD 899 Crisis Intervention (2 units)
- ADD 899 Diversity and Special Issues (2 units)
- ADD 498 Self-Help/Mutual-Aid (2 units)
- ADD 471 EAP II: Counselling for the Workplace: Principles of EAP Intervention (2 units)
- ADD 895 Treatment of Addictive Behaviour (2 units)
- ADD 812 Understanding & Preventing Relapse (2 units)
- ADD 803 The Whole Person: Application of Personality Theories in Addiction (2 units)

General Elective Courses (4 units required)
- ADD 813 Adult Children of Alcoholics (2 units)
- ADD 831 Co-Dependency as an Addiction: A Critical Review (2 units)
- ADD 470 EAP I: Wellness & Work: Introduction to Employee Assistance Programs (2 units)
- ADD 832 Older Canadians and Substance Abuse (2 units)
- ADD 831 Professional Ethics and Helping (2 units)
- ADD 406 Program Development (2 units)
- ADD 894 Youth and Addiction (2 units)
- ADD 101 Independent Study (2 units)
- ADD 400 Practical Experience Elective (2 units)
- ADD 879 Working with Families & Addiction (2 units)
- ADD 121 Working with Problem Gambling (2 units)
- ADD 892 Working with Women & Addiction (2 units)

Current Situation
The current Certificate and Diploma program is in a good position. We have earned a reputation as an education leader in addiction studies. Due to the online course format we have used in the program, we have attracted a national audience and are well-known by employers across Canada. There is a relationship between the program and the main certifying body, the Canadian Addiction Counsellor Certification Federation. In particular, the Diploma has been recognized as meeting the educational requirements for its primary addiction counsellor certification. Enrollment is steady and strong.

However, over the past few years, the addiction field has undergone significant professional reflection and rebranding. This is due, in part, to the Psychotherapy Act and the interests of many addiction workers to professionalize the field and have their own regulation or certification to oversee the profession (the field is currently unregulated). The results are that employers are requiring greater education when they are hiring addiction counsellors and a push for more job-ready applicants who require less workplace training.
Although the current program remains strong at this time, the field is changing at a fairly rapid pace and the program will become outdated in the near future. We feel that this is the ideal time to launch a newly revised Certificate and Diploma program to meet the changing needs of graduates and employers alike.

Research Process
A review of the Addiction Education program offered through the Centre for Continuing Education was undertaken early in 2016. The first stage of the review included a scan of potential competitors with comparable programs, review of enrolment and student demographic trends, program effectiveness interviews with instructors and employers, and a survey of graduates of the program.

As a result of the findings, it was determined that a small working group would be struck composed of instructors teaching in the program and community agencies/organizations who have employed graduates of the program and are familiar with the current challenges of working with people with addictions. The task of the working group was to examine (i) the current program with respect to the appropriateness of the program-level learning outcomes and (ii) the existing courses with respect to their potential to accomplish the intended outcomes of the program.

The working group was composed of seven individuals who met on ten occasions between December 2016 and June 2017. Discussion was facilitated by an outside consultant. As a result of these discussions, the program-level learning outcomes were re-written, and the program’s courses were redesigned to align with the revised outcomes. Other important work undertaken by the working group was consideration of alignment of the program with the criteria of the Canadian Addictions Counsellors Certification Federation (CACCF) as well as discussion of including a practical, hands-on experience for students in the program.

Results
Most significantly, a change is required in the application requirements to the program to ensure that our graduates have an existing foundation in a related field such as health, counselling, mental health, community and social services, community justice, law enforcement, or public health. This is a result of employers seeking applicants who are trained in a specific profession, but who also possess specific addiction training. At the same time, the afore-mentioned areas of study do not address addiction in enough depth to meet employers’ needs. Additionally, employers no longer value a stand-alone diploma in addiction studies as enough to work in the field.

The current program includes 28 course offerings. These courses need to be condensed and reconfigured to a more manageable program offering. As the courses are redesigned, we propose to reflect themes and content that have become mainstream in the industry since the current certificate and diploma were developed in 2001. Examples of these focus areas include trauma informed care, concurrent disorders, contemporary treatment approaches, behavioural and process addictions.
New Direction
The proposed changes to the current program are significant and progressive. We feel that rather than making revisions to the existing curriculum, it is appropriate to redesign the program learning outcomes and corresponding course outcomes from the ground up. A program submission for the Certificate and Diploma committee is being submitted at this time.

Program Phase Out
We recommend that the Addiction Careworker Diploma and Addiction Studies Certificate program be phased out over 18-24 months. We will restrict program enrollment commencing February 15, 2018 so that new students can complete within a reasonable time.

Every effort will be made to ensure that students, who are currently enrolled, have the opportunity to complete their certificate or diploma before the present program is retired.

The following steps will be taken to communicate the closure of the program and manage the wind down phase:

- Instructors will be informed and consulted regarding course scheduling for the wind down period.
- An email will be sent to all students who have been enrolled in the Addiction Careworker Diploma or Addiction Studies Certificate program and have taken a course since September 2012 (five years).
- Students will be given a period of 18 months to complete the program. Courses will be scheduled to maximize student completion.
- Communication about the closure of the program will be posted on the CCE website, indicating that new applications will be received until February 15, 2018. It will be clearly communicated that the current program will be closing and that students have a window of 18 months from mid-February 2018 to complete all program requirements (18 months is a typical length of time taken for the diploma completion).
- Existing students will be informed of the option of transferring to the proposed new Certificate or Diploma in fall 2018, provided that they meet the new entrance requirements. Transfer of courses already completed in the current program will be facilitated. Students must have completed no more than 50% of the current program in order to be eligible for transfer.

CCE is committed to helping all current students complete either the Addiction Careworker Diploma or Addiction Studies Certificate program, if that is their wish. We are also committed to working with our instructors to maintain good relationships and to garner their support in creating a smooth and professional wind down of the program and transition to the proposed new program.
In summary, CCE wishes to inform the Certificate and Diploma committee of its plan to close the current Addiction Careworker Diploma and Addiction Studies Certificate program in order to initiate our scheduling and communications plan for the new program.

I trust that you will support our decision to approve the closure of the Addiction Careworker Diploma and Addiction Studies Certificate program. We look forward to presenting the proposal for a new Certificate and Diploma program in professional addiction studies.

Sincerely,

Lorraine Carter
Director, Centre for Continuing Education
1 James Street North (OJN), 3rd Floor
January 10, 2018

Senate Committee on Appointments
c/o University Secretariat
Gilmour Hall, Room 210

Re: Establishment of the ISTH-McMaster Chair in Thrombosis and Hemostasis

On behalf of the Faculty of Health Sciences, I would like to recommend the establishment of the ISTH-McMaster Chair in Thrombosis and Hemostasis.

The International Society on Thrombosis and Haemostasis, the Faculty of Health Sciences (via its Department of Medicine) and our colleagues at Hamilton Health Sciences Research Institute have come together to provide funding to permanently support this position. The Chair will provide additional resources to strengthen the University’s research in the fields of thrombosis and hemostasis.

The terms of reference for the Chair are attached.

Yours sincerely,

[Signature]

Paul O’Byrne MB, FRCP(C), FRSC
Dean and Vice-President

Encl.

PO/rl
TERMS OF REFERENCE

ISTH-McMaster Chair in Thrombosis and Hemostasis

General

A transfer of the annual interest on an endowment is being directed to the Faculty of Health Sciences to provide support for the ISTH-McMaster Chair in Thrombosis and Hemostasis. The incumbent will have demonstrated excellence in the areas of thrombosis and hemostasis.

Details and Duties

The holder of the Chair shall be an individual with sufficient educational, research and/or clinical experience.

Specifically, the Chair will:

- Hold a full-time appointment in the Department of Medicine in the Faculty of Health Sciences at McMaster University;
- Be an integral part of the institutional vision towards establishing and maintaining a world-class program in thrombosis and hemostasis that exemplifies the central values of the University, the Department of Medicine and Hamilton Health Sciences;
- Contribute significantly to the body of scholarship in the areas of thrombosis and hemostasis, through teaching, research and/or clinical work at McMaster University;
- Undertake the normal duties of a faculty member in the Faculty of Health Sciences and the Department of Medicine, including participation in the education programs of the Department.

Selection Process

The Dean and Vice-President of the Faculty of Health Sciences will appoint an appropriate ad-hoc selection committee that shall include, at minimum, the Associate Dean, Research, and the Chair of the Department of Medicine. For the initial search, this committee will accept recommendations from a separate search committee, as described in the funding agreement with ISTH. This Committee will forward its recommendation to the Senate Committee on Appointments.

Term

An appointment to the Chair shall be for up to five (5) years, with the understanding that renewal for additional terms is possible.

Acknowledgement

The incumbent will acknowledge that she/he holds the “ISTH-McMaster Chair in Thrombosis and Hemostasis” in all publications, lectures and other activities supported through the fund.

October 2017