



**School of Graduate Studies**

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To : Members of Graduate Council  
From : Christina Bryce  
Assistant Graduate Secretary

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The next meeting of Graduate Council will be held on **Tuesday December 8<sup>th</sup> at 9:30 am via Zoom.**

Listed below are the agenda items for discussion.

Please email [cbryce@mcmaster.ca](mailto:cbryce@mcmaster.ca) if you are unable to attend the meeting.

## **A G E N D A**

- I. Minutes of the meeting of November 17<sup>th</sup>, 2020**
- II. Business arising**
- III. Report from the Vice-Provost and Dean of Graduate Studies**
- IV. Report from the Graduate Associate Deans**
- V. Report from the Associate Registrar and Graduate Secretary**
- VI. Aid and Award Policy Revisions**
- VII. IQAP Policy Revisions**
- VIII. Faculty of Engineering Graduate Curriculum and Policy Committee Report**
- IX. Faculty of Health Sciences Graduate Policy and Curriculum Committee Report**
- X. Faculty of Science Graduate Curriculum, Policy, Admissions and Study Committee Report**
- XI. Covid Curriculum Update - Engineering**

Dr. Doug Welch (Chair), Dr. J. Gillet, Dr. S. Hanna, Dr. M. Horn, Dr. K. Hassanein, Dr. M. Thompson, Dr. A. Hicks, Dr. A. Shi, Dr. S. Raha, Dr. A. Roddick, Dr. M. Stroinska, Dr. L. Chan, Dr. L. Thabane, Dr. J. West-Mays, Dr. W. Farmer, S. Madeiros, Dr. S. Bannerman, Dr. S. Raha, S.K. Dhami, C. Davidson, Dr. D. Mountain, Dr. N. Tan, O. Loertscher, E. Wright, C. Seiler, Dr. M. Parlar, S. Baschiera (Associate Registrar and Graduate Secretary), C. Bryce, (Assistant Graduate Secretary)

Regrets: Dr. S. Brophy, Dr. M. Dion, Ms. V. Lewis

By Invitation: K. Tsang

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#### **I. Minutes of the meeting of October 20<sup>th</sup>, 2020**

It was duly moved and seconded, **'that Graduate Council approve the minutes of the meeting of October 20<sup>th</sup>, 2020.'**

The motion was **carried**.

#### **II. Business arising**

There was no business arising

#### **III. Report from the Vice-Provost and Dean of Graduate Studies**

Dr. Welch reported on the following items:

- Karen Tsang had joined the School of Graduate Studies as Manager of Finance and Administration;
- International student arrival, noting that McMaster's quarantine plan was approved on November 3<sup>rd</sup> and students are finally able to make plans to arrive;
- Study space is available unless there is a lockdown that prevents it;
- OGS and Trillium guidance has not yet been released;
- Comprehensive examinations must be online this year, there are no approvals are being extended to have students come on campus into the same room as an examiner;
- The provincial budget has been released and it includes a push for microcredential;
- Discussion on a delay to the start of the winter term.

Committee members discussed the timing for international student arrivals and guidance around holiday travel. They also discussed the possibility of changes to the timing of McMasters's winter term break.

#### **IV. Report from the Graduate Associate Deans**

Dr. Hanna (Faculty of Health Sciences) reported on the following items:

- Faculty of Health Sciences open house had been held recently;
- Upcoming event with graduate student ambassadors;
- The potential of the extension to the winter break to have serious impacts for the Faculty.

Dr. Thompson (Faculty of Engineering) reported on the following items:

- A successful metric conference run by the Engineering Graduate Student Society;

- Plagiarism checking software implementation with the rollout expected in January.

Dr. Hassanein (Faculty of Business) reported on the following items:

- Healthy application numbers for programs;
- Successful activities supporting online engagement;
- Finalizing five indigenous student scholarships that they hope to roll out in the fall term.

Drs. Hicks, Gillett and Horn had no report.

#### **V. Report from the Associate Registrar and Graduate Secretary**

Ms. Baschiera reported on the following items:

- The university is contemplating a one-card system for all on-campus card requirements;
- Work on a new CRM system;
- A privacy round table;
- Student records management;
- The hope that the first e-form will be active and implemented in January.

#### **VI. Faculty of Social Sciences Graduate Curriculum and Policy Committee Report**

Dr. Gillet presented the items which included the following changes:

- A change in course requirements from Economics to better incorporate their research paper requirement into the program;
- A new work integrated learning stream from Economics, intended to streamline the process for students in their coop option;
- Housekeeping changes to the comprehensive examination areas offered by Sociology to give students more opportunity to delve into knowledge in particular fields and eliminating others not in use;
- New program calendar copy from the recently-approved Master of Public Policy.

It was duly moved and seconded, **'that Graduate Council approve the changes proposed by the Faculty of Social Sciences as described in the documents.'**

The motion was **carried**.

#### **VII. New Awards**

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

The motion was **carried**.

#### **VIII. Senate Ad Hoc Committee for Microcredentials**

Dr. Thompson explained that McMaster is putting together a joint ad hoc committee between Graduate and Undergraduate Council to discuss how to modify the certificates and diploma policy so that microcredentials are a part of it, including an institutional level definition.

There being no other business the meeting was adjourned.

Complete Policy Title

**University Aid and Awards Policy**

Policy Number (if applicable)

Approved by

**Senate**

Date of Most Recent Approval

**TBD**

Date of Original Approval(s)

**April 12, 1989**

Supersedes/Amends Policy dated

**Undergraduate Award Policy, 2007  
Undergraduate and Graduate Awards Policy, 1989**

Responsible Executive

**Senior Associate Registrar, Student Financial  
Aid and Scholarships  
Associate Registrar & Graduate Secretary**

Policy Specific Enquiries

**Office of the Registrar - Student Services  
School of Graduate Studies**

General Policy Enquiries

[Policy \(University Secretariat\)](#)

**DISCLAIMER:**

*If there is a Discrepancy between this electronic policy and the written copy held by the policy owner, the written copy prevails.*

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## TABLE OF CONTENTS

<b>SECTION I: INTRODUCTION.....</b>	<b>1</b>
PREAMBLE .....	1
SCOPE .....	1
PURPOSE .....	1
PRINCIPLES.....	1
POLICY AMENDMENTS AND EXCEPTIONS.....	4
<b>SECTION II: GLOSSARY .....</b>	<b>5</b>
<b>SECTION III: ELIGIBILITY FOR AID AND AWARD PROGRAMS .....</b>	<b>8</b>
APPEAL PROCEDURES .....	9
PRIVACY .....	9
REPORTING REQUIREMENTS.....	9
<b>SECTION IV: ESTABLISHING FUNDS TO SUPPORT AID AND AWARD PROGRAMS .....</b>	<b>11</b>
<b>SECTION V: GUIDELINES FOR WRITING FUND TERMS .....</b>	<b>13</b>
<b>SECTION VI: AMENDING TERMS OF ESTABLISHED FUNDS .....</b>	<b>14</b>
<b>APPENDIX A: COMMONLY USED PHRASES IN FUND TERMS.....</b>	<b>15</b>

## SECTION I: INTRODUCTION

### PREAMBLE

1. McMaster University ~~(the University)~~ supports the financial wellbeing of students in the delivery of aid and award programs. seeks to maximize aid and award funding opportunities for students ensuring equity in competition and consistency in administration. In doing so, the University operates within the University Aid and Awards Policy to provides the framework foundation for ensures equity, consistency, and transparency in the administration of student aid and award programs. its responsibilities to students and donors are met.

### SCOPE

2. The University Aid and Awards is Policy provides the framework through which all University-established aid and award programs must be approved and administered. Established aid and award programs include academic awards, community contribution awards, academic grants, bursaries and work programs.
3. This Policy does not cover apply to aid and awards established outside the University including, but not limited to, those offered by federal and provincial governments, the Tri-Council Agencies and private organizations. This Policy does not cover departmental financial awards. For further information about the administration of these types of awards ~~outside this policy~~, please contact the external organization or the administering department.

This Policy is reviewed every three five years by the Undergraduate Council Awards Committee, Undergraduate Council, and Graduate Council.

### PURPOSE

4. This Policy ~~provides defines~~ the framework through which aid and award programs are established and administered. ~~It and describes the responsibilities and accountabilities~~ guidance and consistency for of ~~members of~~ the University community in the provision of aid and award ~~these~~ programs including:
  - a) principles that govern aid and award programs;
  - b) establishing minimum eligibility requirements; and
  - c) establishing and amending fund terms.

### PRINCIPLES

5. McMaster University aid and award programs encourage and support diversity and inclusivity in the recruitment, retention and recognition of students, including those from equity-seeking groups historically and contemporarily underrepresented.
6. The University offers aid programs to assist students who demonstrate the greatest financial need. Need-based aid may be delivered in the form of bursaries and/or work programs.

7. ~~The University offers~~ award programs ~~to~~ encourage and recognize the achievement of entering, enrolled, and graduating students. University award programs include:
  - a) ~~Academic academic~~ awards which recognize high levels of scholarship, and in some cases other forms of earned merit, in the form of awards and prizes;
  - b) ~~Academic academic~~ grants which recognize high academic achievement and demonstrated financial need; and
  - c) ~~Community community~~ contribution awards, which recognize non-academic achievement, such as service to the University or community at large.
8. The University administers aid and award programs ~~according in accordance with~~ Canadian law, trust law and the [Ontario Human Rights Commission Policy on Scholarships and Awards](#).
9. Undergraduate Council and Graduate Council, on behalf of the Senate, approve the granting of aid and awards, as recommended by the Registrar, and, in the case of School of Medicine administered aid and awards, the Program Manager of the Undergraduate Medical Program.
10. To ensure a ~~an equitable and transparent allocation~~ ~~fair and wide allocation~~ of aid and awards, the Registrar:
  - a) ~~Maintains maintains~~, through an annual review process, the current University Calendars as the primary source of aid and award program information.;
  - b) ~~Updates updates~~ the ~~General Regulations for Aid and Awards of aid and award programs~~ in the University Calendars to confirm the availability of aid and award programs, to define all aid and award program eligibility criteria, and to identify any restrictions on the number and value of awards that a student may receive.;
  - c) ~~Restricts restricts~~ the allocation of aid and awards, to remain compliant with external regulating bodies (e.g. Tri-Council Agencies).;
  - d) ~~Restricts restricts~~ second baccalaureate Undergraduate degree students from receiving any academic award or academic grant, unless the terms of a particular donor award specify eligibility and the student has not received the award previously.;
  - e) ~~Restricts restricts~~ the allocation of aid and awards according to the fund terms imposed by a donor (e.g. higher academic average requirement).;
  - f) ~~May may~~ choose not to grant aid or awards in the absence of a suitable candidate;
  - g) ~~may~~ choose to limit the number of recipients selected where funding is limited;
  - h) ~~may~~ choose to limit the number of recipients selected where too few suitable candidates exist; ~~and/or~~

f) ~~may~~ choose to generate applicant pools for awards by application, where complete applications have not been received.

g) ~~May~~ ~~may~~ revise the terms and stated value and/or suspend the granting of aid and award funds (e.g., donor funds).

h) ~~Will~~ ~~will~~ make aid and award program information widely available to students through the University Calendars, websites and other means, as appropriate.



Will will not violate comply with other University approved by-laws and policies (e.g., [Senate By-Laws](#); [Operational Policy and Procedures for Trust and Endowed Fund Management](#); [Freedom of Information and Protection of Privacy Act](#); [Field Trips, Student Placements and Research Activity Planning and Approval Program](#), etc.).

## POLICY AMENDMENTS AND EXCEPTIONS

11. ~~The University Aid and Awards Policy~~ is reviewed every ~~three~~ five years by the Undergraduate Council Awards Committee and Graduate Council. Recommended amendments must be approved by the Undergraduate Council Awards Committee, Undergraduate Council, Graduate Council, and Senate prior to implementation.
12. The University may amend, from time to time, the general requirements to be met by all recipients of University aid and award programs. This may include, but is not limited to, the attainment of some overall level of scholarships, independent of the terms of an individual award. See ~~the By-Laws Senate~~ [Senate By-Laws \(Article XI, 164, \(f\) and \(g\)\)](#).
13. The University may amend this Policy, as recommended, from time to time, by the Registrar to the Undergraduate Council Awards Committee, Undergraduate Council, Graduate Council, and Senate.

## SECTION II: GLOSSARY

14. For the purpose of interpreting this Policy the following glossary of terms and definitions applies:

<b><u>Aid Program</u></b>	<u>An established framework to allocate funding allocated to students on the basis of demonstrated financial need.</u>
<b><u>Academic Award</u></b>	<u>An award program that recognizes academic excellence and, in some cases, other forms of earned merit. Academic awards are assigned to categories such as <b>Entrance, In-Course, Graduating Student Awards, Travel and Exchange.</b></u>
<b><u>Academic Grants</u></b>	<u>A hybrid of aid and award program funding that recognizes academic excellence and, in some cases, other forms of earned merit, and demonstrated financial need.</u> <u>In-course academic grants are awarded based on academic achievement in degree work completed at the University.</u> <u>Entrance academic grants are awarded to students entering Level 1, based on the academic achievement in the studies which qualified them for admission to their program.</u>
<b><u>Award Program</u></b>	<u>An established framework to <del>Funding</del> allocate funding allocated to students on the basis of academic excellence or earned merit.</u>
<b><u>Bursary</u></b>	<u>An aid program providing Aid funding provided to students in the form of a non-repayable grant. A bursary may include a minimum expectation of academic achievement or other miscellaneous criteria.</u>
<b><u>Community Contribution Awards</u></b>	<u>Non-monetary, non-academic awards, <b>that are</b> allocated <del>on the basis of</del> based on demonstrated qualities of leadership or innovative skills, service to the University or community at large, or outstanding athletic or artistic participation.</u> <u>Recipients of community contribution awards receive letters of recognition.</u>
<b><u>Department Financial Awards</u></b>	<u>Funding that supports students in a manner consistent with the goals of the University.</u> <u>Department Financial Awards, <del>but</del> do not meet all approved regulations through which University-established aid and award programs are administered (e.g. assessment of financial need or merit).</u> <u>Departmental financial awards are administered by designated representatives at the University (e.g. Athletics and Recreation) that have established their own processes for identifying recipients.</u> <u>Financial <del>These types of</del> awards do not have "University" or "McMaster University" in the name of the award and contain words such as "Faculty of xxx Financial Award" or "Department of xxx Financial Award" or "Athletic Financial Award".</u>

Departmental financial awards are not Senate- approved awards and thus are not included on University transcripts, in University Calendars or recognized at University Convocations.

**Equity--Seeking Groups** Equity--seeking groups include Indigenous persons, members of racialized communities, women, and persons with disabilities. Indigenous, Black and Latinx students, students with disabilities, and women in STEM fields are most underrepresented in universities as a consequence of individual bias and systemic barriers.

**Funds** The financial resources supporting aid and award programs. Funds may be directed from operating, research and/or donor gifts (trust funds) for awards, academic grants, bursaries and work programs.

**Fund Terms** The criteria, typically specified by a donor, that a student must meet in order to receive the proceeds of a fund.

**Level** Typically used to dDescribes a student's progression through a School of Medicine, Undergraduate or MBA program. Term count is used to describe graduate student progression through a program. Level may be used in establishing fund terms.

**Prizes** Academic awards, with a monetary value of \$100 or less, and those with no disbursed monetary value (e.g. books, medals, letters of recognition, etc.).

**Registrar** The Office of the Registrar, Aid & Awards in reference to Undergraduate Aid and Award Programs, and the School of Graduate Studies in reference to Graduate Aid and Award Programs.

**Student** Any individual recorded by the University Registrar as enrolled in an educational course of study recognised by the Senate and for whom the University maintains an education record. An individual enrolled in a course or program of study approved by the Senate.

**University Calendars** The current versions of the *Undergraduate Calendar* and *Graduate Calendar*. See <http://academiccalendars.romcmaster.ca> <https://academiccalendars.romcmaster.ca/index.php>

**Work Programs** An aid program providing employment opportunities to students demonstrating financial need.

Part-time opportunities are available during the fall and winter terms, while both part-time and full-time opportunities are available during the summer term.

Students earn at least minimum wage. Work programs provide partial reimbursement of an approved student's salary to employers who hired students into approved work program positions.

~~A hybrid aid and award program for students that recognizes academic excellence and, in some cases, other forms of earned merit, and demonstrated financial need.~~

~~In-course academic grants are awarded based on academic achievement in degree work completed at the University.~~

~~Entrance academic grants are awarded to students entering Level 1, based on the academic achievement in the studies which qualified them for admission to their program.~~

~~The current versions of the *Undergraduate Calendar* and *Graduate Calendar*. See <http://academiccalendars.romcmaster.ca>.~~

~~**Work Programs**An aid program providing on-campus employment opportunities for students. Part-time opportunities are available during the fall and winter terms, while both part-time and full-time opportunities are available during the summer term. Students earn at least minimum wage. Work programs provide partial reimbursement of an approved student's salary to employers who hired students into approved work program positions.~~

## SECTION III: ELIGIBILITY FOR AID AND AWARD PROGRAMS

14.15. This Policy identifies the minimum eligibility requirements for student aid and award programs:

- a) ~~To~~ receive the monetary value of aid and awards, students must be enrolled at the University;
- b) ~~Upon~~ request of the student, and with the express permission of the Registrar, aid and awards may be deferred up to one academic year, unless otherwise specified in the ~~General~~ Regulations for ~~A~~aid and ~~A~~awards programs or in the specific fund terms in the University Calendars;
- c) ~~A~~ student who withdraws, is on approved leave, changes academic load from full to part-time, reduces course load or units, has approved to graduate status or otherwise alters their program of study may be required to forfeit all or part of their funding, per the ~~General~~ Regulations ~~for of the A~~aid and ~~A~~award programs in the University Calendars. The decision to rescind or reduce funding will be made by the Registrar and will consider the ~~General~~ Regulations ~~for of the A~~aid and ~~A~~award programs, the specific terms of the aid/award funding, the circumstances leading to the student's decision (e.g. compassionate grounds), the educational costs already incurred and other relevant information;
- d) ~~If~~ the University concludes, based on reasonable grounds, that an aid or award applicant or recipient has falsified or withheld information as part of an application or misrepresented oneself or achieved academic results through dishonest means (see the *Academic Integrity Policy*) the student may have their application removed from consideration and/or be required to forfeit all or part of their funding and/or be restricted from receiving further funding by the Registrar;
- e) ~~Where~~ selection of an aid or award recipient requires judgment, faculty representatives, and/or department representatives, a Faculty Selection Committee and/or a University-wide Selection Committee may be asked to rank and/or recommend eligible students. The Registrar and, in the case of School of Medicine administered funds, the Program Manager of the Undergraduate Medical Program, will review the returned rankings/recommendations and make the final funding decision. Recipient selections will be made in full compliance with the approved terms of reference;
- f) ~~Allocation~~ of aid is completed according to the ~~General~~ Regulations for Aid and Awards of the aid program in the University Calendars and is dependent on demonstrated financial need;
- g) ~~Financial~~ need must be determined on the basis of one or more of the following:
  - (i) Canadian federal and/or provincial government student aid applications (e.g. OSAP);
  - (ii) U.S. Direct Loans Program Applications;
  - ~~(i)~~(iii) Completion of a standard University Need Profile;
  - ~~(ii)~~(iv) student discussions with designated staff on campus (e.g. ~~Student Loans Officer~~ Student Services Professional, Indigenous Student Counsellor, Case Manager, etc.) who confirm the need for emergency or special consideration funding;
- h) ~~In~~ determining need, and the allocation of University administered funds, the Registrar must also comply with the policies, procedures and guidelines provided by the Ministry of Colleges and Universities

~~(MCU)Advanced Education and Skills Development (MAESD)~~. This includes, but is not limited to, the Ministry's Student Access Guarantee, which mandates the institutional aid obligation (payment amount and deadline date) for a student.;

- i) ~~Allocation-allocation~~ of awards is completed according to the ~~General~~ Regulations for Aid and Awards of the award program in the University Calendars.;
- j) ~~All-all~~ awards must be granted on the basis of one or more of the following:
  - (i) ~~Overall-overall~~ academic performance;
  - (ii) ~~Academic-academic~~ performance in a particular program, course, project or thesis using one or more of the following criteria including, but not limited to, work completed (e.g. essay, project, thesis, placement, research, research potential, etc.), grades, averages or standing;
  - (iii) ~~Achievement-achievement~~ in a skill related to academic studies;
  - (iv) ~~Nonnon~~-academic achievement(s) and/or the display of qualities deemed worthy of consideration;
  - (v) ~~Demonstrated-demonstrated~~ financial need in the case of academic grants (see g above).;
- k) ~~All-all~~ awards have a minimum academic requirement. The minimums are defined in the ~~General~~ Regulations for Aid and Awards of the award program in the University Calendars. Donor funds may have additional academic requirements noted in the University Calendars and/or fund documentation.

## APPEAL PROCEDURES

~~16-16.~~ The University has a responsibility to provide fair and equitable procedures for student appeals relating to aid and award programs. These appeal procedures are outlined in the ~~General~~ Regulations for Aid and Awards in the University Calendars.

## PRIVACY

~~17.~~ The University and its employees and agents will protect personal information and handle records in accordance with the *Freedom of Information and Protection of Privacy Act (FIPPA)*.

~~16-18.~~ Applications for aid and awards, supporting documentation (e.g. transcripts, letters of reference, income tax notices of assessment, student loan entitlements, etc.) and responses to applications shall be held by the Registrar and, in the case of School of Medicine administered aid and awards, the Program Manager of the Undergraduate Medical Program ~~in accordance with the *Freedom of Information and Protection of Privacy Act (FIPPA)*~~.

~~17-19.~~ ~~That Act and McMaster University's Notice of Collection statement shall govern the information~~ When providing information provided to donors and others concerning award recipients, (including publications such as convocation programs and award booklets), the release of such information shall comply with FIPPA and the University's Notice of Collection statement.

## REPORTING REQUIREMENTS

~~18-20.~~ Mandatory annual reporting to the Undergraduate Council Awards Committee, Undergraduate Council and

Graduate Council, include identification of award recipients, aid and award ~~performance summaries~~ summary information and ~~identification-recognition~~ of ~~participating-selection~~ committee members.

## SECTION IV: ESTABLISHING FUNDS TO SUPPORT AID AND AWARD PROGRAMS

49.21. When establishing funds, to support aid and award programs, the Registrar:

- a) ~~Ensures~~ ensures that the fund terms benefit students and are written with a minimum of limiting criteria.
- b) ~~Seeks~~ seeks approval of the fund terms through the Undergraduate Council Awards Committee and Undergraduate Council, or the Graduate Council.
- c) ~~Ensures~~ ensures all necessary approvals are in place prior to publicizing the fund terms, making application forms available, receiving applications, selecting recipients and/or disbursing funds.
- d) ~~Determines~~ determines the manner in which recipients will be selected, for example, ~~mathematically~~ on the basis of calculated financial need or average, ~~or judgmentally, or~~ on the basis of an application or nomination, ensuring processes are equitable, consistent and transparent.
- e) ~~Determines~~ determines whether an application is needed to support the evaluation of non-academic criteria, such as community involvement, recognizing that historically and contemporarily underrepresented students' experiences of bias and barriers affecting numeric grades may be surfaced discovered through opportunities to provide narrative contextual information about their lived experiences, leadership and community service involvements, and both academic accomplishments and potential.-
- f) ~~Where~~ where an application is required, determines the content, deadlines, and supporting documentation requirements to support the evaluation and selection process (e.g. reference letters, curriculum vitae, University transcript, statement of interest, essay, etc.), and provides a rubric with clear and consistent inclusive excellence criteria for assessing the quality and eligibility of candidates.-
- g) ~~Establishes~~ establishes gender and racially representative University-wide Selection Committees, ensuring a minimum of three members, including at least one faculty member, or at the graduate level a minimum of one Associate Dean or the Dean of Graduate Studies, are involved in the selection processes to rank and/or recommend students for University-wide funding where use of judgment is required. Additionally, the Registrar will provide a list of University-wide Selection Committees and participating members to the Undergraduate Council Awards Committee, ~~and~~ Undergraduate Council and Graduate Council on an annual basis.
- h) ~~Oversees~~ oversees the University-wide Selection Committees ensuring the members receive inclusive excellence training to mitigate personal bias and systemic inequities ~~a minimum of three members, including at least one faculty member, are involved in the funding recommendations.~~ If the funding is open to students from more than one career (i.e. students enrolled in Graduate, Medicine, Undergraduate degrees), the Registrar ensures that the committee has representation from each area (i.e. Graduate, Medicine and Undergraduate).
- i) ~~Establishes~~ establishes faculty and department contacts where faculty- or department-specific award adjudication is required. Where faculty, school and/or department nomination is required, a defined equitable, consistent and transparent procedure for securing those nominations from their internal departments will exist and meet the approval of the Faculty Award Chair, or the Program Manager of the



Undergraduate Medical Program for the School of Medicine, or at the graduate level the Faculty Graduate Associate Dean. Where Faculty-specific Selection Committees are involved in the assessment, ranking and/or selection of recipients, a minimum of three members must serve on the selection committee, with the same requirements for diverse representation as in (g) and for training as in (h).

- j) ~~Protects~~protects the University's academic integrity and autonomy as it relates to funding decisions. In no case shall a donor and/or their representatives select, vote or have a veto over the recipients of funding. The final choice of recipients rests solely in hands of McMaster University.
- k) ~~Requires~~requires a minimum donor contribution to support aid and awards. ~~These minimums will~~may be reviewed from time to time by the Undergraduate Council Awards Committee, Undergraduate Council and Graduate Council and adjusted appropriately. With the approval of this Policy~~Currently~~:
- (i) The minimum value to establish an endowed fund that supports University aid and awards is \$~~250,000~~50,000. This commitment, at the current expenditure policy rate of 4%, generates \$~~81000~~1000 annually.
  - (ii) The minimum value to establish a fund that is not endowed that will support University aid and awards is \$3000 (a minimum commitment of \$1000 per year for three years).
  - (iii) The minimum value to establish a fund that is not endowed that will support University aid and awards by application is \$~~759000~~75,900 (a minimum commitment of \$~~253000~~25,300 per year for three years). The minimum value to establish an endowed fund that will support university aid and awards by application is \$~~62,575000~~62,575,000. This commitment, at the current expenditure rate of 4%, generates \$~~253000~~25,300,000 annually.
- l) ~~Undertakes~~undertakes to abide by the terms attached to trust funds received through bequests and gifts, provided that such terms are consistent with this Policy. See also the [Operational Policy and Procedures for Trust and Endowed Fund Management](#).
- m) ~~Includes~~includes only Senate approved awards (i.e. approved through the Undergraduate Council Awards Committee and Undergraduate Council and/or Graduate Council) on University transcripts.
- n) ~~Includes~~includes only Senate approved awards in the University Calendars.
- o) ~~Includes~~includes only Senate approved graduating student ~~and~~ awards in University Convocation publications, and of these, recognizes only the top University and Faculty awards, at University Convocations.
- p) ~~Considers~~considers the potential for emerging gift types that do not meet current University-established aid and award program policy. University Advancement may also recommend to the Registrar, the Undergraduate Awards Committee, Undergraduate Council and Graduate Council that new aid and award programs and/or policies, be established to meet the requirements of emerging gift types.

## SECTION V: GUIDELINES FOR WRITING FUND TERMS

~~20-22.~~ When writing fund terms to support new aid and awards, the following guidelines apply (see Appendix A for further information):

- a) **Name**  
The name could be representative of the donor and the aid or award program (e.g. The McMaster Alumni Association Bursary).
- b) **Descriptive Sentence 1**  
The first sentence typically identifies the year in which the award was established, the donor name(s), degree awarded, class year (e.g. Class of '50 (for 1950) and Class of 2020), or anonymous request, and the reason for its establishment.
- c) **Descriptive Sentence 2**  
The second sentence identifies the specific criteria (need-based, academic and/or other form of earned merit) that must be met by the student for whom the funding is intended. Note: the fund terms should be as broad as possible to ensure administrative sustainability and disbursement of funding as intended.
- d) **Preference Statement**  
The third sentence may confirm a donor's preference (if applicable). "Preference will be given to ..." confirms that attempts will be made to identify a student meeting the donor preference after all conditions specified in the descriptive sentences have been met. ~~For award purposes, this usually means that the award is judgmental in nature. Preference statements are for themay should only be used in funding terms for purpose of a aid programs. Often preference statements require id and For aid purposes, it may means that~~ a student must to self-identify (e.g. "Preference to a sole support parent" requires a student to declare "I am a sole support parent"), to ~~be allocated~~ be considered for particular funding. Preference statements are treated as self-declarations and are not necessarily verified by the Registrar. In the case of bursaries, preference statements typically affect the source of a student's bursary funding, not the amount.  
Note: ~~Pthe preference statements~~ should be as broad as possible to ensure administrative sustainability and disbursement of funding as intended.
- e) **Award Value**  
An initial award value is typically specified for awards and academic grants. The value may be specified as total dollars and duration. Award values may also be non-monetary, as is the case for prizes (e.g. books, medals, etc.) or community contribution awards (e.g. letters of recognition).
- f) **Number of Recipients**  
~~It is preferable that the~~ Wherever possible, a fixed number of ~~intended~~ recipients should not be specified, to allow the Registrar to set the number based on available funding.

~~21-23.~~ ~~It is also preferable that~~ Wherever possible, bursary values should not be specified, to allow the Registrar to set bursary values annually, in accordance with the ~~General Regulations~~ for Aid and Award of the bursary programs.

## SECTION VI: AMENDING TERMS OF ESTABLISHED FUNDS

- ~~22-24.~~ The terms of established funds, supporting aid and awards, represent a formal agreement, whether funded through an operating or research account or donor trust fund. When a donor establishes aid or award funding it takes the form of a trust fund administered by McMaster as trustee. Trust funds hold gifts (donations and bequests) that have been *designated* according to terms and conditions agreed upon by a donor and the University. Trust funds may only be altered in accordance with their original purpose, and generally may only be altered if the original purpose is impossible or impracticable to administer. Superficial changes (such as changes to a name or value of an award) are allowed.
- ~~23-25.~~ ~~Where a~~ Amendment to terms ~~may, however,~~ become necessary, due to changes such as cancellations of courses or programs which have been named in the terms, or when there are no longer eligible students, ~~t-~~ The University may propose to ~~amend the~~ revised terms to carry out the nearest possible original intent of the donor.
- ~~24-26.~~ When aid and awards are no longer available (e.g. operating or research funding no longer exists or a trust fund has been closed) they ~~need to~~ will be discontinued and removed from publications such as the University Calendars.
- ~~25-27.~~ Changes to aid and award fund names and terms, as well as discontinuation of aid and awards funding must be approved through the Undergraduate Council Awards Committee and Undergraduate Council or Graduate Council.
- ~~26-28.~~ Changes to aid and award values are managed by the Registrar based on available funding and the [Operational Policy and Procedures for Trust and Endowed Fund Management](#) and do not require Undergraduate Council Awards Committee and Undergraduate Council or Graduate Council approval. Changes to aid and award values are reported to the Undergraduate Council Awards Committee, Undergraduate Council and Graduate Council for information.

## APPENDIX A: COMMONLY USED PHRASES IN FUND TERMS

### **~~“A student Students who havehas completed enrolled in Level x”~~**

Example: ~~“A student Students who havehas completed enrolled in Level 1”~~ refers to ~~a student~~s who ~~areis~~ enrolled ~~above Level 1~~ in the first year of a program, while ~~“A Sstudent~~s who ~~havehas completed enrolled in Level 2 or above”~~ refers to ~~a student~~s who ~~areis~~ enrolled ~~above Level 2~~ above Level 1. Note: This phrase should not be used where level is not a factor in determining the aid or award recipient, or where student progression is not dependent on level (e.g. Graduate Studies programs).

### **~~“A graduating student” or “sStudents graduating”~~**

refers to ~~a student~~s who ~~areis~~ in their graduating year and will be assessed for an award at the completion of their graduating term. Example - “... to be awarded to ~~a student~~s graduating from an Engineering and Management program.”

### **~~“Students enrolled in any undergraduate degree program...”~~**

This phrase maximizes the pool of undergraduate students who qualify for the funding.

### **~~“A student Students enrolled in a Sociology program...”~~**

allows students in all B.A., Honours and Combined Honours Sociology programs to be considered. Where any undergraduate degree is not possible, the use of major subject This open language is preferred minimizes the risk associated with specific programs no longer being offered.

“ Students enrolled in an Honours program in Sociology...” allows students in both a single Honours program and Combined Honours programs in Sociology to be considered.

“ Students enrolled in Level 3 of the Honours Sociology program...” allows students in Level 3 of the specified Honours program and will not include Combined Honours programs. This is typically as narrow as terms should be written as it increases the unsustainability.

### **~~“StudentsA student currently enrolled in a graduate program in Chemistry...”~~**

allows graduate students enrolled in programs offered by the Department of Chemistry to be considered. This includes both Master’s and Ph.D. students.

“A student Students enrolled in in an Honours program in Sociology...” allows students in both a single Honours program and Combined Honours programs in Sociology to be considered.

“A student Students enrolled in Level 3 of the Honours Sociology program...” allows a students in Level 3 of the specified Honours program and will not include Combined Honours programs. This is typically as narrow as terms should be written. Note: The inclusion in the terms of a program description, rather than a specific program name or course number, is strongly encouraged to avoid a future problems where programs and/or courses are no longer offered.

### **~~“A student Students enrolled registered in the English Ph.D. program...”~~**

allows only students enrolled in the specified Ph.D. program to be considered.

### **~~“To be awarded to a graduate student~~s in the Faculty of Health Sciences. Preference to be given to a graduate students pursuing research in preventative medicine...”**

allows Master’s and Ph.D. students in the Faculty of Health Sciences, who are pursuing research in preventative medicine, to be considered for the award. If the administrator is unable to first identify an eligible student pursuing research in preventative medicine, the award may then be granted to eligible graduate students enrolled in Master’s or

Ph.D. programs in the Faculty of Health Sciences.

**“...based on high averages...”**

confirms the merit-based award considers one or more available averages, including but not limited to cumulative grade point average (gpaGPA), fall-winter average, final admission average, etc.

**~~“Most notable” or “high standing” or “excellence in” or “outstanding academic achievement” or “on the basis of scholarship”~~ does not mean “highest mathematical standing” is not based on a calculated average and must be used in conjunction with “in the judgment of ...”.**

**“In the judgment of ...”**

means that judgment will be used to select ~~a~~ students who haves fulfilled the minimum aid or award program requirements and other criteria as noted in the fund terms. An application process and/or sSelection ~~by~~ committee may be required.

**“Penultimate”**

means the second to last level of a program. Example: “To be awarded to ~~the~~ students who haves completed the penultimate year at the most recent spring review, and who ranks highest in scholarship, leadership and influence.”



## Policies, Procedures and Guidelines

Complete Policy Title:

**Academic Program Development and Review – Policy on**

**Senate**

Date of Original Approval(s):

**May 11, 2011 (effective July 1, 2011)**

Responsible Executive:

**Vice-Provost (Faculty)**

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**Procedures for Undergraduate Program**

**Reviews, 2004,**

**New and Revised Undergraduate Programs**

**Policy, 2009**

**Policy on Steps for Creation of New Graduate**

**Programs or New Fields in Existing Doctoral**

**Programs, 2009**

Enquiries:

[Policy \(University Secretariat\)](#)

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## POLICY ON ACADEMIC PROGRAM DEVELOPMENT AND REVIEW

### Table of Contents

1. PREAMBLE .....	5
2. CONTACT .....	5
3. PURPOSE .....	6
4. DEFINITION OF NEW PROGRAMS .....	6
5. NEW GRADUATE AND UNDERGRADUATE PROGRAMS .....	6
5.1 Beginning a New Program Proposal .....	7
5.2 Broad Consultation .....	7
5.3 New Program Proposal .....	7
5.3.1 Program Overview? .....	8
5.3.2 Admission requirements .....	8
5.3.3 Structure .....	8
5.3.4 Program content, curriculum, and teaching .....	8
5.3.5 Assessment of teaching and learning .....	9
5.3.6 Resources .....	9
5.3.7 Quality and other indicators .....	10
5.4 External Evaluation: Review Team .....	10
5.5 Reviewers' report .....	11
5.6 Internal response .....	11
5.7 Institutional approval .....	12
5.8 Quality Council Secretariat .....	13
5.9 Announcement of new programs .....	13
5.10 Approved new programs .....	13
6. EXPEDITED APPROVALS OF NEW PROGRAMS .....	14
6.1 Expedited Proposal .....	14
7. CYCLICAL PROGRAM REVIEWS .....	14
7.1 Self-study: Internal program perspective .....	15
7.1.1 Program Description and Overview .....	15
7.1.2 Admission requirements .....	15
7.1.3 Curriculum .....	15
7.1.4 Teaching and assessment .....	15
7.1.5 Resources .....	16
7.1.6 Quality indicators .....	16
7.1.7 Quality enhancement .....	16
7.1.8 System of governance .....	16
7.1.9 Academic Services .....	17
7.1.10 Self-Study Participation .....	17
7.1.11 External Participation .....	17

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7.2	External evaluation: Review Team .....	17
7.3	Institutional perspective and report .....	19
7.4	Reporting requirements .....	20
7.5	Use of accreditation and other external reviews in the Institutional Quality Assurance Process.....	20
8.	INSTITUTIONAL IDENTIFICATION OF MAJOR MODIFICATIONS TO EXISTING PROGRAMS.....	20
	APPENDIX A .....	23
	UNDERGRADUATE .....	23





## 1. PREAMBLE

McMaster University is widely recognized for innovation in teaching and learning and for the quality of its programs. Nevertheless, knowledge of our disciplines and the scholarship of teaching and learning are constantly evolving. It is clear that our reputation can only be maintained and improved if we, as academics and educators, critically review what we do and seek the opinion and advice from colleagues at McMaster and at other institutions.

Although the primary objective for these reviews is the improvement of our academic programs, the processes that we adopt ~~is also should be~~ designed to meet our responsibility to the government on quality assurance: Every publicly assisted Ontario university that grants degrees and diplomas is responsible for ensuring the quality of all of its programs of study, including modes of delivering programs and those academic and student services that affect the quality of the respective programs under review, whether or not the program is eligible for government funding.

The process by which institutions meet this accountability to the government is outlined in the Quality Assurance Framework (QAF), developed by the Ontario Council of Academic Vice-Presidents (OCAV) and approved by Executive Heads in April 2010. 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 (COU).

As part of the Quality Assurance Framework, McMaster was required to develop an Institutional Quality Assurance Process (IQAP), which is contained within this Policy. The guiding principles used for developing McMaster's IQAP were:

- curriculum development and improvement is an ongoing, iterative process that is normally initiated, developed and controlled at the departmental level;
- McMaster's IQAP incorporates input from all principal stakeholders; and,
- McMaster's IQAP ~~is should be~~ designed primarily to help improve programs and shape them to have characteristics that are most valued at our University, while also meeting the responsibility for quality assurance.

Thus, 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 at McMaster will emerge in the IQAP self-study.

The IQAP is subject to approval by the Quality Council when it is initiated and thereafter, when it is revised. The Quality Council will audit the University on an 8-year cycle under the terms outlined in the Quality Assurance Framework.

## 2. CONTACT



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The authority responsible for the IQAP is the Vice-Provost (Faculty). The authorities responsible for its application will be the Vice-Provost (Faculty) for undergraduate programs and the Vice-Provost and Dean of Graduate Studies for graduate programs. When undergraduate and graduate programs are reviewed concurrently, the Vice-Provost (Faculty) and the Vice-Provost and Dean of Graduate Studies will be jointly responsible for its application.

The person responsible for all contact between the University and the Quality Council is the Vice-Provost (Faculty).

Throughout this Policy, the Chair refers to the head of the academic unit (usually a Department, sometimes a School or an interdisciplinary group) that is proposing a new program or is responsible for an existing program, although we recognize that the official title of such person varies across programs and Faculties. Similarly, the Dean refers to the head of the Faculty or equivalent responsible for the program, again recognizing that ~~the official titles~~ may vary.

In the case of joint academic programs (e.g., a combined honours program or a collaborative program with another educational institution), the relevant Chair and Dean shall be those at McMaster University who have the administrative responsibility for the program.

### 3. PURPOSE

This Policy on Academic Program Development and Review ~~is meant to guide~~ s the development of new undergraduate and graduate programs (including for-credit graduate diploma programs), and to aid in the ongoing improvement of existing programs. It has been designed also to meet the University's responsibility of ensuring the quality of such programs. It applies to all undergraduate and graduate programs offered at McMaster University, as well as programs offered in collaboration with other institutions that lead to McMaster University degrees or graduate diplomas.

### 4. DEFINITION OF NEW PROGRAMS

A new program is normally considered to be any new degree or degree program that has not been previously offered at McMaster University. In contrast to the normal evolution of academic programs, a new program will generally involve some combination of new courses, new learning outcomes, and new or re-allocated resources, and will be meant to provide students with an academic path that was previously not available to them.

Although not new, a program that has been offered at McMaster University without funding from the Ministry of Colleges and Universities of Advanced Education and Skills Development (MAESD) and for which a request for funding is to be made, will follow the procedures for new programs that are outlined in Section 5.

Examples of what constitutes a 'new program' are included at:  
<http://oucqa.ca/guide/examples-of-new-programs/>

### 5. NEW GRADUATE AND UNDERGRADUATE PROGRAMS



The steps required for the approval of any new program include:

### 5.1 Beginning a New Program Proposal

Proponents of a new program may begin by preparing a Statement of Intent and acquiring endorsement from the relevant Dean(s) and Vice-Provost (Faculty) or, in the case of graduate programs, the Vice-Provost and Dean of Graduate Studies. ~~The Statement of Intent should be circulated to the Registrar's Office.~~

### 5.2 Broad Consultation

The Chair, in consultation with the Dean, is responsible for ensuring that there is broad consultation. It will also be essential to have appropriate discussions with other institutions when the proposed programs are to be offered in collaboration with those institutions.

Whenever faculty members from several departments will be involved in a proposed program, these proponents must have the opportunity to discuss the proposal with their respective Dean(s) and Chair(s). Similarly, if there is a proposal to cross-list a course, or to recommend or require students in the new program to take existing courses, the teaching Department(s) must be consulted and agreement obtained, in writing, from the appropriate Chair/Dean. Approvals of the relevant Curriculum Committees are required.

Discussions ~~are to~~ should be held with central support units such as, but not limited to, the Library, the Registrar, ~~University Technology Services and~~ the MacPherson Institute for Leadership, Innovation and Excellence in Teaching and Learning, ~~and other relevant units Institutional Research, and Analysis, University Student Fees Committee, as well as with Faculty-based support units,~~ to assess the impact of the introduction of the new program. Input also should be sought from relevant groups of students for whom there is a potential impact of the proposal.

Broad consultation is especially important when proposing interdisciplinary programs particularly when the initiators of the proposed plan are unfamiliar with all various disciplines involved in the proposed program or individual faculty members who might potentially be interested or have expertise. A proposal for a new interdisciplinary program must be presented to any related Faculty/Program to ensure that there is widespread awareness of the program and of its potential impact. If a new interdisciplinary program utilizes or cross-lists one or several new courses from other Departments, the Department(s) offering the course(s), rather than the new interdisciplinary group, must submit those courses for approval. Prior written agreement also must be obtained from Chairs of participating Departments for teaching, graduate supervision and other resources required for interdisciplinary programs. Departments must be given adequate time to consider these requests. Faculties must include the proposed administrative and governance structures in interdisciplinary program proposals.

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### 5.3 New Program Proposal



The Chair is responsible, in collaboration with relevant groups and/or individuals, for the preparation of a New Program Proposal. Both the Chair and the Dean, or Dean's delegate, ensure that the proposal has met all of the New Program Proposal criteria outlined below and sign off on the completeness of the proposal. For an interdisciplinary program, all affiliated program Chairs and appropriate Deans, or the Deans' delegates, sign off on the completeness of the proposal.

The criteria for the New Program Proposal is as follows ~~that addresses the following~~ criteria:

#### 5.3.1 Program Overview?

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- Description of the extent and method of the consultation process undertaken during the development of the proposal, including the groups and /or individuals who helped to prepare the proposal.
- Consistency of the program with the University's mission and academic plans.
- Clarity and appropriateness of the program's requirements and the Program Learning Outcomes in meeting the University's Undergraduate Degree Level Expectations (UDLEs) or Graduate Degree Level Expectations (GDLEs), as outlined in Appendix A.
- Appropriateness of degree nomenclature.

#### 5.3.2 Admission requirements

- Appropriateness of the program's admission requirements for the Program Learning Outcomes established for completion of the program.
- Alternative requirements, if any, for admission into the program, such as minimum grade point average, additional languages or portfolios, along with how the program recognizes prior work or learning experience.

#### 5.3.3 Structure

- Appropriateness of the administrative, governance, and communication processes proposed in support of the program.
- Appropriateness of the program's structure and regulations to meet specified Program Learning Outcomes and Degree Level Expectations.
- For graduate programs, a clear rationale for program length, which ensures that the program requirements can be reasonably completed within the proposed time period.

#### 5.3.4 Program content, curriculum, and teaching

- Ways in which the curriculum addresses the current state of the discipline or area of study.
- Identification of any unique curriculum or program innovations or creative components
- Appropriateness of the proposed mode(s) of delivery to meet the intended Program Learning Outcomes and Degree Level Expectations and availability of the necessary physical resources.
- Ways in which the program addresses current institutional, faculty, or departmental priorities (e.g. experiential learning, diversity and inclusion, accessibility, community engagement, entrepreneurship, et cetera).
- Ways in which the program addresses the current Strategic Mandate Agreement.

- 
- For research-focused graduate programs, clear indication of the nature and suitability of the major research requirements for degree completion.
  - For graduate programs, verification that the courses included meet university requirements in terms of the minimum number of courses required, the level of courses required, and the appropriate inclusion of other required elements appropriate for the degree level (e.g., transfer exams, comprehensive exams). At least two thirds of the course requirements must be at the 700-level.

#### 5.3.5 Assessment of teaching and learning

- Appropriateness of the proposed methods for the instruction and assessment of student achievement of the intended Program Learning Outcomes. The Program Learning Outcomes must meet the Degree Level Expectations.
- Completeness of plans for documenting and demonstrating the level of performance of students, consistent with the Degree Level Expectations.

#### 5.3.6 Resources

For all programs:

- Adequacy of the administrative unit's planned utilization of existing human, physical and financial resources, and any institutional commitment to supplement those resources, to support the program.
- Participation of a sufficient number and quality of faculty who are competent to teach and/or supervise in the program.
- Evidence that there are adequate resources to sustain the quality of scholarship produced by undergraduate students as well as graduate students' scholarship and research activities, including library support, information technology support, and laboratory access.

For graduate programs:

- Evidence that full-time tenured/tenure-track/CAWAR faculty have the recent research and/or professional/clinical expertise needed to sustain the program, promote innovation, foster an appropriate intellectual climate, and provide excellent supervision of students in academic and research components of the program.
- Where appropriate to the program, evidence that financial assistance for students will be sufficient to ensure adequate quality and numbers of students.
- For programs with a research component, evidence that faculty research supervisors have current and ongoing research programs and funding, and space and relevant research infrastructure appropriate to support students' research in the program.
- Evidence of how supervisory loads will be distributed, and the qualifications and appointment status of faculty who will provide instruction and supervision.
- Evidence of prior experience in graduate teaching and research supervision for faculty participating in the program.

For undergraduate programs:

- Evidence of plans for adequate numbers of faculty and staff to achieve the goals of the program;
- Evidence of plans to provide the necessary resources in step with the implementation of the

program;

- Planned/anticipated class sizes;
- Provision of supervision of experiential learning opportunities (if required); and,
- Role of adjunct and sessional faculty.

5.3.7 Quality and other indicators

- Definition and use of indicators that provide evidence of quality of the faculty (e.g., qualifications, research, innovation and scholarly record; appropriateness of collective faculty expertise to contribute substantively to the proposed program).
- Evidence of a program structure and faculty research that will ensure the intellectual quality of the student experience.

5.4 External Evaluation: Review Team

The Vice-Provost (Faculty) or, in the case of graduate programs, the Vice-Provost and Dean of Graduate Studies, in consultation with the Dean will select a team of reviewers to assess the proposal. The review team shall consist of at least one external reviewer for new undergraduate programs and two external reviewers for new graduate programs. The team ~~will~~ may also include one internal reviewer selected by the Vice-Provost (Faculty) or, in the case of graduate programs, the Vice-Provost and Dean of Graduate Studies, in consultation with the Dean (or the Dean’s designate). Additional members may be added to the team if appropriate, for instance when evaluating professional programs or interdisciplinary programs.

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External reviews of new program proposals must incorporate a site visit. Site visits are normally conducted on-site, however, exceptions to on-site visits for new undergraduate program reviews are determined by the Vice-Provost (Faculty) or, in the case of new graduate programs, the Vice-Provost and Dean of Graduate Studies, in consultation with the Dean or Dean’s delegate prior to the commencement of the review.

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As appropriate, the Review Team shall meet with the following:

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- Chair or Director;
- Full-time faculty members (in groups);
- Part-time faculty members (in groups);
- Program students (a broad cross section of students are to be invited by the program to participate in a meeting with the review team);
- Departmental/Program support staff;
- Associate Dean;
- Dean;
- for graduate programs, the Vice-Provost and Dean of Graduate Studies;
- for undergraduate programs, the Vice-Provost (Faculty); and,
- Provost and Vice-President (Academic), if available.

External members of the review team shall normally be individuals who are in the same discipline as the program under review (or across disciplines for interdisciplinary programs), shall not normally be from the same institution, and who are distinguished senior academics

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of broad experience, with an established commitment to higher education. Non-traditional programs are permitted to have ~~may consider~~ non-academics with relevant expertise and experience serve as reviewers. Reviewers must have an impartial, arms-length relationship to the program (for clarity, arms-length reviewers should not have been a research supervisor or student of members of the proposed program; and should not have collaborated with members of the proposed program within the past 6 years, or have made plans to collaborate with those

individuals in the immediate future. There also should be no other potential conflicts of interest (e.g., personal or financial). Wherever possible the review team shall represent broad institutional categories and/or geographic regions.

Reviewers will be selected from a list of at least six suggested individuals compiled by the Department and endorsed by the Dean. The list shall include, for each proposed external reviewer:

- name;
- rank and position;
- institution or company and current address, telephone and fax numbers, e-mail address, and URL if available;
- professional (including administrative) experience or expertise relevant to the Program under review;
- details of any previous or current affiliation with the University, and any association with individual members of the Program under review (e.g., co-author, previous student/supervisor, close relationship); and,
- for graduate programs, a description of research expertise, and a partial listing of recent scholarly publications.

The New Program Proposal, the McMaster's Review Team Guidelines and other materials specific to the review will be provided to all members of the review team no less than two weeks prior to their visit.

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#### **5.55.5 Reviewers' report**

Excepting when contrary circumstances apply, the reviewers normally will provide, within four weeks of the review, a joint report that appraises the standards and quality of the proposed program, and addresses the criteria set out in Section 5.3, including the associated faculty and material resources. Reviewers also will be invited to acknowledge any clearly innovative aspects of the proposed program, together with recommendations on any essential or otherwise desirable modifications to the program. The Vice-Provost (Faculty) or, in the case of graduate programs, the Vice-Provost and Dean of Graduate Studies, will review the reviewers' report for completeness.

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#### **5.55.6 Internal response**

Responses to the reviewers' report from both the Chair and the Dean, or their delegates, should be prepared, as per the New Program Response template, and attached to the reviewers' report.

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### 5.65.7 Institutional approval

In addition to the completion of the external review, approval of new program proposals by the following University bodies, normally in the order listed below, is required: The Vice-Provost (Faculty) or, in the case of graduate programs, the Vice-Provost and Dean of Graduate Studies, will review the New Program Proposal to ensure that the program is consistent with McMaster's principles and priorities and existing strengths of the University, the program is of high academic quality; there is convincing evidence of student demand and societal need for the program; and, sufficient financial support, infrastructure, and human resources can be made available to initiate and support the program either within the Faculty budget or based on the program being a full revenue generating program.

- The Faculty Curriculum Committee(s) reviews the New Program Proposal to ensure that the new program adds sufficient value to the programs already offered in the Faculty;
- the Faculty(ies) reviews the New Program Proposal to ensure that the program is consistent with the Faculty's strategic plans and that the necessary resources are available if these are to be provided from within the Faculty's envelope;
- the Executive Director of Finance and Planning reviews the Resource Implications and Financial Viability document to ensure that all potential University resource requirements are captured and the program is properly costed. In addition, for interdisciplinary or partnership programs, ensures that an MOU is properly completed.
- for Undergraduate programs, the Undergraduate Council Curriculum Committee reviews the New Program Proposal to assess the impact of the new program on students enrolled in other Faculties;
- the University Student Fees Committee reviews the proposed Program and Supplementary Fees and ensures that Ministry and University fee policies are adhered to, are reasonable relative to market and that fee collection can be properly administered within existing systems.
- Undergraduate Council or Graduate Council reviews the New Program Proposal to provide a venue for a broad discussion on the new program by elected faculty and student members with specific knowledge of and expertise in undergraduate or graduate programming, and ensure that the program is consistent with University-wide goals and criteria specifically related to undergraduate or graduate programming;
- University Planning Committee reviews the New Program Proposal and the Resource Implications and Financial Viability documents to understand the financial implications of the new program, evaluate the impact University-wide, and assess value-for-money for the intended student; and,

#### SITE VISIT??

- Senate ensures that the program is consistent with the University's general strategic plans with respect to academic programs.

These bodies should consider the criteria outlined in Section 5.3 when evaluating the proposal.

The Normally, approvals by all of the above University bodies will take place before the



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~~external review will take place prior to approval by Senate. The site visit with external reviewers will take after The Faculty Curriculum Committee(s) and prior to approval at Undergraduate Council or Graduate Council and Senate~~

~~. However, in cases where the external reviewers recommend significant changes to the program proposal, it may have to return to these bodies for re-assessment.~~

Special considerations, such as collaboration agreements or non-standard distribution and full revenue generating programs ~~are to should~~ refer to the [Academic Revenue Generating Activity Policy](#) and other relevant University policies, as ~~applicable may apply~~. If any one of the bodies requires changes to the proposal, those changes may have to be subsequently provided to the other approving bodies for approval, depending on the nature of the changes. ~~Chairs of Departments named in the proposal should be informed by the University Secretariat of the schedule for presentations to Undergraduate Council, University Planning Committee and Senate, and of the decisions of these bodies with regard to the New Program Proposal. The School of Graduate Studies should inform Chairs of the schedule of presentations to Graduate Council, and of the decisions of this body with regards to the new program proposal.~~

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### 5.55.8 Quality Council Secretariat

Once all approvals outlined in Section 5.7 are obtained, the institution will submit the New Program Proposal, together with the Reviewers' Report and the internal response to the Report, to the Quality Council Secretariat. The submission template will require information on whether or not the proposed program will be a cost-recovery program. The same standards and protocols apply regardless of the source of funding.

### 5.65.9 Announcement of new programs

Following its submission to the Quality Council, the University may announce, per guidelines within the New Program Proposal Guidebook, its intention to offer the program, provided that clear indication is given that approval by the Quality Council is pending, and that no offers of admission will be made until the program has been approved by the Quality Council. Ministry approval may also be required.

### 5.75.10 Approved new programs

After a new program is submitted to the Quality Council, the University may seek Provincial funding for the program, which must begin within thirty-six months of the date of approval; otherwise, the approval will lapse. If program approval lapses, the program must begin the new program proposal process again.

The first cyclical review for any new program must be conducted ~~no more than~~ no more than within? eight years after the date of the program's initial enrolment.

Between eighteen and twenty-four months after onset of the program, the Chair will provide the Dean and Vice-Provost (Faculty) or, in the case of graduate programs, the Vice-Provost and Dean of Graduate studies, with a brief update on progress in the program, addressing any concerns from the initial program review, and highlighting any

unanticipated changes in curriculum, resources, enrollment, funding mechanisms, or governance structure. If, after consultation with the Dean, the Vice-Provost (Faculty) or, in the case of graduate programs, the Vice-Provost and Dean of Graduate Studies, deems

it appropriate, an informal internal assessment of the program may be undertaken, including interviews with current faculty, students, and staff, to determine if a more complete, early cyclical review is warranted.

## 6. EXPEDITED APPROVALS OF NEW PROGRAMS

The Protocol for Expedited Approvals applies when one or more of the following applies:

- an institution requests endorsement of the Quality Council to declare a new Field or to revise Fields in a graduate program (note: there is no requirement to declare fields in either master's or doctoral programs);
- there is a proposal for a new collaborative specialization;
- there are proposals for new for-credit graduate diplomas; ~~or,~~  
~~there are major modifications to existing programs, and the University requests approval.~~

The Expedited Approvals process requires all the approvals listed in Section 5.7 and the submission to the Quality Council of a New Program Proposal of the proposed ~~new program change/new~~ program and the rationale for it. It does not require that external reviewers be involved in the approval process and provides for a faster turn-around on decisions by the Quality Council.

### 6.1. Expedited Proposal

The Expedited Proposal will describe the new graduate field, collaborative specialization, or graduate diploma or the significant changes being proposed (including, as appropriate, reference to Program Learning Outcomes, Degree Level Expectations, faculty and resource implications), provide a brief account of the rationale for the changes, and address the evaluation criteria

## 7. CYCLICAL PROGRAM REVIEWS

All academic programs are ~~scheduled to be reviewed on a seven-year cycle and must be reviewed no more than eight years from the previous review.~~ Combined programs do not require review if their constituting programs are reviewed separately. Emphases, Options and Minors do not require review. The list of programs that require review, and the schedule of such reviews, will be maintained by the Vice-Provost (Faculty) in consultation with the Vice-Provost and Dean of Graduate Studies.

Departments can choose to review undergraduate and graduate programs jointly or separately. If the reviews are done jointly, there ~~can~~ ~~must~~ ~~should?~~ ~~Must?~~ be ~~additional sub~~ sections within the report to address different situations that apply to each program. Program reviews can also be done jointly with accreditation reviews, at the discretion of the Chair, in consultation with the Dean (see Section 8.5). Where programs seek to combine previously separate undergraduate and graduate reviews they shall adopt the timeline of the earliest scheduled

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program review. For academic programs delivered in partnership with other educational institutions, the Chair must ensure that representatives from all educational institutions in the partnership are consulted during all key stages of the cyclical review process, including self-study, site visit, implementation and monitoring during the self-study creation and are involved in the site visit.

The review consists of the following steps:

### 7.1 Self-study: Internal program perspective

The Chair is responsible, in collaboration with relevant groups and/or individuals, for preparing a self-study document that is broad-based, reflective, forward-looking and inclusive of critical analysis. ~~It should identify any pertinent information deemed appropriate for inclusion.~~ The self-study must address and document the consistency of the program's learning outcomes with the University's mission and Degree Level Expectations, and how its graduates achieve those outcomes. Both the Chair and the Dean, or the Dean's delegates, ensure that the self-study has met all of the self-study criteria and sign off on the completeness of the self-study. For interdisciplinary programs, all affiliated program Chairs and appropriate Deans, or the Deans' delegates, sign off on the completeness of the self-study.

The self-study ~~should include~~ criteria and quality indicators are as follows, including:

#### 7.1.1 Program Description and Overview

- Program is consistent with the University's mission and academic plans.
- Program requirements and Program Learning Outcomes are clear, appropriate and align with the Degree Level Expectations.

#### 7.1.2 Admission requirements

- Admission requirements are appropriately aligned with the Program Learning Outcomes established for completion of the program.

#### 7.1.3 Curriculum

- How the curriculum reflects the current state of the discipline or area of study.
- Evidence of any significant innovation or creativity in the content and/or delivery of the program relative to other such programs.
- How the mode(s) of delivery are appropriate and effective at meeting the Program Learning Outcomes.
- Ways in which the program addresses current institutional, faculty, or departmental priorities (e.g. experiential learning, diversity and inclusion, accessibility, community engagement, entrepreneurship, et cetera) and the current Strategic Mandate Agreement.

#### 7.1.4 Teaching and assessment

- Methods for assessing student achievement of the defined Program Learning Outcomes and Degree Level Expectations are appropriate and effective.
- Appropriateness and effectiveness of the means of assessment, especially in the

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students' final year of the program, in clearly demonstrating achievement of the Program Learning Outcomes and the Degree Level Expectations.

#### 7.1.5 Resources

- Appropriateness and effectiveness of the academic unit's use of existing human, physical and financial resources in delivering and maintaining the quality of its program(s), in relation to the University's priorities for and constraints on funding, space, and faculty allocation.

#### 7.1.6 Quality indicators

- Information on the quality of the program under review. Standard quality indicators, outlined in the McMaster's Self-Study Guidebook, are available to Chairs from the Office of Institutional Research and Analysis, the Office of the Registrar, the School of Graduate Studies, or from the departments themselves. Chairs will be expected to provide context and commentary on the data. When possible and appropriate, Chairs will also refer to applicable professional standards.

Additional graduate program criteria:

- Evidence that students' time-to-completion is both monitored and managed in relation to the program's defined length and program requirements.
- Quality and availability of graduate supervision.
- Definition and application of indicators that provide evidence of faculty, student and program quality, for example:
  - Faculty: funding, honours and awards, and commitment to student mentoring;
  - Students: grade-level for admission, scholarly output, success rates in provincial and national scholarships, competitions, awards;
  - Program: evidence of a program structure and faculty research that will ensure the intellectual quality of the student experience, and commitment to development of professional and transferable skills; evidence of sufficient and regular graduate level course offerings to ensure that students will be able to meet university requirements in terms of the minimum number of courses required, the level of courses required, and the timely completion of other required elements appropriate for the degree level (e.g., transfer exams, comprehensive exams).

#### 7.1.7 Quality enhancement

- Concerns and recommendations raised in previous reviews;
- Initiatives that have been undertaken to enhance the teaching, learning and/or research environments thus, the quality of the program, and how these will be sustained.
- Areas identified through the conduct of the self-study as requiring improvement;
- Areas that hold promise for continued enhancement.

#### 7.1.8 System of governance

- Evidence that a consultative and inclusive system of governance has been used on an ongoing basis to assess the program and implement changes as appropriate.



### 7.1.9 Academic Services

- Academic services that directly contribute to the academic quality of each program under review.

### 7.1.10 Self-Study Participation

- Participation of program faculty, staff, and students in the self-study and how their views were obtained and taken into account, and who contributed to the development and writing of the self-study.

### 7.1.11 External Participation

- The input of others deemed by the Chair to be relevant and useful, such as graduates of the program, representatives of industry, the professions, practical training programs, and employers is to be included in the self-study ~~may also be included.~~

~~It is the Chair's responsibility to review and approve the self-study report to ensure that it meets the above criteria.~~

## 7.2 External evaluation: Review Team

The Vice-Provost (Faculty) or, in the case of graduate programs, the Vice-Provost and Dean of Graduate Studies, in consultation with the Dean (or the Dean's designate), will select a team of reviewers to evaluate the program. The Review Team shall consist of at least one external reviewer for undergraduate programs and two external reviewers for either graduate programs or for concurrent reviews of undergraduate and graduate programs. If appropriate, additional members are to be added to the review team, such as when evaluating professional programs or interdisciplinary programs. ~~The team will also include one internal reviewer selected by the Vice-Provost (Faculty) or, in the case of graduate programs, the Vice-Provost and Dean of Graduate Studies, in consultation with the Dean (or the Dean's designate). Additional members may be added to the team if appropriate, such as when evaluating professional programs or interdisciplinary programs.~~

External members of the review team normally shall be individuals in the same discipline as the Program under review (or across disciplines for interdisciplinary programs) who are distinguished senior academics of broad experience, with an established commitment to higher education. Non-traditional programs are permitted to have non-academics with relevant expertise and experience serve as reviewers with the approval of the Vice-Provost (Faculty) or, in the case of graduate programs, the Vice-Provost and Dean of Graduate Studies. ~~Non-traditional programs may consider non-academics with relevant expertise and experience.~~ They must have an impartial, arms-length relationship to the Program (as defined in Section 5.4). Wherever possible the review team shall represent broad institutional categories and/or geographic regions. They will be selected from a list of at least six suggested individuals compiled by the Program/Department under review and endorsed by the Dean. The list shall include, for each proposed external reviewer:

- name;
- rank and position;
- institution or company and current address, telephone and fax numbers, and e-mail address, and URL if available;

- professional (including administrative) experience or expertise relevant to the Program under review;
- details of any previous or current affiliation with the University, and any association with individual members of the Program under review (e.g., co-author, previous student/supervisor, close relationship); and,
- for graduate program or combined reviews, a description of research expertise, and a partial listing of recent scholarly publications.

Cyclical Program Reviews must incorporate a site visit. Site visits are normally conducted on-site, however, exceptions to on-site visits for undergraduate program reviews are determined by the Vice-Provost (Faculty) or, in the case of graduate programs, the Vice-Provost and Dean of Graduate Studies, in consultation with the Dean or Dean's delegate prior to the commencement of the review.

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The Self-Study, the Guidelines for Review Team, and other materials specific to the current review will be provided to all members of the Review Team no less than two weeks prior to their visit. If applicable, the results of the previous accreditation review also will be made available to the Review Team to provide them with the views of the relevant professional association(s). The Guidelines for Review Team describes the review process and the roles and obligations of the Review Team, which include:

- to identify and comment on the program's notably strong and creative attributes;
- to describe the program's respective strengths, areas for improvement, and opportunities for enhancement;
- to recommend specific steps to be taken to improve the program, distinguishing between those the program can itself take with existing resources and those that require external action;
- to recognize the University's autonomy to determine priorities for funding, space, and faculty allocation; and,
- to respect the confidentiality required for all aspects of the review process

~~It is required that all reviewers visit at the same time, normally for two days. It is required that all reviewers visit at the same time, normally for two days.~~

As appropriate, the Review Team shall meet with the following:

- Chair or Director;
- Full-time faculty members (in groups);
- Part-time faculty members (in groups);
- Program students (~~units should encourage~~ a broad cross section of students are to be invited by the program to participate in a meeting with the review team);
- Departmental/Program support staff;
- Associate Dean;
- Dean;
- for graduate programs, the Vice-Provost and Dean of Graduate Studies;
- for undergraduate programs, the Vice-Provost (Faculty); and,
- Provost and Vice-President (Academic), if available.

The Review Team will submit to the Vice-Provost (Faculty), or, in the case of graduate programs, the Vice-Provost and Dean of Graduate Studies, a joint report, including an Executive Summary, for the program(s) under review, normally within four weeks of the visit. The report will normally be written primarily by the external reviewer(s), and then sent to the internal reviewer for their review and comment. The Review Team's report is to~~should~~ address the substance of both the self-study report and the evaluation criteria set out in Section 7.1. The intent of these reports is to be formative and constructive. The reports are intended to provide counsel rather than prescriptive courses of action. The Vice-Provost (Faculty) or, in the case of graduate programs, the Vice-Provost and Dean of Graduate Studies, will review the Review Team's report for completeness and The Vice-Provost (Faculty), or, in the case of graduate programs, the Vice-Provost and Dean of Graduate Studies, will circulate the it~~Review Team's report~~ to the appropriate Chairs and Deans.

Responses to the reviewers' report from both the Chair and the Dean, or the Dean's ~~if~~ delegates, is ~~should be~~ prepared, as per the Program Response template, and attached to the reviewers' report.

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### 7.3 Institutional perspective and report

All program reviews, including the self-study, reviewer's report, and responses from the chair and dean, will be submitted to McMaster's Quality Assurance Committee, a joint committee of Undergraduate and Graduate Councils. The Quality Assurance Committee will assess the review and will submit a Final Assessment Report to Undergraduate Council or Graduate Council that:

- 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;
- may include a confidential section (e.g., where personnel issues can~~may~~ be addressed);
- may include additional recommendations or comments to the Provost and Vice-President (Academic). Recommendations could include, for example, requiring a detailed progress report that will describe progress towards addressing major concerns or scheduling an additional cyclical review sooner than specified by the normal 8-year cycle.

The Final Assessment Report from the Quality Assurance Committee along with any recommendations or comments is sent to the program and presented to Undergraduate Council or Graduate Council, as appropriate, and then to Senate. These governing bodies will consider if additional recommendations or comments are necessary. If so, these recommendations or comments will receive the Final Assessment Report from the Quality Assurance Committee will be presented and will consider whether it will provide its own recommendations or comments to the Provost and Vice-President (Academic). These will be communicated to the Chair, the Dean and the Vice-Provost (Faculty) or, in the case of graduate programs, to the Vice-Provost and Dean of Graduate Studies.

A report from the Quality Assurance Committee, along with any recommendations or





~~comments, presented first to the University Planning Committee and then to Senate, which will consider whether they will make additional recommendations or comments to the Provost and Vice President (Academic). These will be communicated to the Chair, the Dean and the Vice Provost (Faculty) or, in the case of graduate programs, to the Vice Provost and Dean of Graduate Studies.~~

Eighteen months after receiving the report from Undergraduate Council or Graduate Council, ~~the Dean will meet with~~ the Chair ~~will~~ submit ~~for a process report an update~~ on the program ~~to the Dean~~. The Dean will ~~provide commentary and response to the progress report and~~ submit ~~the~~a progress report ~~along with their commentary~~ to the Quality Assurance Committee summarizing the status of any actions taken or being taken. The Quality Assurance Committee ~~may~~, in some circumstances, ~~will request follow up reporting on specific components if not satisfactorily addressed in 18 month report. The Quality Assurance Committee will choose to~~ present progress reports to Undergraduate Council or Graduate Council, ~~if deemed necessary by the Chairs of the Quality Assurance Committee.~~

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#### 7.4 Reporting requirements

The Final Assessment Reports will be posted on the Provost and Vice-President (Academic) section of the University’s website and copies of this information will be provided to the Quality Council.

#### 7.5 Use of accreditation and other external reviews in the Institutional Quality Assurance Process

Programs that periodically undergo accreditation reviews ~~are permitted to~~ ~~may~~ request that the associated accreditation documentation serve in place of an IQAP cyclical review self study. The program chair with support from the Dean of the program will submit a request form and all required supporting documentation to McMaster’s Quality Assurance Committee. When requested by the Dean, ~~or the Dean’s delegate~~, and permitted by the accreditation authorities, the site visit by the external reviewers ~~is permitted to~~ ~~may~~ be performed at the same time or by the same people as the accreditation reviewers.

The Quality Assurance Committee, will review the request and decide if an accreditation review can be substituted in whole or in part for a cyclical review. The program will be notified in writing of the committee’s decision. A record of substitutions or additions, and the grounds on which they were made, will be eligible for audit by the Quality Council.

The Quality Assurance Committee’s decision is only applicable for the cyclical review year related to the request. The remaining steps in the cyclical review will then take place. Programs must participate in all reporting related to the cyclical review. If desired by the program, a request for accreditation substitution must be submitted for every subsequent cyclical review.

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#### ~~6.2.8.~~ **INSTITUTIONAL IDENTIFICATION OF MAJOR MODIFICATIONS TO EXISTING PROGRAMS**



Existing programs can be expected to routinely undergo revisions with the aim of quality enhancement. This includes, for example, the introduction or deletion of courses, major exam structures, change in emphases, options, minors, or mode of delivery. The revisions must be submitted through the normal curriculum approval process outlined in Section 5.7 (excluding the University Planning Committee [and University Fees?](#), unless there are significant resource implications). These revisions will be assessed during the course of the next cyclical review of the program.

Revisions to an existing program will be classified as either a minor or a major modification to the program. In both cases, the program will continue to be subject to a cyclical program review as outlined in Section 7. ~~Major modifications must be reported annually to the Quality Council, as outlined below.~~

Major modifications include the following program changes:

- a) Requirements that differ significantly from those existing at the time of the previous cyclical program review. For undergraduate programs, it would be considered a major modification when more than 30% of the program requirements are being changed from one academic year to the next. For graduate programs, it would be considered a major modification when more than 50% of the program requirements (including requirements such as courses, major exams, and research) are being changed from one year to the next.
- b) Significant changes to the program learning outcomes;
- ~~c) Significant changes lasting more than one academic year to the faculty engaged in delivering the program and/or to the essential physical resources as may occur, for example, where there have been changes to the existing mode(s) of delivery (such as different campus, online delivery and inter-institutional collaboration);~~
- c) The inclusion of a new program of specialization where another with the same degree designation already exists

The addition of a new field to an existing graduate program is considered to be a major modification, but is subject to an Expedited Approval process. The Expedited Approvals process requires all the approvals listed in Section 5.7 and the submission to the Quality Council of major modification report. It does not require that external reviewers be involved in the approval process and provides for a faster turn-around on decisions by the Quality Council.

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Additional eExamples of what constitutes major modifications are included at: <http://oucqa.ca/guide/5-major-modifications-to-existing-programs/>

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Once per year, the MacPherson Institute and School of Graduate Studies consults with the Registrar's Office and prepares a report of major modifications to existing programs and submits the report to the Quality Council.

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There may be ~~however,~~ situations where ~~although the c-the~~ changes to the program meet the definition of a major modification, the changes are of such significance that a more immediate review is desirable. This situation may occur, for example, when ~~re:~~

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- ~~the program's revisions meet the definition of a major modification, as defined in Section 4;~~
- the fundamental objectives of the program change; or,

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• there are significant changes to the faculty engaged in delivering the program and/or to the essential physical resources.

~~The addition of a new field to an existing graduate program is considered to be a major modification, but is subject to an Expedited Approval process. The inclusion of a new program of specialization where another with the same degree designation already exists will normally be considered a major modification.~~

In such cases, the Department, the Faculty, Undergraduate Council or Graduate Council may, if it deems it advisable after consultation with the relevant Dean(s) and Vice-Provost (Faculty) and/or Vice-Provost and Dean of Graduate Studies, initiate a program review and request that the Quality Council review the major modification proposal. Normally, such review will occur through an Expedited Approval Process.

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~~In some cases major modifications may require additional steps in order to be completed. Programs should consult with the Vice Provost (Faculty) for undergraduate programs or the Vice Provost and Dean of Graduate Studies for graduate programs, where appropriate.~~

In situations where it is unclear or where disagreement exists on whether a planned change constitutes a minor modification, a major modification, or a new program, the determination will be made by the Vice-Provost (Faculty) for undergraduate programs or the Vice-Provost and Dean of Graduate Studies for graduate programs, in consultation with McMaster's Quality Assurance Committee, where appropriate. A record of any decision will be kept with McMaster's Quality Assurance Committee.

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**APPENDIX A  
McMASTER UNIVERSITY'S STATEMENT  
ON DEGREE LEVEL EXPECTATIONS**

A McMaster education ~~is~~ should enable students to develop sets of life and learning skills that promote a continuing ability and desire to learn, and a set of technical and professional skills that permit a range of career choices. Degree level expectations elaborate the intellectual and creative development of students and the acquisition of relevant skills that are usually widely, yet implicitly, understood.

McMaster University has adopted the following Undergraduate Degree Level Expectations (UDLEs) or Graduate Degree Level Expectations (GDLEs) that were developed by the Ontario Council of Academic Vice-Presidents and endorsed by the Council of Ontario Universities in December 2005. These degree level expectations are to be viewed as a minimum threshold for all degree programs at McMaster.

**UNDERGRADUATE**

	<b>Baccalaureate/bachelor's degree</b> This degree is awarded to students who have demonstrated the following:	<b>Baccalaureate/bachelor's degree: honours</b> This degree is awarded to students who have demonstrated the following:
1. Depth and breadth of knowledge	<p>a) General knowledge and understanding of many key concepts, methodologies, theoretical approaches and assumptions in a discipline</p> <p>b) Broad understanding of some of the major fields in a discipline, including, where appropriate, from an interdisciplinary perspective, and how the fields may intersect with fields in related disciplines</p> <p>c) Ability to gather, review, evaluate and interpret information relevant to one or more of the major fields in a discipline</p>	<p>a) Developed knowledge and critical understanding of the key concepts, methodologies, current advances, theoretical approaches and assumptions in a discipline overall, as well as in a specialized area of a discipline</p> <p>b) Developed understanding of many of the major fields in a discipline, including, where appropriate, from an interdisciplinary perspective, and how the fields may intersect with fields in related disciplines</p> <p>c) Developed ability to:</p> <p>i) gather, review, evaluate and interpret information; and</p> <p>ii) compare the merits of alternate</p>



	<p>d) Some detailed knowledge in an area of the discipline</p> <p>e) Critical thinking and analytical skills inside and outside the discipline</p> <p>f) Ability to apply learning from one or more areas outside the discipline</p>	<p>hypotheses or creative options, relevant to one or more of the major fields in a discipline</p> <p>d) Developed, detailed knowledge of and experience in research in an area of the discipline</p> <p>e) Developed critical thinking and analytical skills inside and outside the discipline</p> <p>f) Ability to apply learning from one or more areas outside the discipline</p>
2. Knowledge of methodologies	<p>An understanding of methods of enquiry or creative activity, or both, in their primary area of study that enables the student to:</p> <p>a) evaluate the appropriateness of different approaches to solving problems using well established ideas and techniques; and</p> <p>b) devise and sustain arguments or solve problems using these methods.</p>	<p>An understanding of methods of enquiry or creative activity, or both, in their primary area of study that enables the student to:</p> <p>a) evaluate the appropriateness of different approaches to solving problems using well established ideas and techniques;</p> <p>b) devise and sustain arguments or solve problems using these methods; and</p> <p>c) describe and comment upon particular aspects of current research or equivalent advanced scholarship.</p>
3. Application of knowledge	<p>The ability to review, present, and interpret quantitative and qualitative information to:</p> <p>a) develop lines of argument;</p> <p>b) make sound judgments in accordance with the major theories, concepts and methods of the subject(s) of study; and</p>	<p>The ability to review, present and critically evaluate qualitative and quantitative information to:</p> <p>a) develop lines of argument;</p> <p>b) make sound judgments in accordance with the major theories, concepts and methods of the subject(s) of study;</p>

	<p>The ability to use a basic range of established techniques to:</p> <p>a) analyze information;</p> <p>b) evaluate the appropriateness of different approaches to solving problems related to their area(s) of study;</p> <p>c) propose solutions; and</p> <p>d) make use of scholarly reviews and primary sources.</p>	<p>c) apply underlying concepts, principles, and techniques of analysis, both within and outside the discipline;</p> <p>d) where appropriate use this knowledge in the creative process; and</p> <p>The ability to use a range of established techniques to:</p> <p>a) initiate and undertake critical evaluation of arguments, assumptions, abstract concepts and information;</p> <p>b) propose solutions;</p> <p>c) frame appropriate questions for the purpose of solving a problem;</p> <p>d) solve a problem or create a new work; and</p> <p>e) to make critical use of scholarly reviews and primary sources.</p>
<p>4. Communication skills</p>	<p>The ability to communicate accurately and reliably, orally and in writing to a range of audiences.</p>	<p>The ability to communicate information, arguments, and analyses accurately and reliably, orally and in writing to a range of audiences.</p>

5. Awareness of limits of knowledge	An understanding of the limits to their own knowledge and how this might influence their analyses and interpretations.	An understanding of the limits to their own knowledge and ability, and an appreciation of the uncertainty, ambiguity and limits to knowledge and how this might influence analyses and interpretations.
6. Autonomy and professional capacity	<p>Qualities and transferable skills necessary for further study, employment, community involvement and other activities requiring:</p> <p>a) the exercise of personal responsibility and decision-making;</p> <p>b) working effectively with others;</p> <p>c) the ability to identify and address their own learning needs in changing circumstances and to select an appropriate program of further study; and</p> <p>d) behaviour consistent with academic integrity and social responsibility.</p>	<p>Qualities and transferable skills necessary for further study, employment, community involvement and other activities requiring:</p> <p>a) the exercise of initiative, personal responsibility and accountability in both personal and group contexts;</p> <p>b) working effectively with others;</p> <p>c) decision-making in complex contexts;</p> <p>d) the ability to manage their own learning in changing circumstances, both within and outside the discipline and to select an appropriate program of further study;</p> <p>e) and behaviour consistent with academic integrity and social responsibility.</p>

**GRADUATE**

	<p><b>Master's degree</b>                  This degree is awarded to students who have demonstrated the following:</p>	<p><b>Doctoral degree</b>                  This degree extends the skills associated with the Master's degree and is awarded to students who have demonstrated the following:</p>
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<p>1. Depth and breadth of knowledge</p>	<p>A systematic understanding of knowledge, including, where appropriate, relevant knowledge outside the field and/or discipline, and a critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of their academic discipline, field of study, or area of professional practice;</p>	<p>A thorough understanding of a substantial body of knowledge that is at the forefront of their academic discipline or area of professional practice including, where appropriate, relevant knowledge outside the field and/or discipline.</p>
<p>2. Research and scholarship</p>	<p>A conceptual understanding and methodological competence that:</p> <p>a) Enables a working comprehension of how established techniques of research and inquiry are used to create and interpret knowledge in the discipline;</p> <p>b) Enables a critical evaluation of current research and advanced research and scholarship in the discipline or area of professional competence; and</p> <p>c) Enables a treatment of complex issues and judgments based on established principles and techniques; and,</p> <p>On the basis of that competence, has shown at least one of the following:</p>	<p>a) The ability to conceptualize, design, and implement research for the generation of new knowledge, applications, or understanding at the forefront of the discipline, and to adjust the research design or methodology in the light of unforeseen problems;</p> <p>b) The ability to make informed judgments on complex issues in specialist fields, sometimes requiring new methods; and</p> <p>c) The ability to produce original research, or other advanced scholarship, of a quality to satisfy peer review, and to merit publication.</p>

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	<p>a) The development and support of a sustained argument in written form; or</p> <p>b) Originality in the application of knowledge.</p>	
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3. Level of application of knowledge	Competence in the research process by applying an existing body of knowledge in the critical analysis of a new question or of a specific problem or issue in a new setting.	The capacity to:  a) Undertake pure and/or applied research at an advanced level; and  b) Contribute to the development of academic or professional skills, techniques, tools, practices, ideas, theories, approaches, and/or materials.
4. Professional capacity/autonomy	<p>a) The qualities and transferable skills necessary for employment requiring:</p> <ul style="list-style-type: none"> <li>i) The exercise of initiative and of personal responsibility and accountability; and</li> <li>ii) Decision-making in complex situations;</li> </ul> <p>b) The intellectual independence required for continuing professional development;</p> <p>c) The ethical behavior consistent with academic integrity and the use of appropriate guidelines and procedures for responsible conduct of research; and</p> <p>d) The ability to appreciate the broader implications of applying knowledge to particular contexts.</p>	<p>a) The qualities and transferable skills necessary for employment requiring the exercise of personal responsibility and largely autonomous initiative in complex situations;</p> <p>b) The intellectual independence to be academically and professionally engaged and current;</p> <p>c) The ethical behavior consistent with academic integrity and the use of appropriate guidelines and procedures for responsible conduct of research; and</p> <p>d) The ability to evaluate the broader implications of applying knowledge to particular contexts.</p>
5. Level of communications skills	The ability to communicate ideas, issues and conclusions clearly, orally and in writing, to a range of audiences.	The ability to communicate complex and/or ambiguous ideas, issues and conclusions clearly and effectively, orally and in writing, to a range of audiences.

6. Awareness of limits of knowledge	Cognizance of the complexity of knowledge and of the potential contributions of other interpretations, methods, and disciplines.	An appreciation of the limitations of one's own work and discipline, of the complexity of knowledge, and of the potential contributions of other interpretations, methods, and disciplines.
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To : Graduate Council  
From : Christina Bryce  
Assistant Graduate Secretary

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At its meeting on October 29<sup>th</sup> the Faculty of Engineering Graduate Curriculum and Policy Committee approved the following graduate curriculum recommendations.

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

**FOR APPROVAL OF GRADUATE COUNCIL:**

- **Chemical Engineering**
  - **Change to Calendar Copy**
- **Computing and Software**
  - **Change to Comprehensive Examination**
- **Materials Science and Engineering**
  - **Change to Program Requirements and Calendar Copy**
- **School of Engineering Practice and Technology**
  - **Change to Course Requirements**

**FOR INFORMATION OF GRADUATE COUNCIL:**

- **Civil Engineering**
  - 707 Engineering Risk and Reliability
  - 708 Computational & Experimental Methods for Flow in Porous Media
  - 709 Road safety analysis
- **School of Engineering Practice and Technology**
  - **Course Cancellations**
    - SEP 6C03 Statistics for Engineering
    - SEP 707 Communication Technology and Public Policy
  - **Change to Requisites**
    - SEP 755 Business Launch and Development
  - **Change to Course Description**
    - SEP 726 Discrete Manufacturing Processes Part 1
  - **Change to Course Offering**
    - SEP 799 M.Eng. Project in Systems and Technology

- **Chemical Engineering**
  - **New Cross-listed Course**
    - 724 Materials Characterization by Electron/Ion Microscopy
  - **Course Cancellation**
    - 6C03 Statistics for Engineers
  
- **Engineering Physics**
  - **New Course**
    - 6PP3 Plasma Physics Applications
  - **Change in Course Title and Description**
    - 721 Laser and Laser Physics 1
  - **Course Cancellation**
    - 6F03 Advanced Solid State Devices
    - 6L04 Industrial Monitoring and Detection Techniques
    - 719 MEMS Devices: Design, Fabrication, and Applications
    - 720 Advanced Modeling of Semiconductor Device Fabrication
    - 728 Luminescence and Point Defects in Solids
  
- **Mechanical Engineering**
  - **New Course**
    - 6AA3 Aerodynamics
    - 763 Hybrid and Battery Electric Vehicle Powertrain Design and Development



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

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

**DESCRIBE THE EXISTING REQUIREMENT/PROCEDURE:**

This is the current “Chemical Engineering Research Program, M.A.Sc.” | Requirements in the 2020-2021 Graduate Calendar. Bold parts are highlighted for your convenience.

A candidate is required to complete successfully at least three one-term courses, at least two of which should be at the 700-level. One non-technical course at the 600- or 700-level may be selected (upon written approval from the Supervisor) among the three required one-term courses. Students are required to present a thesis, which constitutes an original contribution to chemical engineering. The thesis must be defended in an oral examination. **Completion of the M.A.Sc. thesis typically requires six terms of full-time study.**

An Accelerated Option is available to students currently enrolled at McMaster as undergraduate engineering students in the Departments of Chemical Engineering whereby the M.A.Sc. degree may be **completed in 12-16 months of full-time study**. In exceptional circumstances, students from other Engineering departments in McMaster may apply for entry into the accelerated option by contacting the department’s Associate Chair (Graduate). Application for entry into the Accelerated Option occurs in the penultimate year of undergraduate studies. Applicants must have maintained a minimum CGPA of 9.5 for their undergraduate course work with a sessional average of 10 at the time they are applying for the option. The Accelerated Option requires students to complete at least one term of their research project with a supervisor from the department prior to completion of their undergraduate degree. A one-term 600 level course is required under the Accelerated Option in the final undergraduate year for graduate credit provided it is listed within the department. Entry into the M.A.Sc. program under the Accelerated Option must occur less than one year upon completing one’s undergraduate degree and must meet the same requirements for admissions as other candidates.

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

The “12-16 months” of full time study is out of date. It is a holdover from a prior time when the MaSc was expected to be completed in 20 months. Now the expected time is 24 months. Note that the first paragraph correctly reflects the 24 months=6 terms number.

Based on our current Accelerated Master’s program requirements, a typical student will be able to reduce their MASc time by 4-6 months (4 months for completing a summer research project as an undergrad, plus an optional additional 2 months for continuing that project in the form of our 4Y04 Independent Study course). In extreme cases, a total of 8 months reduced may be permitted by including an additional summer research term. Therefore, “12-16” months should be replaced by “16-20” months.

Actual change recommended:

“...Engineering whereby the M.A.Sc. degree may be completed in ~~12-16~~ **16-20** months of full-time study.”

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

The program is not changing, we are only correcting the description of it.

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

Sept 1 2021

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

No

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

A candidate is required to complete successfully at least three one-term courses, at least two of which should be at the 700-level. One non-technical course at the 600- or 700-level may be selected (upon written approval from the Supervisor) among the three required one-term courses. Students are required to present a thesis, which constitutes an original contribution to chemical engineering. The thesis must be defended in an oral examination. Completion of the M.A.Sc. thesis typically requires six terms of full-time study.

An Accelerated Option is available to students currently enrolled at McMaster as undergraduate engineering students in the Departments of Chemical Engineering whereby the M.A.Sc. degree may be completed in ~~42-46~~16-20 months of full-time study. In exceptional circumstances, students from other Engineering departments in McMaster may apply for entry into the accelerated option by contacting the department's Associate Chair (Graduate). Application for entry into the Accelerated Option occurs in the penultimate year of undergraduate studies. Applicants must have maintained a minimum CGPA of 9.5 for their undergraduate course work with a sessional average of 10 at the time they are applying for the option. The Accelerated Option requires students to complete at least one term of their research project with a supervisor from the department prior to completion of their undergraduate degree. A one-term 600 level course is required under the Accelerated Option in the final undergraduate year for graduate credit provided it is listed within the department. Entry into the M.A.Sc. program under the Accelerated Option must occur less than one year upon completing one's undergraduate degree and must meet the same requirements for admissions as other candidates.

**CONTACT INFORMATION FOR THE RECOMMENDED CHANGE:**

Name: Thomas A. Adams II Email: tadams@mcmaster.ca Extension: 24782 Date submitted: July 30 2020

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

SGS/2013



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

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<b>DEPARTMENT</b>		Computing and Software	
<b>NAME OF PROGRAM and PLAN</b>		Software Engineering Computer Science	
<b>DEGREE</b>	PhD		
<b>NATURE OF RECOMMENDATION (PLEASE CHECK APPROPRIATE BOX)</b>			
Is this change a result of an IQAP review? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
CREATION OF NEW MILESTONE <input type="checkbox"/>			
<b>CHANGE IN ADMISSION REQUIREMENTS</b>	<input type="checkbox"/>	<b>CHANGE IN COMPREHENSIVE EXAMINATION PROCEDURE</b>	<input checked="" type="checkbox"/> <b>CHANGE IN COURSE REQUIREMENTS</b>
<b>CHANGE IN THE DESCRIPTION OF A SECTION IN THE GRADUATE CALENDAR</b>		<b>EXPLAIN:</b>	
<b>OTHER CHANGES</b>	<b>EXPLAIN:</b>		



**DESCRIBE THE EXISTING REQUIREMENT/PROCEDURE:**

Students are required to pass an oral examination consisting of questions for 2 areas. For PhD in SE, the areas are computing fundamental and software engineering. For PhD in CS, the areas are computing fundamental and computer science. Students are given a set of questions with references two weeks ahead of the exam dates. During the exams, each student has 40-min to answer the given questions as well as follow-up questions. The exams are close book, close note. Details of the areas can be found at

[http://www.cas.mcmaster.ca/cas/0files/CS\\_Comprehensive\\_Syllabus\\_2012.pdf](http://www.cas.mcmaster.ca/cas/0files/CS_Comprehensive_Syllabus_2012.pdf)

[http://www.cas.mcmaster.ca/cas/0files/SE\\_Comprehensive\\_Syllabus\\_2012.pdf](http://www.cas.mcmaster.ca/cas/0files/SE_Comprehensive_Syllabus_2012.pdf)

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

The PhD Comprehensive exam Part I aims to assess the PhD student's breadth of knowledge and readiness for research in Computer Science and Software engineering related fields.

An examination committee consisting of the supervisory committee and one chair appointed by the department, should be formed and select a topic area that is related to (same general area) but not the same as the student's thesis topic. Students are given 4 weeks to review the relevant literature of the given topic and provide a report of a maximum of 20 pages (not counting references, in a format like LIPIcs). In their report, the student should also include 1 – 3 open problems and provide justification. An oral examination will be scheduled two weeks after the submission of the report. The oral examination includes an oral presentation by the student of no more than 20 minutes followed by questions from the committee. The examination should not exceed 2 hours. Outcome of the exam can be 1) passed, 2) passed but with some required course work (with optional minimum grade), 3) retake oral part only, within 2 months, 4) retake comprehensive, within 2 months. Students can at most retake the exam once and should complete the exam successfully within the first two years of the program.

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

Due to the diverse topics in each area, students often spend time preparing materials that are not relevant to their research topics. We believe the previous approved revision of course requirements for PhD programs is adequate in ensuring breath of students' knowledge.

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

The new format has been implemented under Dean's approval since January 2020 and the department would like to see its official approval by May 2021.

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

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

**CONTACT INFORMATION FOR THE RECOMMENDED CHANGE:**

Name: Rong Zheng

Email: rzheng

Extension: 22891

Date submitted:

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

SGS/2013

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

<b><u>IMPORTANT: PLEASE READ THE FOLLOWING NOTES BEFORE COMPLETING THIS FORM:</u></b>					
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3. A representative from the department is <b><u>required to attend</u></b> the Faculty Curriculum and Policy Committee meeting during which this recommendation for change in graduate curriculum will be discussed.					
<b>DEPARTMENT</b>	Materials Science and Engineering				
<b>NAME OF PROGRAM and PLAN</b>	Materials Science and Engineering				
<b>DEGREE</b>	M.A.Sc.				
<b>NATURE OF RECOMMENDATION (PLEASE CHECK APPROPRIATE BOX)</b>					
Is this change a result of an IQAP review? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
CREATION OF NEW MILESTONE <input type="checkbox"/>					
<b>CHANGE IN ADMISSION REQUIREMENTS</b>	Yes	<b>CHANGE IN COMPREHENSIVE EXAMINATION PROCEDURE</b>	No	<b>CHANGE IN COURSE REQUIREMENTS</b>	No
<b>CHANGE IN THE DESCRIPTION OF A SECTION IN THE GRADUATE CALENDAR</b>	Yes	<b>EXPLAIN:</b> Section: Requirements, Research Program (M.A.Sc.)			
<b>OTHER CHANGES</b>	No	<b>EXPLAIN:</b>			

**DESCRIBE THE EXISTING REQUIREMENT/PROCEDURE:**

The Accelerated Option requires students to complete at least one term (four months) of their research project with a Supervisor from the Department prior to completion of their undergraduate degree. Successful completion of one-term 600- level half course (3 units) is required in the final undergraduate year for graduate credit (which also counts towards the undergraduate degree course requirements) provided it is listed within the Department.

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

Students will meet with their supervisor and one additional faculty member (Supervisory Committee) annually to assess the progress of their studies and set goals.

Entry into the M.A.Sc. program under the Accelerated Option requires students to complete at least one term (four months) of their research project with a Supervisor from the Department, plus successful completion of MATLS 4KA3 and MATLS 4KB3 [Senior Thesis, tech. elective], and successful completion of one term 600-level half course (3 units) in the final undergraduate year for graduate credit (which also counts towards the undergraduate degree course requirements) provided it is listed within the Department. Or, complete two terms (8 months) of their research project with a Supervisor from the Department, plus successful completion of one term 600-level half course (3 units) in the final undergraduate year for graduate credit (which also counts towards the undergraduate degree course requirements) provided it is listed within the Department.

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

Add yearly supervisory committee meeting for master students to track progress, ensure students are on track, and add consistency.

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

September 2021

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

no

**CONTACT INFORMATION FOR THE RECOMMENDED CHANGE:**

Name: Oleg Rubel      Email: rubelo@mcmaster.ca      Extension: 24094      Date submitted: Sep, 2020

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

## McMaster University

### School of Graduates Studies Calendar,

2020-2021

### Materials Science and Engineering, M.A.Sc.

#### Requirements

##### *Research Program (M.A.Sc.)*

Students are required to successfully complete at least 12 units of course work, which must include the mandatory seminar half course (3 units) MATLS 701. Courses at the 700 level are offered as either a half course (3 units) or a quarter course (1.5 units), whereas courses offered at the 600-level are offered as half courses (3 units). Only one 600- level course is allowed for graduate credit. Only one non-technical half course (3 units) is permitted with written approval from the Supervisor. Students will meet with their Supervisor and one additional faculty member (Supervisory Committee) annually to assess the progress of their studies and set goals. Students are required to present a thesis, which constitutes an original contribution to engineering knowledge. The thesis must be defended in an oral examination, which is a public event. Completion of the M.A.Sc. thesis typically requires six terms (24 months) of full-time study.

Students are also required to complete a career planning exercise within the first three terms (12 months) of full-timefull-time study. Students will participate in a planning session with a career specialist within the Faculty and subsequently produce a report before completion of the first three terms (12 months) of full-timefull-time study. The report must be submitted to the Associate Chair (Graduate).

An Accelerated Option is available to students currently enrolled at McMaster as undergraduate students in the Department of Materials Science and Engineering, whereby the M.A.Sc. degree may be completed in three or four terms (12-16 months) of full-time study. In exceptional circumstances, undergraduate engineering students from another dDepartment may apply for entry into the Accelerated Option by contacting the Associate Chair, {Graduate}. Application for entry into the Accelerated Option occurs in the penultimate year of undergraduate studies. Applicants must have a sessional average of 8.0 at the time they are applying for the option. The Accelerated Option requires students to complete at least one term (four months) of their research project with a Supervisor from the Department prior to completion of their undergraduate degree. Successful completion of one-term 600-level half course (3-units) is required in the final undergraduate year for graduate credit (which also counts towards the undergraduate degree course requirements) provided it is listed within the Department. Entry into the M.A.Sc. program under the Accelerated Option requires students to complete at least one term (four months) of their research project with a Supervisor from the dDepartment, plus successful completion of MATLS 4KA3 and MATLS 4KB3, and successful completion

of one term 600-level half course (3 units) in the final undergraduate year for graduate credit (which also counts towards the undergraduate degree course requirements) provided it is listed within the Department. Alternatively, the student is required to Or, complete two terms (8 months) of their research project with a Supervisor from the Department, plus successful completion of one term 600-level half course (3 units) in the final undergraduate year for graduate credit (which also counts towards the undergraduate degree course requirements) provided it is listed within the Department. Entry into the M.A.Sc. program under the Accelerated Option must occur within one year of completing one's undergraduate degree, providing the applicant ~~and~~ meets the same requirements for admissions as for regular students.

### **Transfer to Ph.D.**

Students wishing to be transferred to the Ph.D. program prior to the completion of the M.A.Sc. ~~aster's~~ degree (see section 2.1.2 of the General Regulations of the Graduate School) must submit a Transfer Report, embodying a statement of progress and achievement in the research to date and a proposal for Ph.D. research. The Transfer Report must be submitted to the Associate Chair, ~~(Graduate)~~ not later than the completion of five terms (20 months) after initial registration in the M.A.Sc. ~~aster's~~ program. Approval to transfer will be determined through a closed (non-public) oral examination in defense of the submitted Transfer Report.

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

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

<b>DEPARTMENT</b>	W Booth School of Engineering Practice and Technology		
<b>NAME OF PROGRAM and PLAN</b>	Master of Engineering in Manufacturing Engineering (MEME)		
<b>DEGREE</b>	Master of Engineering in Manufacturing Engineering (MEME)		
<b>NATURE OF RECOMMENDATION (PLEASE CHECK APPROPRIATE BOX)</b>			
Is this change a result of an IQAP review? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
CREATION OF NEW MILESTONE <input type="checkbox"/>			
<b>CHANGE IN ADMISSION REQUIREMENTS</b>	<input type="checkbox"/>	<b>CHANGE IN COMPREHENSIVE EXAMINATION PROCEDURE</b>	<input type="checkbox"/>
		<b>CHANGE IN COURSE REQUIREMENTS</b>	<input checked="" type="checkbox"/>
<b>CHANGE IN THE DESCRIPTION OF A SECTION IN THE GRADUATE CALENDAR</b>	<input type="checkbox"/>	<b>EXPLAIN:</b>	
<b>OTHER CHANGES</b>	<b>EXPLAIN:</b>		



**DESCRIBE THE EXISTING REQUIREMENT/PROCEDURE:**

CHEMENG 6C03 is currently listed in the calendar as an elective course, but it no longer exists and should be removed.

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

CHEMENG 6C03 is currently listed in the calendar as an elective course, but it no longer exists and should be removed. The Department of Chemical Engineering has already cancelled this course.

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

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

September 2021

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

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

## Courses

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### Discrete Manufacturing Courses:

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Students enrolling in the program can tailor their program of studies according to their career interests. Students can take maximum of 2 half courses (one term courses) at 600 level. Courses can be selected from WBooth SEPT, Chemical, Materials or Mechanical Engineering

departments. Students wishing to take an elective course outside of the recommended electives need to obtain a permission from their program lead.

Students should note that not all courses are offered every year.

**There are 2 pathways towards the degree:**

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There are 2 pathways towards the degree:

- 6 courses (18 units) + project (6 units)
  - 1 professional development course
  - 3 to 4 core courses
  - 1 to 2 elective courses

Students pursuing this option, in addition to taking 6 courses specified above, must register for the project-courses:

- [MANUF 701 / Project, Part I](#)
- [MANUF 701 / Project, Part II](#)

- 8 courses (24 units)
  - 1 to 2 professional development courses
  - 4 to 6 core courses
  - 1 to 3 elective courses

All full-time students must register for the seminar series courses (attendance is mandatory), which are:

- [SEP 771 SEP 771 / W Booth School of Engineering Practice and Technology Practitioner's Forum Part I](#)
- [SEP 771 SEP 771 / W Booth School of Engineering Practice and Technology Practitioner's Forum Part II](#)

(seminar series, full-time students only)

SEP 771 is a seminar series presented by guest speakers, invited by the School, of relevance to all M.Eng. programs at the School. All full-time students are required to take these courses. Course grades are either 'pass' or 'fail'. In order to pass the course the student must attend a minimum of 80% of the seminars.

## Professional Development Courses

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Professional Development courses in M.Eng. of Manufacturing Engineering, are listed below:

- [SEP 6TC3 / Technical Communications](#)
- [SEP 725 / Practical Project Management for Today's Business Environment](#)
- [SEP 773 / Leadership for Innovation](#)
- [SEP 760 / Design Thinking](#)

## Technical Courses

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The following are core courses:

- [MECH ENG 729 / Manufacturing Systems / SEP 729 / Manufacturing Systems](#)
- [CHEM ENG 720 / Lean Six Sigma for Engineers / SEP 731 / Lean Six Sigma for Engineering](#)
- [SEP 726 / Discrete Manufacturing Processes I](#)
- [SEP 727 / Discrete Manufacturing Processes II](#)
- [SEP 757 / Rapid Prototyping MECH ENG 759 / Rapid Prototyping](#)
- [SEP 780 / Advanced Robotics and Automation](#)
- [SEP 6I03 / Sustainable Manufacturing Processes / MATLS 6I03 / Sustainable Manufacturing Processes](#)
- 

Recommended elective courses are:

- [MATLS 6T03 / Properties and Processing of Composites / SEP 6T03 / Properties and Processing of Composites](#)
- [SEP 767 / Multivariate Statistical Methods for Big Data Analysis and Process Improvement](#)
- [SEP 718 / Industrial Automation](#)

## Additional Elective Courses

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Students can select additional elective courses from the following list, provided that the approval has been received prior from their program lead. Note that not all courses are offered every year.

### Chemical Engineering

- [CHEM ENG 6B03 / Polymer Reaction Engineering](#)
- ~~[CHEM ENG 6C03 / Statistics for Engineers](#)~~
- [CHEM ENG 6E03 / Digital Computer Process Control](#)
- [CHEM ENG 6X03 / Polymer Processing](#)
- [CHEM ENG 6Z03 / Interfacial Engineering](#)
- [CHEM ENG 742 / Membrane Based Bioseparations](#)
- [CHEM ENG 752 / Optimization of Chemical Processes](#)
- [CHEM ENG 753 / Systems Modeling and Optimization](#)
- [CHEM ENG 761 / Multivariable, Stochastic and Adaptive Control of Chemical Processes](#)
- [CHEM ENG 764 / Process Control and Design for Operability](#)
- [CHEM ENG 765 / Multivariate Statistical Methods for Big Data Analysis and Process Improvement](#)
- [CHEM ENG 770 / Selected Topics in Polymer Science and Engineering](#)
- [CHEM ENG 773 / Advanced Concepts of Polymer Extrusion](#)
- [CHEM ENG 774 / Advances in Polymeric Materials](#)
- [CHEM ENG 782 / Biopharmaceuticals](#)
- [CHEM ENG 786 / Artificial Intelligence and Machine Learning Fundamentals](#)
- [CHEM ENG 787 / Machine Learning : Classification Models](#)
- [CHEM ENG 788 / Neural Networks and Development Tools](#)
- [CHEM ENG 789 / Deep Learning and Its Applications](#)
- [CHEM ENG 791 / Nanotechnology in Chemical Engineering](#)

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### Materials Science and Engineering

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- [MATLS 6C03 / Modern Iron and Steelmaking](#)
- [MATLS 6D03 / Corrosion](#)
- [MATLS 6H03 / Thin Film Science and Engineering](#)
- [MATLS 6I03 / Sustainable Manufacturing Processes](#)
- [MATLS 6P03 / Properties of Polymeric Materials](#)
- [MATLS 6T03 / Properties and Processing of Composites](#)
- [ENGINEER 6T04 / Materials Selection in Design and Manufacturing](#)
- [MATLS 754 / Fracture Mechanics](#)
- [MATLS 760 / Electronic Materials](#)
- [MATLS 771 / Principles of Heterogeneous Kinetics](#)
- [MATLS 780 / Metallic and Non-metallic Coatings](#)

### Mechanical Engineering

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- [MECH ENG 6B03 / Topics in Product Development](#)

- [MECH ENG 6K03 / Robotics](#)
- [MECH ENG 6L03 / Industrial Design](#)
- [MECH ENG 6Q03 / Mechanical Vibrations](#)
- [MECH ENG 6T03 / Finite Element Applications](#)
- [MECH ENG 6Z03 / CAD/CAM/CAE](#)
- [MECH ENG 702 / Advanced Dynamics of Machines](#)
- [MECH ENG 705 / Advanced Finite Element Analysis](#)
- [MECH ENG 710 / Machine Tool Analysis](#)
- [MECH ENG 714 / Solidification Processing](#)
- [MECH ENG 724 / Solid and Surface Modeling Techniques](#)
- [MECH ENG 728 / Manufacturing Processes I](#)
- [MECH ENG 729 / Manufacturing Systems](#)
- [MECH ENG 734 / Theory of Plasticity](#)
- [MECH ENG 735 / Additive Manufacturing](#)
- [MECH ENG 738 / Manufacturing Processes II](#)
- [MECH ENG 743 / Advanced Mechatronics](#)
- [MECH ENG 751 / Advanced Mechanical Engineering Control Systems](#)
- [MECH ENG 752 / Advanced MEMS Fabrication and Microfluidics](#)
- [MECH ENG 759 / Rapid Prototyping](#)
- [MECH ENG 760 / Electric Drive Vehicles](#)

**A Maximum of two courses can be selected from the following list:**

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**Electrical Engineering**

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- [ECE 710 / Engineering Optimization](#)
  - [ECE 732 / Non-linear Control Systems](#)
  - [ECE 736 / 3D Image Processing and Computer Vision](#)
  - [ECE 744 / System-on-a-Chip \(SOC\) Design and Test: Part I - Methods](#)
  - [ECE 772 / Neural Networks and Learning Machines](#)
  - [ECE 778 / Introduction to Nanotechnology](#)

**Software Engineering**

- 
- [SFWR ENG 6HC3 / The Human Computer Interface](#)

**Computer Science**

- 
- [COMP SCI 6F03 / Distributed Computer Systems](#)

- [COMP SCI 6TE3 / Continuous Optimization](#)

**Computing and Software**

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- [CAS 767 / Information Privacy and Security](#)
- [CAS 771 / Introduction to Big Data Systems and Applications](#)

**School of Engineering Practice and Technology**

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- [SEP 6AS3 / Advanced System Components and Integration](#)
- [SEP 6AT3 / Conceptual Design of Electric and Hybrid Electric Vehicles](#)
- [SEP 6DM3 / Data Mining](#)
- [SEP 735 / ADDITIVE MANUFACTURING](#)
- [SEP 748 / Development of Sustainable Communities](#)
- [SEP 751 / Process Design and Control for Operability](#)
- [SEP 752 / Systems Modeling and Optimization](#)
- [SEP 754 / Process Design and Integration for Minimal Environmental Impact](#)
- [SEP 780 / Advanced Robotics and Automation](#)
- [SEP 771 / W Booth School of Engineering Practice and Technology Practitioner's Forum Part I](#)
- [SEP 771 / W Booth School of Engineering Practice and Technology Practitioner's Forum Part II](#)

**Manufacturing Engineering**

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- [MANUF 6RM3 / Robot Mechanics and Mechatronics](#)
- [MANUF 710 / SYSTEM ANALYSIS SIMULATION](#)

**CONTACT INFORMATION FOR THE RECOMMENDED CHANGE:**

Name: Dr. Vladimir Mahalec Email: mahalec@mcmaster.ca

Date submitted: October 2, 2020

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

SGS/2013

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

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



**DESCRIBE THE EXISTING REQUIREMENT/PROCEDURE:**

SEP 707 is currently a focus elective option.

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

It has been recommended that SEP 707 be removed from the electives list as the course instructor, an industry expert in the field, is no longer available to teach going forward.

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

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

September 2021

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

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

In today's complex world engineers and scientists are called upon to design technical systems that provide goods and services to society in a safe, efficient and environmentally sound manner. In this context, engineers and scientists can serve as key advisors to and take the lead as decision makers in both the public and private sectors. Therefore, engineers and scientists need more than extensive technical skills; they also need an enhanced understanding of public policy and the role of engineering and science in sustainable technological, social, ecological and economic systems.

A professional Master's degree in Engineering and Public Policy (MEPP) is offered within the W Booth School of Engineering Practice and Technology. Engineers and applied scientists from a wide cross-section of organizations who want professional graduate training

will find our program goes well beyond a conventional technical Master's to develop candidates as leaders in the public policy area.

## Admission

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Students must hold an undergraduate degree in STEM or a 4-year non-STEM degree in a public policy-related field including, for example, political science, public policy, public administration or global studies. Applicants must have at least a B- average (equivalent to a McMaster 7.0 GPA out of 12) in the final year in all courses in the discipline, or relating to the discipline, in which the applicant proposes to do graduate work. Applicants will be required to complete an online interview. Professional work experience is desirable but not essential.

Prospective applicants who did not attain the required standing in their undergraduate degree, should discuss their situation with the Associate Director of Graduate Studies in SEPT. If the applicant's experience is deemed sufficient, the Associate Director of Graduate Studies in SEPT will recommend a live interview. Evidence of ability to do graduate work will be required. (See Sections [2.1.1 Admission Requirements](#) for Master's Degree and [2.1.3 Admission of Students with Related Work Experience or Course Work Beyond the Bachelor's Degree](#) in the Graduate Calendar.)

The W Booth School of Engineering Practice and Technology has the following program objectives for the Master's degree in Engineering and Public Policy (MEPP):

- to provide a high quality educational experience to graduate engineers and scientists in the areas of engineering, science and public policy;
- to foster applied research in the areas of engineering, science and public policy through the successful completion and dissemination of a research paper;
- to develop viable, working linkages between engineering, science and fields of study within social sciences and the humanities (public policy, economics, society, and others);
- to produce graduates who will provide inspired leadership in the engineering, science and public policy areas within the public, private and NGO sectors.

Candidates may be enrolled on a full- or part-time basis. Full-time students will complete the degree in twelve consecutive months of study, beginning in September or January. Part-time students will normally be expected to complete the program in 28 months.

McMaster students may receive advanced standing for up to two courses (note that a maximum of two 600-level courses can count towards a SEPT graduate program) with the approval of the Associate Dean of Graduate Studies.

## Curriculum

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The curriculum has the following components:

1. Core courses that provide the content and methodological skills necessary for understanding and analyzing societal issues for which engineering and science can contribute to public policy solutions;
2. Focus elective courses that allow students to deepen their knowledge of a range of engineering, science and social science applications;
3. The completion of a substantive research paper on a problem at the interface of engineering, science and public policy

## **Research Project - Inquiry/Thesis in Engineering and Public Policy**

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Students select a research topic at the interface of engineering, science and public policy which is of interest to them and carries out inquiry-driven research; completes a formal research paper and prepares to publish their results for broad dissemination.

Candidates for the MEPP degree will follow a program consisting of the following:

### **Required Courses**

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Candidates are required to take the following:

- [SEP 701 / Theory and Practice of Policy Analysis: Frameworks and Models](#)
- [SEP 702 / Systems Engineering and Public Policy](#)
- [SEP 709 / Emerging Issues, Technology and Public Policy](#)
- [SEP 773 / Leadership for Innovation](#)
- **OR**
- [SEP 6EL3 / Leading Innovation](#)
- [SEP 704 / Public Policy Research Project](#)
- 

#### **In addition students are required to take**

- [SEP 771 / W Booth School of Engineering Practice and Technology Practitioner's Forum Part I](#)
- (full-time students only)
- [SEP 771 / W Booth School of Engineering Practice and Technology Practitioner's Forum Part II](#)

- (full-time students only)
- [SEP 772 / Innovation Studio](#)

### Focus Elective Courses

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Three half-courses are required for electives. Recommended electives include but are not limited to:

- [SEP 6I03 / Sustainable Manufacturing Processes](#)
- [SEP 6X03 / LIVABLE CITIES, THE BUILT AND NATURAL ENVIRONMENT](#)
- [SEP 705 / Green Engineering, Sustainability and Public Policy](#)
- [SEP 706 / Energy and Public Policy](#)
- ~~[SEP 707 / Communication Technology and Public Policy](#)~~
- [SEP 708 / Special Topics in Engineering and Public Policy](#)
- [SEP 710 / International Governance and Environmental Sustainability](#)
- [POL SCI 784 / Quantitative Political and Policy Analysis](#)
- [POL SCI 785 / Public Sector Management](#)
- [POL SCI 790 / The Politics of Economic Policy in Market Economies](#)

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### Additional Courses

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- Up to two graduate engineering half courses from departments within the Faculty of Engineering
- Other courses in other departments and Faculties with approval of the Associate Director of the Graduate Studies in SEPT.

#### CONTACT INFORMATION FOR THE RECOMMENDED CHANGE:

Name: Dr. Vladimir Mahalec Email: mahalec@mcmaster.ca

Date submitted: October 2, 2020

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

SGS/2013

To : Graduate Council

From : Christina Bryce  
Assistant Graduate Secretary

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At its meetings on October 14<sup>th</sup> and November 18<sup>th</sup>, 2020 the Faculty of Health Sciences Graduate Policy and Curriculum Committee approved the following recommendations.

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

**For Information of Graduate Council**

**1. Biochemistry**

• **New Course**

- i. 733 Biomedical Commercialization and Entrepreneurship

**2. Health Research Methodology**

• **New Courses**

- i. 707 Advanced topics in epidemiology
- ii. 744 Diagnostic Test Accuracy Meta-Analysis

**3. Public Health**

• **New Course**

- i. 715 Advanced topics in epidemiology

**4. Physiotherapy**

• **Course Cancellations**

- i. 713 Research and Evidence-Based Practice
- ii. 722 Community Based Physiotherapy: Clinical Laboratory V

**5. Psychotherapy**

• **New Courses**

- i. 704 Cognitive Behavioural Therapy
- ii. 705 Ethical Standards and Professional Practice
- iii. 720 Mindfulness-Based Psychotherapy

To : Graduate Council

From : Christina Bryce  
Assistant Graduate Secretary

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At its meeting on October 30<sup>th</sup> the Faculty of Science Graduate Curriculum, Policy, Admissions and Study Committee approved the following recommendations.

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

**For Approval of Graduate Council:**

- i. **Math**
  - 1. **Change to Program Requirements**
- ii. **Chemistry**
  - 1. **Change to Program Requirements**

**For Information of Graduate Council:**

- i. **Chemistry**
  - 2. **New Courses**
    - a. 715 Organometallic Chemistry of the Transition Metals, Lanthanides and Actinides
    - b. 762 Conformational Analysis and reaction Mechanisms
  - 3. **Course Cancellations**
    - a. 716 Transition Metal Chemistry
  - 4. **Course Description Updates**
    - a. 703 Numerical Methods and Computational Chemistry
    - b. 708 Analytical Separation Science
    - c. 711 Chemometrics
    - d. 725 Group Theory
    - e. 727 Symmetry, Physical Properties and Electronic Structure of Solids
    - f. 730 X-ray Theory
    - g. 736 X-ray Structure Determination
    - h. 737 Mass spectrometry Instrumentation and Applications
    - i. 760 Principles of Organic Synthesis
    - j. 765 Polymer
    - k. 770 Molecular Electronic Structure Theory
    - l. 784 Physical Chemistry of Materials



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

<b>IMPORTANT: PLEASE READ THE FOLLOWING NOTES BEFORE COMPLETING THIS FORM:</b>			
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<b>DEPARTMENT</b>	Mathematics and Statistics		
<b>NAME OF PROGRAM and PLAN</b>	Ph.D. program in Mathematics		
<b>DEGREE</b>	Ph.D.		
<b>NATURE OF RECOMMENDATION (PLEASE CHECK APPROPRIATE BOX)</b>			
Is this change a result of an IQAP review? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
CREATION OF NEW MILESTONE <input type="checkbox"/>			
<b>CHANGE IN ADMISSION REQUIREMENTS</b>	<input type="checkbox"/>	<b>CHANGE IN COMPREHENSIVE EXAMINATION PROCEDURE</b>	<input checked="" type="checkbox"/>
<b>CHANGE IN THE DESCRIPTION OF A SECTION IN THE GRADUATE CALENDAR</b>		<input checked="" type="checkbox"/>	<b>CHANGE IN COURSE REQUIREMENTS</b>
<b>EXPLAIN:</b>		See below	
<b>OTHER CHANGES</b>	<b>EXPLAIN:</b>		

**DESCRIBE THE EXISTING REQUIREMENT/PROCEDURE:**

The proposed changes aim to rectify a problem where one of the procedures is not compliant with the general regulations of the School of Graduate Studies. Part I of the Ph.D. comprehensive exam, i.e., the written "preliminary" exam, is often taken by Master's students interested in moving on to the Ph.D. program. If they pass this exam, then this requirement is waived once they are in the Ph.D. program. However, the problem is that no part of the comprehensive exam to be waived.

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

The proposed solution is to separate the written preliminary exam from the comprehensive exam and rename it the "qualifying exam". The comprehensive exam will then be reduced to its current Part II, i.e., the oral exam. However, our Ph.D. students will be required to take both the qualifying exam and the comprehensive exam. If they already passed the qualifying exam while in the Master's program (or if they can otherwise demonstrate they possess the required knowledge), this will be recognized as equivalent to passing the Ph.D. qualifying exam. As is the case with the written preliminary exam, the qualifying exam will continue to be offered in January and in May, and Ph.D. students will continue to be required to pass the comprehensive exam before the end of the second year of their studies. Each of the exams can be attempted twice and failing to pass it will result in withdrawal from the program.

In summary, it is proposed to:

- rename Part I of the comprehensive exam (i.e., the "written exam") the "qualifying exam",
- rename Part II of the comprehensive exam (the "oral exam") the "comprehensive exam",
- amend the Ph.D. program requirements to state that doctoral students must pass the qualifying exam and the comprehensive exam in the first and second year of their studies, respectively; if the student passed the qualifying exam before entering the Ph.D. program or if they can otherwise demonstrate they possess the required knowledge, this will be recognized as equivalent to passing the qualifying exam.

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

The proposed change does not affect the form or content of the exams, or when they are offered, but merely renames them in a way to make our existing procedures compliant with the general regulations.

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

September 2021



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

N/A

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

Original text

*All candidates are required to pass the comprehensive exam consisting of a written exam testing breadth of knowledge, and one additional oral exam testing depth of knowledge in the proposed field of study.*

New Proposed text

*All candidates are required to pass the qualifying exam consisting of a written exam testing the breadth of knowledge and the comprehensive exam which is an oral exam testing the depth of knowledge in the proposed field of study. If the student passed the qualifying exam before entering the Ph.D. program or if they can otherwise demonstrate they possess the required knowledge, this will be recognized as equivalent to passing the qualifying exam.*

**CONTACT INFORMATION FOR THE RECOMMENDED CHANGE:**

Name: Dr. Bartosz Protas Email: bprotas@mcmaster.ca Extension: x24116 Date submitted:  
October 2, 2020

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

SGS/2013

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

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

**DESCRIBE THE EXISTING REQUIREMENT/PROCEDURE:**

Students who have satisfactorily completed the requirements for the M.Sc. degree and have made satisfactory progress in their research may apply to the department for transfer to the Ph.D. program, without first satisfying the M.Sc. thesis requirement. The transfer must occur within 22 months of starting the M.Sc. degree. The transfer examination involves the submission and defence of a report detailing the student's research progress and a comprehensive proposal for future research.

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

We want to allow students to transfer from MSc to PhD without first completing all of their coursework and their colloquium. Students are only given the opportunity to complete the colloquium requirement during month 24 (Summer admissions), 20 (for Fall admissions), or 16 (Winter admissions), making early (or even timely) transfers impossible. Furthermore, due to limited course offerings (and many courses not offered every year), it is unrealistic to expect completion of course requirements in their first year. Since completion of the requirements within 2 years is easily achievable (by the very design of the MSc program), we propose to allow for up to 1 year after transfer for completion of those requirements. We will continue not to require completion of the MSc thesis for students who transfer.

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

The change will align calendar language with current practice. The department has been encouraging early transfers from qualifying students, but it is impossible for them to complete the colloquium requirement and all course requirements in less than 20 months due to the way these opportunities are offered to the students. This change will make early transfers practical.

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

2021

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

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

Students **who** have made satisfactory progress in their research may apply to the department for transfer to the Ph.D. program, without first satisfying the M.Sc. thesis requirement. **Students who have not yet completed all of the other requirements (other than the thesis) for the M.Sc. degree must do so within their first year in the PhD program.** The transfer must

occur within 22 months of starting the M.Sc. degree. The transfer examination involves the submission and defence of a report detailing the student's research progress and a comprehensive proposal for future research.

**CONTACT INFORMATION FOR THE RECOMMENDED CHANGE:**

Name: Peter Kruse and Sara Warner  
warnes3@mcmaster.ca    Extension:

Email: [pkruse@mcmaster.ca](mailto:pkruse@mcmaster.ca)  
Date submitted: October 16, 2020

If you have any questions regarding this form, please contact the Assistant Secretary, School of Graduate Studies,  
[cbryce@mcmaster.ca](mailto:cbryce@mcmaster.ca)

SGS/2013

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

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

**DESCRIBE THE EXISTING REQUIREMENT/PROCEDURE:**

The following milestones were in place for students starting Sept 2019 or after.

For MSc in Computer Science & MAsC in Software Engineering

- Departmental seminar attendance Full-time students are required to attend minimum 4 times or 50% per academic year, whichever is lower during the first year of the program.
- Technical presentation Full-time students are required to participate the graduate poster & demo competition once in the first two years of the program.

For PhD in Computer Science and Software Engineering

- Departmental seminar attendance Full-time students are required to attend minimum 4 times or 50% per academic year, whichever is lower during the first two years of the program.
- Technical presentation Students are required to participate the graduate poster & demo competition once in the first two years of the program.

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

Request to defer the implementation of the above graduate milestones to students starting Sept. 2021.

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

Due to Covid-19 and the fact that some students attending classes from a different time zone, it is challenging to implement the two milestones for students starting Sept 2019 or Sept 2020.

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

Immediately.

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

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

**CONTACT INFORMATION FOR THE RECOMMENDED CHANGE:**

Name: Rong Zheng  
2020

Email: rzheng@mcmaster.ca

Extension:

Date submitted: Nov. 25<sup>th</sup>,

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

SGS/2013