McMaster University

SENATE MINUTES

VOL. LXIII

Wednesday, October 11, 2017 at 3:30 p.m.
In the Council Room (111), Gilmour Hall

PRESENT: Dr. Patrick Deane (Chair), Ms Anita Acai, Dr. Catherine Anderson, Dr. Vishwanath Baba, Dr. Rob Baker, Dr. Pamela Baxter, Dr. Lee Beach, Mr. Cam Brandreth, Dr. Ana Campos, Dr. Lorraine Carter, Mr. Andrew Colgoni, Mr. Gary Collins, Dr. Ken Cruikshank, Dr. Nancy Doubleday, Dr. David Earn, Dr. Diane Enns, Dr. Carlos Filipe, Dr. James Gillett, Dr. Meridith Griffin, Dr. Bhagwati Gupta (Acting Vice-Provost and Dean of Graduate Studies), Dr. Sheila Harms, Dr. Jerry Hurley, Dr. Thia Kirubarajan, Dr. Graeme Luke, Dr. Maureen MacDonald, Prof. Judy Major-Girardin, Ms Beth Manganelli Staite, Dr. Anne Niec, Mr. Jim McCaughey, Mr. Sid Nath, Dr. Robert O’Brien, Dr. Paul O’Byrne, Ms Rina Patel, Ms Muffy Phull, Mr. Aaron Roberts, Dr. Stephanie Ross, Dr. Aaron Schat, Dr. Susan Sears Giroux, Dr. Spencer Smith, Dr. Len Waverman, Dr. David Wilkinson, Ms Mary Williams, Ms Christi Garneau (Secretary of the Senate), Susan Welstead (Governance Advisor and Assistant University Secretary)

OBSERVERS: Ms Esme Davies, Dr. Susan Denburg, Ms Andrea Farquhar, Dr. Laura Parker, Ms Melissa Pool, Mr. Sean Van Koughnett, Dr. Gary Warner

BY INVITATION: Dr. David Farrar

REGrets RECEIVED: Ms Leah Allan, Dr. Sandra Carroll, Dr. Philippa Carter, Dr. Narat Charupat, Mr. Jason Chestney, Dr. David Clark, Mr. Roger Couldrey, Dr. Ian Dworkin, Dr. Alison Holloway, Ms Rebecca Jamieson, Dr. Suzanne Labarge, Ms Melissa Paglialunga, Dr. Ishwar Puri, Dr. Victor Satzewich, Dr. Erik Sorensen, Ms Moira Taylor, Dr. Brenda Vrkljan, Dr. Doug Welch

A. OPEN SESSION

OPENING REMARKS

Dr. Deane welcomed the Provost-designate, Dr. David Farrar, to his first Senate meeting, noting that, in addition to his previous experience in the role of Provost at the University of British Columbia from 2007 to 2015, Dr. Farrar had held a variety of administrative appointments, including Vice-Provost (Students) and Deputy-Provost at the University of Toronto, and Vice-President (Finance) and Interim President and Vice-Chancellor at UBC. He was a Professor of Chemistry (and a former Chair of Chemistry at the U of T), and had demonstrated a clear commitment to promoting and supporting research.

Dr. Deane then acknowledged the many contributions of the out-going Provost, Dr. Wilkinson, who, in addition to more than five years of dedication to the top academic
leadership role at McMaster, had served the University as an outstanding Dean of Engineering and as a distinguished researcher. All Senators and observers were invited to attend a farewell event for Dr. Wilkinson on Friday, October 27 in the Great Hall of the University Club.

Dr. Deane then noted that the Hon. Navdeep Bains, Minister of Innovation, Science and Economic Development, had announced that day the short-list of bids moving to phase two of the Innovative Supercluster Initiative. The Ontario Advanced Manufacturing bid, of which McMaster was a part, was short-listed. It was one of nine proposals competing for the $950-million fund made available by the federal government to support high-quality jobs and global competitiveness. The five finalist bids, representative of regional strengths across Canada, would be announced in early 2018.

Locally, Dr. Deane noted, most would be aware that college faculty were initiating a job action in the coming week. This would impact McMaster students in programs involving Mohawk and Conestoga colleges. During this period, all full-time programs on college premises would be suspended, including courses taught by McMaster faculty at college locations. However, all McMaster classes and labs held at the McMaster campus would continue. The University was working closely with the four joint McMaster-college programs to ensure alignment and to minimize disruption to students.

Finally, Dr. Deane pointed out that, following the next Senate meeting (November 8), there would be a reception for Senate members and observers in the Great Hall of the University Club as an opportunity to become better acquainted and also as a gesture of gratitude for their service. Members and observers who had not yet sent an RSVP to the University Secretariat were encouraged to do so.

I APPROVAL OF AGENDA – OPEN SESSION

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

It was duly moved and seconded,

"that the Senate approve the Open Session agenda for the meeting of October 11, 2017 and that items II to IV be approved or received by Consent."

The motion was carried.

CONSENT

II MINUTES

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

Approved by Consent

III COMMUNICATIONS

a. Results of the Fall 2017 Student Elections to Senate (Appendix A)

Senate received this report for information.

IV REPORT FROM THE COMMITTEE ON APPOINTMENTS (Appendix B)

a. Proposal to Establish the Heather M. Arthur Population Health Research Institute / Hamilton Health Sciences Chair in Interprofessional Health Research

Motion:

that the Senate approve, for recommendation to the Board of Governors, the establishment of the Heather M. Arthur Population Health Research Institute / Hamilton Health Sciences Chair in Interprofessional Health Research, with terms of reference as set out in Attachment I of Appendix B

Approved by Consent

b. Proposal to Establish the Homewood Chair in Mental Health and Trauma

Motion:

that the Senate approve, for recommendation to the Board of Governors, the establishment of the Homewood Chair in Mental Health and Trauma, with terms of reference as set out in Attachment II of Appendix B

Approved by Consent

c. Proposal to Establish the DiCenso Professorship in Advanced Practice Nursing

Motion:

that the Senate approve, for recommendation to the Board of Governors, the establishment of the DiCenso Professorship in Advanced Practice Nursing, with terms of reference as set out in Attachment III of Appendix B

Approved by Consent
d. Proposal to Revise the Terms of Reference for Director, Digital Transformation Research Centre

Motion:

that the Senate approve, for recommendation to the Board of Governors, revisions to the terms of reference for the Director, Digital Transformation Research Centre, as set out in Attachment IV of Appendix B

Approved by Consent

V REPORT FROM THE UNIVERSITY PLANNING COMMITTEE (Appendix C)

a. Establishment of a PhD Program in Global Health

Senate received this report for information.

REGULAR

VI BUSINESS ARISING

There was no business arising from the Open Session minutes.

VII ENQUIRIES

There were no enquiries.

VIII COMMUNICATIONS

There were no communications received since the last meeting that were not dealt with elsewhere on the agenda.

IX REPORT FROM THE PROVOST

a. Strategic Mandate Agreement, 2017-20

Dr. Wilkinson provided an update on the current phase of the Strategic Mandate Agreement process, noting that nothing had really changed since he spoke at Senate in September, other than that McMaster’s agreement had been signed off on.

He said that the bulk of the documents submitted would be made public eventually, but was not sure whether the Ministry would take responsibility for that or whether the individual universities would have free rein to post their agreements. He said some sections of the documents would not be public, such as the information about how the universities are differentiating themselves.
He noted that the Ministry continued to encourage the differentiation exercise though there would not be funding associated with it. It was apparently a long-term goal to see the gradual differentiation of the universities.

The next phase of the process would involve targets and metrics, said Dr. Wilkinson. Ontario universities would need to demonstrate their strengths over the next three years.

An important aspect of the currently negotiated portion of the SMAs was increases in the caps for graduate enrolment. McMaster, for example, would have 200 additional spots for graduate students over the next few years, and it was important to fill them so that the University could negotiate to increase them in the future.

A member asked how McMaster’s research intensiveness was portrayed in the SMA -- did McMaster say its long-term goal was just “research excellence,” or was the statement more specific?

Dr. Wilkinson said the University was advised to keep these statements as wide open as possible -- “research excellence in science and engineering” was acceptable to them as a goal.

X REPORTS FROM COUNCILS

a. Graduate Council (Appendix D)

i. Proposal to Establish a PhD Program in Global Health

Dr. Gupta explained that Graduate Council was recommending the establishment of a doctoral program in Global Health, building upon the very successful M.Sc. program in Global Health.

It was duly moved and seconded,

"that the Senate approve the establishment of a PhD Program in Global Health, effective September 2018, as detailed in Appendix D."

A member asked about the Co-Tutelle Policy which was referred to in the document as an appendix, but which Senate did not receive. Dr. Gupta explained that this section just confirmed that students coming from one of the partner institutions in the program would be able to be supervised here at McMaster as per the University’s current policy on such programs.

The member then asked about the job market for graduates. Dr. Andrea Baumann, one of the champions of the program, said there were currently over 100,000 people working in the top six global development agencies alone (the Red Cross, the United Nations, the UN Refugee Agency, the World Bank, the World Food Program and the World Health Organization). Not only were the numbers of positions in these global institutions increasing, but the jobs were
increasingly requiring doctoral degrees. The proposed program would emphasize global health research methods that the doctoral students would use to make original contributions to the academic field of Global Health.

The motion was then voted on and carried.

b. Undergraduate Council

Report #1 (Appendix E)

i. Revisions to the Business Administration Diploma Program
ii. Establishment of a Foundational Educator Enhancement and Enrichment Certificate of Completion and an Advanced Educator Enhancement and Enrichment Certificate of Completion
iii. Establishment of a Crisis and Mental Health Training Certificate of Attendance
iv. Terms of Award: Changes, Additions and Removals
v. 2016 Aid Year Award Summary Report
vi. In-Course, Graduand and Community Contribution Award Summary Report
vii. Major University and External Awards Selection Committee Terms of Reference and Membership
viii. Travel and Exchange Scholarship Reports

Senate received the above-listed reports for information.

Report #2 (Appendix F)

i. Report From the Committee on Programming in the Arts and Science Faculties

Senate received this report for information. Dr. Searls Giroux summarized the recommendations and invited anyone with questions about them to contact her. She explained that the actual policy changes described in the report would come forward for approval piece by piece in the future.

XI REPORT FROM THE EXECUTIVE COMMITTEE (Appendix G)

a. Proposed Policy: Copyright Ownership and a Policy Framework for Licensing Instructional Material

Dr. Wilkinson explained that the University’s existing policy on these matters, “Distribution of Income from the Sale of Instructional Materials,” was extremely out of date, and so he had asked the Vice-Provost (Teaching and Learning) to work with faculty to ensure that the policy surrounding the development of instructional materials was equitable and clear. The University expected to be making investments in digital and electronic resources for future
learning opportunities, and would want to be able to continue using material developed by instructors.

It was duly moved and seconded,

"that the Senate approve, for recommendation to the Board of Governors, the proposed policy ‘Copyright Ownership and a Policy Framework for Licensing Instructional Material,’ as set out in Appendix G."

The motion was carried.

XII OTHER BUSINESS

There was no other business in Open Session.

In Closed Session, Senate:

a. approved the Closed Session portion of the minutes of the meeting of September 13, 2017;

b. approved, on recommendation of the Committee on Appointments, revisions to the composition of a selection committee for an Associate Dean (Academic), Faculty of Science, so that the membership is as follows:

Dr. Maureen Macdonald (Chair) Dean of Science
Dr. Michelle MacDonald Associate Professor, Biochemistry and Biomedical Sciences
Dr. Susan Dudley Associate Professor, Biology
Dr. Paul Harrison Professor, Chemistry and Chemical Biology
Dr. Luc Bernier Assistant Professor, Geography and Earth Sciences
Dr. Sarah Symons Associate Professor, Interdisciplinary Science
Dr. Martin Gibala Professor, Kinesiology
Dr. Nicholas Kevlahan Professor, Mathematics and Statistics
Dr. Kari Dalmoki-Veress Professor, Physics and Astronomy
Dr. Scott Watter Associate Professor, Psychology, Neuroscience and Behaviour
Ms Rita Campbell Senior Academic Advisor, Faculty of Science
Mr. Connor MacLean Undergraduate Student, Integrated Science Program;

c. approved, on recommendation of the Committee on Appointments, revisions to the composition of a selection committee for an Associate Dean of Graduate Studies (Science), so that the membership is as follows:

Dr. Maureen MacDonald, Dean of Science (Co-Chair)
Dr. Doug Welch, Associate Vice-President and Dean of Graduate Studies (Co-Chair)
Dr. Janok Bhattacharya, Professor and Associate Director (Graduate), Geography and Earth Sciences
Dr. Nicholas Kevlahan, Professor and Associate Chair (Graduate), Mathematics and Statistics
Dr. Fiona McNeill, Professor, Physics and Astronomy, and Director, Radiation Sciences and Health and Radiation Physics Interdisciplinary Graduate Programs
Dr. David Emslie, Associate Professor and Associate Chair (Graduate), Chemistry and Chemical Biology
Mr. Ben Pearce, M.Sc. candidate, Astrobiology
Ms Sarah Marzec, PhD candidate, Biology
Ms Tammy Feher, Administrative Co-ordinator, Chemical Biology Graduate Program;

d. approved, on recommendation of the Executive Committee, nominations to fill vacancies on the Committee on Student Affairs and Undergraduate Council;

e. approved, on recommendation of the Committee on Appointments, the following appointments, re-appointments and extensions:

- the Associate Dean, Clinical Services and Commercial Enterprises, Faculty of Health Sciences, for a five-year term, effective July 1, 2017;
- the Acting Associate Dean of Graduate Studies (Science) until December 31, 2017 or until a permanent Associate Dean is appointed, whichever comes first;
- a Chair of the Department of Anesthesia for the period September 1, 2017 to June 30, 2022;
- a Chair of the Department of Chemistry and Chemical Biology for a five-year term, effective July 1, 2017;
- a Chair of the Department of Oncology for the period September 1, 2017 to June 30, 2022;
- a Chair of the Department of Psychiatry and Behavioural Neurosciences for a five-year term, effective July 1, 2017;
- an Acting Chair of the Department of Biochemistry and Biomedical Sciences for the period September 1, 2017 to February 28, 2018;
- a Director of the Centre for Buddhist Studies for a five-year term, effective July 1, 2017;
- a Director of the Digital Transformation Research Centre for a five-year term, effective July 1, 2017;
- the Director of the Institute for Surgical Invention, Innovation and Education for a five-year term, effective July 1, 2015;
- a Director of the Labarge Centre for Mobility in Aging for a five-year term, effective July 1, 2017;
- a Director of the Fraunhofer Project Centre for Biomedical Engineering and Advanced Manufacturing for a five-year term, effective July 1, 2017;
- a Director of the Graduate Diploma in Professional Accountancy Program for a three-year term, effective July 1, 2017;
- a Director of the Master of Finance Program for a three-year term, effective July
1, 2017;
- an Acting Director of the Advanced Control Consortium for the period July 1 to October 31, 2017;
- the Acting Director of the Institute for Transportation and Logistics until October 31, 2017;
- an Acting Director of the School of Computational Science and Engineering for the period July 1, 2017 to June 30, 2018;
- a Farncombe Family Chair in Digestive Health Research for the period July 1, 2017 to June 30, 2019;
- a Homewood Chair in Mental Health and Trauma for a five-year term, effective July 1, 2017;
- an NSERC / General Dynamics Mission Systems-Canada Industrial Research Chair for a five-year term, effective July 1, 2015; and
- a Canada Research Chair nomination and two renewals for the October 2017 competition;

f. received from the Committee on Appointments, for information, the following appointments reports:

- an Assistant Dean of the Midwifery Education Program for a five-year term, effective July 1, 2018;
- a Chair of the Accounting and Financial Management Area, Faculty of Business, for a three-year term, effective July 1, 2017;
- a Chair of the Human Resources and Management Area, Faculty of Business, for the period July 1, 2017 to June 30, 2018;
- an Associate Chair (Graduate) in the Department of Electrical and Computer Engineering for a three-year term, effective July 1, 2018;
- an Acting Associate Director (Graduate) in the School of Geography and Earth Sciences for the period July 1, 2017 to June 30, 2018; and
- an Assistant Director of the Fraunhofer Project Centre for Biomedical Engineering and Advanced Manufacturing for a five-year term, effective July 1, 2017;

g. received, for information, a list of acceptances from candidates who had been offered honorary degrees; and

h. approved, on recommendation of the Committee on Appointments, the compositions of the following selection committees:

Vice-Provost (Faculty)

Chair: Provost Provost and Vice-President (Academic)
Dr. Yufei Yuan Professor, Information Systems Area, Business
Dr. Andrew Mactavish Associate Professor, Communication Studies and Multimedia
Dr. Daniel Machiela Associate Professor, Religious Studies
Dr. Ignacio Vargas-Baca  Associate Professor, Chemistry and Chemical Biology
Dr. Tracy Becker  Assistant Professor, Civil Engineering
Dr. Del Harnish  Associate Dean, Undergraduate Education, Health Sciences
Ms Sehar Arfeen* Undergraduate student, Science
Mr. Richard Piekarczyk-Vacca Undergraduate student, Social Sciences
Mr. Felipe Pedro Gomes  PhD candidate, Chemical Engineering
Ms Tammy Maikawa  Administrator, Social Work
Dr. Doug Welch  Vice-Provost and Dean of Graduate Studies
Dr. Beth Marquis  Associate Director (Research), MacPherson Institute

*subject to willingness to serve (alternate: Mr. Rehoboth Roba Dekamo, Undergraduate student, Engineering);

Vice-Provost (Teaching and Learning)

Chair: Provost  Provost and Vice-President (Academic)
Prof. Mandeepr Malik  Associate Professor, Marketing Area, Business
Dr. David Clark  Professor, English and Cultural Studies
Dr. Philippa Carter  Assistant Professor, Religious Studies
Dr. Maureen MacDonald  Dean of Science
Dr. Ayse Turak  Assistant Professor, Engineering Physics
Dr. Anne Wong  Professor, Anesthesia
Ms Dawn Unwin  Level IV, Indigenous Studies
Ms Gabrielle Mitchell  Undergraduate student, Science
Ms Alison Ross  PhD candidate, Health, Aging and Society
Mr. Gerald Bierling  Instructional Assistant, Sociology
Dr. Lori Goff  Associate Director (Program and Educational Development), MacPherson Institute;

Dean of Engineering

Chair: Provost  Provost and Vice-President (Academic)
Dr. Robert Baker  Vice-President (Research)
Dr. Carlos Filipe  Professor, Chemical Engineering
Dr. Tracy Becker  Assistant Professor, Civil Engineering
Dr. Rong Zheng  Associate Professor, Computing and Software
Dr. Steve Hranilovic  Professor, Electrical and Computer Engineering
Dr. John Preston  Professor, Engineering Physics
Dr. Cheryl Quenneville  Assistant Professor, Mechanical Engineering
Dr. Andre Phillion  Associate Professor, Materials Science and Engineering
Dr. Dan Centea  Assistant Professor, School of Engineering Practice and Technology
Dr. Emad Mohammad  Associate Professor, Director, Integrated Business and Humanities Program
Mr. Mitchell Kurnell  Level V, Engineering Physics
Ms Maryam Badv  PhD candidate, Biomedical Engineering
Ms Arlene Dosen  Director, Outreach and Engagement, Faculty of Engineering; and

University Librarian

Chair: Provost  Provost and Vice-President (Academic)
Dr. Brian Detlor  Associate Professor, Information Systems Area, Business
Dr. Claude Eilers  Associate Professor, Classics
Dr. Michelle Dion  Associate Professor, Political Science
Dr. Sarah Symons  Associate Professor, Interdisciplinary Science
Dr. Kathryn Grandfield  Assistant Professor, Materials Science and Engineering
Mr. Graeme Lavender  Undergraduate student, Humanities
Ms Rachel Weldrick  PhD candidate, Health, Aging and Society
Ms Corinne Jehle  Administrative Assistant, Graduate Program, Sociology
Ms Jennifer McKinnell  Director, Health Sciences Library
Ms Anne Pottier  Associate University Librarian
Mr. Myron Groover  Archives and Rare Books Librarian.
Results of the Fall 2017 Elections to Senate

The following student representatives were elected to Senate in the October 2017 elections. The term of office for each position is indicated.

SENATE

Undergraduate Student Representatives:

Faculty of Business:
Ms Muffy Phull Level IV Honours Commerce July 1, 2017-June 30, 2019

Graduate Student Representatives:

Faculty of Engineering:
No nominations received. July 1, 2017-June 30, 2019

Faculty of Humanities:
Mr. Aaron Roberts Year 1 Ph.D. Philosophy July 1, 2017-June 30, 2018

Faculty of Social Sciences:
Ms Taylor Mackenzie Year 1 M.A. Sociology July 1, 2017-June 30, 2019
REPORT TO SENATE
FROM THE
COMMITTEE ON APPOINTMENTS

Open Session (Consent Agenda)

At its September 18, 2017 meeting, the Committee on Appointments approved the following recommendations and now recommends them to Senate for approval:

a. Proposal to Establish the Heather M. Arthur Population Health Research Institute / Hamilton Health Sciences Chair in Interprofessional Health Research (Attachment I)

b. Proposal to Establish the Homewood Chair in Mental Health and Trauma (Attachment II)

c. Proposal to Establish the DiCenso Professorship in Advanced Practice Nursing (Attachment III)

d. Proposal to Revise the Terms of Reference for Director, Digital Transformation Research Centre (Attachment IV)

Senate: For Approval
October 11, 2017
August 3, 2017

Senate Committee of Appointments
c/o University Secretariat
Gilmour Hall, Room 210

Re: Establishment of the Heather M. Arthur Population Health Research Institute / Hamilton Health Sciences Chair in Inter-Professional Health Research

On behalf of the Faculty of Health Sciences, I would like to recommend the establishment of the Heather M. Arthur Population Health Research Institute / Hamilton Health Sciences Chair in Inter-Professional Health Research.

The Faculty of Health Sciences and our colleagues at Hamilton Health Sciences and the Population Health Research Institute have come together to provide funding to permanently support a Chair at McMaster University in honour of the late Dr. Heather Arthur. The Chair will strengthen the continued development of inter-professional health research at each institution.

The terms of reference for the Chair are attached.

Yours sincerely,

Paul O'Byrne MB, FRCP(C), FRSC
Dean and Vice-President

Encl.

PO/rl
EXHIBIT A - TERMS OF REFERENCE

Heather M. Arthur Population Health Research Institute / Hamilton Health Sciences Chair in Inter-Professional Health Research

GENERAL

A transfer of funds has been directed to the Faculty of Health Sciences to provide support for the Heather M. Arthur Population Health Research Institute / Hamilton Health Sciences Chair in Inter-Professional Health Research. This Chair is created to support the research activity of an individual who has already achieved or has the potential to achieve within 5 years, international leadership in the relevant area of health research. This chair is intended to strengthen the continued development of inter-professional health research in the School of Nursing and PHRI/HHSC. This chair is to be named the “Heather M. Arthur Population Health Research Institute / Hamilton Health Sciences Chair in Inter-Professional Health Research” and the incumbent will have demonstrated excellence in the area of inter-professional health research.

DETAILS AND DUTIES

The holder of the Chair shall be an individual with sufficient research, education and/or clinical experience to lead and expand an inter-professional health research program. Specifically, the Chair-holder will:

- Be an active full-time faculty member in the School of Nursing within the Faculty of Health Sciences at McMaster University, with the opportunity to become a researcher at PHRI at the designation of Scientist or higher;
- Spend at least 50% of his or her time in research;
- Participate in the institutional vision towards establishing and maintaining a world-class program in inter-professional health research which exemplifies the central values of the School of Nursing, McMaster University and PHRI/HHSC;
- Contribute significantly to the body of scholarship in health research with inter-professional teams through research at McMaster University and PHRI/HHSC;
- Develop and supervise PhD or Post-doctoral trainees in the School of Nursing, and across inter-professional teams;
- Undertake the normal duties of a faculty member in the Faculty of Health Sciences, including participation in the education programs of their primary Department.

NOMINATION AND DESIGNATION OF THE CLINICAL RESEARCH CHAIRHOLDER:

The selection and designation of the chair holder will be determined as follows:

- The Dean and Vice-President of the Faculty of Health Sciences will appoint an appropriate ad-hoc selection committee, with recommendations sought from the Executive Committee of the PHRI.
- The Selection Committee shall include, at a minimum, the Associate Dean, Research, the Associate Dean and Director, School of Nursing, the VP Research, HHSC and the Executive Director of the PHRI.
The selection committee will invite and receive nominations for the newly created chair and make recommendations for the appointment to the Dean and Vice-President of the Faculty of Health Sciences.

The Dean and Vice-President will forward the ad hoc selection committee's recommendation to the Senate Committee on Appointments.

CHAIR HOLDER ELIGIBILITY:

- Hold an appointment in the School of Nursing, Faculty of Health Sciences at McMaster University;
- Eligible to hold a Scientist or higher designation at PHRI; hold at least two grants (at least one of which is a peer review grant);
- Have a sustained record of high levels of publication in high impact journals;
- Have supervised and/or mentored PhD or Master's level research students or junior faculty.

TERM:

An appointment to the Heather M. Arthur Population Health Research Institute / Hamilton Health Sciences Chair in Inter-Professional Health Research shall be for up to five (5) years, with the understanding that renewal for additional terms is possible based on satisfactory reviews.

REPORTING, EVALUATION AND RENEWAL OF RESEARCH CHAIRS:

Annual reporting and formal 5 year reviews are required of all Research Chairs. The PHRI Executive Committee, the Associate Dean, Research, and the Associate Dean and Director, School of Nursing, will establish a committee to review the renewal and submit a recommendation for renewal to the Dean and Vice-President of the Faculty of Health Sciences.

ACKNOWLEDGEMENT

The incumbent will acknowledge that she/he holds the "Heather M. Arthur Population Health Research Institute / Hamilton Health Sciences Chair in Inter-Professional Health Research" in all publications, lectures and any other activities supported through the fund and will use this designation on letter heads.

July 2017
September 7, 2017

Senate Committee on Appointments
c/o University Secretariat
Gilmour Hall, Room 210

Re: Establishment of the DiCenzo Professorship in Advanced Practice Nursing

On behalf of the Faculty of Health Sciences, I would like to recommend the establishment of the DiCenzo Professorship in Advanced Practice Nursing.

The Faculty of Health Sciences, the School of Nursing, the VP Research and a private donor have come together to provide funding to permanently support a Professorship at McMaster University in honour of Dr. Alba DiCenzo. Dr. DiCenzo has achieved worldwide recognition for her work in the area of advanced practice nursing.

All parties have agreed to support the securing of additional funding to eventually convert this Professorship to a fully-funded Chair. The position will support scholarship and research in advanced practice nursing within the School of Nursing and the Faculty of Health Sciences.

The terms of reference for the Professorship are attached.

Yours sincerely,

[Signature]

Paul O'Byrne MB, FRCP(C), FRSC
Dean and Vice-President

Encl.

PO/rl
TERMS OF REFERENCE

DiCenso Professorship in Advanced Practice Nursing

General

A transfer of funds has been directed to the Faculty of Health Sciences to provide support for the DiCenso Professorship in Advanced Practice Nursing. The incumbent will have demonstrated excellence in the area of advanced practice nursing research.

Details and Duties

The holder of the Professorship shall be an individual with sufficient research and education experience in advanced practice nursing.

Specifically, the professor will:

- Hold a full-time appointment in the School of Nursing in the Faculty of Health Sciences at McMaster University;
- Be an integral part of the institutional vision towards establishing and maintaining a world-class program in advanced practice nursing which exemplifies the central values of the University and the School of Nursing;
- Contribute significantly to the body of scholarship in the area of advanced practice nursing, through research and teaching at McMaster University;
- Undertake the normal duties of a faculty member in the Faculty of Health Sciences and the School of Nursing, including participation in the education programs of the School.

Selection Process

The Dean and Vice-President of the Faculty of Health Sciences will appoint an appropriate ad-hoc selection committee which shall include, at minimum, the Associate Dean, Research and the Associate Dean (Health Sciences) / Director of the School of Nursing. The Committee will forward its recommendation to the Senate Committee on Appointments.

Term

An appointment to the Professorship shall be for up to five (5) years, with the understanding that renewal for additional terms is possible.

Acknowledgement

The incumbent will acknowledge that she/he holds the “DiCenso Professorship in Advanced Practice Nursing” in all publications, lectures and any other activities supported through the fund.

August 2017
June 21, 2017

Senate Committee of Appointments
c/o University Secretariat
Gilmour Hall, Room 210

Re: Establishment of the Homewood Chair in Mental Health and Trauma

On behalf of the Faculty of Health Sciences, I would like to recommend the establishment of the Homewood Chair in Mental Health and Trauma.

Homewood Research Institute (via St. Joseph’s Healthcare Hamilton) has provided a commitment of annual funding to support this Chair at McMaster. The Chair will contribute significantly to the body of scholarship in the area of mental health and trauma.

The terms of reference for the Chair are attached.

Yours sincerely,

[Signature]

Paul O’Byrne MB, FRCP(C), FRSC
Dean & Vice-President

Encl.

PO/r1
TERMS OF REFERENCE

Homewood Chair in Mental Health and Trauma

General

A transfer of funds has been directed to the Faculty of Health Sciences to provide support for the Homewood Chair in Mental Health and Trauma. The incumbent will have demonstrated excellence in the area of mental health and trauma.

Details and Duties

The holder of the Chair shall be an individual with sufficient research, education and/or clinical experience.

Specifically, the chairholder will:

- Hold a full-time appointment in the Department of Psychiatry and Behavioural Neurosciences in the Faculty of Health Sciences at McMaster University;

- Be an integral part of the institutional vision towards establishing and maintaining a world-class program in mental health and trauma research which exemplifies the central values of the University and the Department of Psychiatry and Behavioural Neurosciences;

- Contribute significantly to the body of scholarship in the area of mental health and trauma, through teaching, research and/or clinical work at McMaster University;

- Undertake the normal duties of a faculty member in the Faculty of Health Sciences and the Department of Psychiatry and Behavioural Neurosciences, including participation in the education programs of the Department;

- Along with the Executive Director of the Homewood Research Institute, co-lead the Homewood-McMaster Trauma Research Network;

- Provide scientific and academic leadership to the Network. This will involve facilitative leadership to nurture a collaborative community of practice;

- Working with other partners, develop a high impact network of leading researchers, evaluators, clinicians and other stakeholders who jointly plan, implement and act on studies that improve practice and outcomes in mental health and addictions, and compete successfully for provincial, national and international grants;

- Engage individuals and organizations to leverage talent, influence and resources required for an enterprise/network that serves as a national asset;

- Gradually build the study of concurrent treatment within the Network. This will include collaboration with the Peter Boris Chair in Addictions Research, located at St. Joseph's Healthcare Hamilton.
Selection Process

The Dean and Vice-President of the Faculty of Health Sciences will appoint an appropriate ad-hoc selection committee which shall include, at minimum, the Associate Dean, Research and the Chair of the Department of Psychiatry and Behavioural Neurosciences. The Committee will forward its recommendation to the Senate Committee on Appointments.

Term

An appointment to the Homewood Chair in Mental Health and Trauma shall be for up to five (5) years, with the understanding that renewal for additional terms is possible.

Acknowledgement

The incumbent will acknowledge that she/he holds the “Homewood Chair in Mental Health and Trauma” in all publications, lectures and any other activities supported through the fund.

June 2017
TO: Senate Committee on Appointments

FROM: Dr. Leonard Waverman, Dean, DeGroote School of Business

DATE: September 9, 2017

RE: DeGroote School of Business, Director, McMaster Digital Transformation Research Centre Terms of Reference

On behalf of the DeGroote School of Business, I am pleased to recommend the attached Terms of Reference for the Director, McMaster Digital Transformation Research Centre.

The Director of the McMaster Digital Transformation Research Centre (M-DTRC), is responsible for the current and long-term effectiveness of the Centre, including: planning, budgeting, project management, coordinating with other research institutes and centres within and beyond McMaster, coordinating with the business, government and other relevant communities, and hiring and managing employees associated with M-DTRC. The term is five years. This is a newly established research centre.

Attach.

cc: D. Wilkinson
    D. Welch
    L. Waverman
Terms of Reference
Director, McMaster Digital Transformation Research Centre (M-DTRC)
DeGroote School of Business
July 2017

The Director of the McMaster Digital Transformation Research Centre (M-DTRC), is responsible for the current and long-term effectiveness of the Centre, including: planning, budgeting, project management, coordinating with other research institutes and centres within and beyond McMaster, coordinating with the business, government and other relevant communities, and hiring and managing employees associated with M-DTRC. The Director will be appointed for a 5-year term, with the possibility of renewal.

The organizational structure of the M-DTRC will follow the McMaster’s Guidelines for the Governance and Review of Research Centres as outlined in the Figure below. The Centre Director, who reports to the Dean of the School of Business, will normally have a five-year term of office, with the possibility of reappointment for subsequent terms. The Director establishes an Advisory Committee (AC) whose purpose is to provide advice to the Director with regard to scientific or scholarly priorities and direction for the Centre. The AC is chosen and chaired by the Director, and convenes at least twice a year, or more frequently at the discretion of the Director. The Centre Director also reports to the Centre’s Governing Board (GB) on an annual basis. The GB is chaired by the Dean of the School of Business (or designate), the Chairs of the McMaster Departments which have a substantive investment in the success of the Centre, and one faculty member at large from the School of Business who is active within M-DTRC. The GB, in consultation with the Director, the AC, and members of the Centre, is responsible for constituting an External Review Board (ERB) for the Centre at least every five years, and normally coincident with the final year of the Director’s term.

Responsibilities for the M-DTRC Director include but are not limited to:

- Developing short/long range plans and providing overall direction for the Centre in consultation with the Advisory Committee and the Governing Board.
- Developing, reviewing, and revising policies and procedures to provide effective services to support the three mandates of the Centre: 1) research, 2) education, and 3) outreach.
- Promoting and supporting collaborative research, educational and outreach initiatives related to M-DTRC focal areas of interest within the DeGroote School of Business, McMaster and with other institutions/organizations (universities, business and government).
- Ensuring that research projects are executed according to plan and in accordance with relevant agreements and policies.
- Directing and overseeing budgets, allocating funds, organizing committees to ensure that projects under the M-DTRC’s mandate are managed appropriately.
- Providing oversight over recruiting and managing the scientific, technical, managerial and administrative staff within the Centre.
• Planning and coordinating with the Advancement – Development & Outreach group of the School of Business for activities related to outreach including holding events and raising funds from donors, corporate sponsors and government institutions in support of the Center’s operations.

• Supporting the generation of periodic reports about the Centre’s activities.

M-DTRC Organizational Chart & Governance Structure
REPORT TO THE SENATE

FROM THE

UNIVERSITY PLANNING COMMITTEE

Establishment of a PhD Program in Global Health

At its meeting of September 20, 2017, the University Planning Committee approved a proposal for the establishment of a PhD Program in Global Health, effective September 2018. The proposed program builds upon the ideas, concepts, and topics presented in the M.Sc. in Global Health program. The doctoral program proposes a more collaborative approach than the traditional reliance on physicians, in which specialists with interdisciplinary training are needed to provide responses that move beyond the traditional biomedical solutions.
To: Senate

From: Christina Bryce
Assistant Graduate Secretary

Re: Report from Graduate Council

At its meeting on June 13th, Graduate Council approved the following for recommendation to Senate:

For Approval:

1. New Program Proposal: Global Health Ph.D. (attachment)

The proposed program builds upon the success and partnerships of the M.Sc. in Global Health program. It will emphasize global health research methods that the doctoral students will use to make original contributions to the academic field of Global Health. Graduates will be ideally placed to access academic and professional resources and networks on both sides of the Atlantic Ocean, and will be prepared for entry into the global health workforce.

This proposal was also approved at the September 20th, 2017 meeting of the University Planning Committee.
McMASTER UNIVERSITY

GRADUATE PROGRAM PROPOSAL BRIEF

FOR THE PROGRAM

PhD in Global Health

Date: June 5th, 2017

Doctorate of Global Health Program Committee:
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1. PROGRAM

1.1. Program Description

Over the past decade, Global Health professionals have faced the prospect of an increasingly complex technical work environment as a result of globalization; new and emerging health and disease challenges; business innovation and technological change; increasing income disparities, and inequities in health outcomes between the world’s richest and poorest. This has created a demand for creative and innovative approaches to global health which combine the insights of various disciplines.

This document will ascribe to the Lancet Journal’s definition of global health, which considers it to be “any health issue that concerns many countries or is affected by transnational determinants, such as climate change or urbanization, or solutions, such as polio eradication”.¹ In this definition, global can be applied at the local, national, or international level. The emerging field of global health is also broadening away from a reliance on physicians toward a more collaborative approach in which specialists with interdisciplinary training are needed to provide responses that move beyond the traditional biomedical solutions. Global health leaders are transcontinental and multidisciplinary; but also imbued with a basic understanding of other disciplines and are incisive researchers as well as teachers and practitioners. The proposed PhD in Global Health program, (hereafter referred to as ‘the proposed program’) intends to provide valued, in-depth academic preparation for this emerging discipline and position McMaster University at the cutting edge of the field.

The proposed program builds upon the ideas, concepts, and topics presented in the MSc in Global Health program. Since its launch in 2010, the MSc in Global Health program has been successful and is proudly highlighted as one of McMaster University’s premiere graduate programs. The program consistently receives one of the highest numbers of applications for graduate studies at McMaster, (approximately 500 in 2016). Enrolment in the program has more than doubled in the past five years, and in 2015/16, the enrolment is capped at 70 students.

The MSc in Global Health program was developed in partnership with Maastricht University in the Netherlands and is a 12-month interdisciplinary program that prepares the next generation of professionals for the global workforce. The MSc in Global Health program brings together faculties of social sciences, health sciences, and business from both universities, and is a blended learning program with real time lectures with partner universities in the Netherlands, Norway, India and Thailand for a truly international experience. The program has graduated six cohorts of students since its creation, and over fifty of these graduates have indicated that they would be interested in pursuing a PhD program in Global Health at McMaster University if one were available.

The MSc in Global Health Program has built a strong partnership with Maastricht

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University and our associate partner Manipal University in India. There is therefore existing infrastructure in place to make arrangements available to students in the proposed doctoral program who choose to complete a Co-Tutelle with Maastricht University. Maastricht University would be a natural choice for students interested in pursuing a Co-Tutelle because Maastricht is currently establishing a Centre for Global Health, which will draw together its principal researchers who are researching global health issues. Five faculty members with strengths in the Social Sciences at Maastricht have expressed interest in co-supervising PhD in Global Health students from McMaster.

Maastricht’s strong reputation as a partner institution is further demonstrated in the Times Higher Education World University Ranking where Maastricht was ranked 88th; McMaster University was ranked 94th. Maastricht University’s Global Health masters’ program was also ranked the top Health Sciences Masters’ program in the Netherlands according to the 2016 national Keuzegids ranking, which is published by the Dutch Higher Education Information Centre.

The proposed program will emphasize global health research methods that the doctoral students will use to make original contributions to the academic field of Global Health. Graduates will be ideally placed to access academic and professional resources and networks on both sides of the Atlantic Ocean, and will be prepared for entry into the global health workforce. The program will be distinct from existing ones in the University and will attract net new students to McMaster from within Canada and around the globe.

1.2. Proposal Preparation and Consultation Process

In December, 2014, a survey was conducted of past graduates from the MSc. in Global Health Program. Over forty-five percent of the respondents answered affirmatively to the question of whether they would be interested in a PhD in Global Health at McMaster. In preparation for a program proposal, meetings were held between Directors and Chairs of various units to discuss both potential forms of collaboration resulting from the program and ensure minimal overlap or duplication. Chairs and directors of other academic units indicated their support for the program.

The MSc. in Global Health Program was designed to develop the following skill set:

- Collaboration in transcontinental teams
- Self-management in a virtual work culture
- Cross-cultural intuition in diverse group settings
- Incisive decision-making in complex working environments
- Analysis and evaluation of global health policies


Program Proposal Draft for PhD Global Health

June 2017

This skill set is not found in any other graduate program at McMaster. These skills will also be incorporated into the PhD program, setting it apart not only at McMaster but among global health graduate programs as well.

The doctoral program will build on existing synergies with Public Health, Health Policy, and Health Research Methodology. Collaboration with the Masters' in Public Health Program, for example, has identified shared elective courses that will allow for cross-disciplinary learning. Public Health students will approach issues from a different perspective than Global Health students, so fostering collaboration between the two programs will be mutually beneficial for students. This collaboration has been ongoing throughout the development of the PhD in Global Health Program.

The following stakeholders were consulted during the proposal preparation and are in agreement with the current program proposal.

- Deans of Business, Health Sciences, and Social Sciences
- Associate Deans of Nursing and Rehabilitation Sciences
- Associate Deans of Graduate Studies
- Health Sciences Library
- McMaster Institute for Innovation and Excellence in Teaching and Learning (MIIETL)
- Program directors for Health Policy and Public Health
- Over fifty faculty members at McMaster
- Maastricht University's faculty of Health, Medicine, and Life Sciences

The following proposal follows the New Program Proposal Guidelines in MIIETL's Institutional Quality Assurance Process. The program will leverage these relationships to establish a high quality and sustainable academic research-based program, and to expose our future students to critical issues as they learn and engage with the community during their research.

1.3. Consistency with McMaster's Mission and Academic Plan

The proposed PhD program is consistent with the mission and academic plan outlined in McMaster University's Strategic Mandate Agreement (2014-17). In accordance with this agreement, it will build upon established institutional strengths and priorities, which promote high quality and competitive educational outcomes, and further support McMaster University's academic vision of achieving "international distinction for creativity, innovation, and excellence." The proposed PhD program and McMaster will mutually benefit from specific institutional strengths including:

1. Medical Education and Research
2. Health and Society
3. Science and Discovery
4. Business and Economics
5. Policy and Ethics in a Globalized World
6. Human Behaviour, Culture, and Society
Furthermore, the proposed program will contribute to the following program areas for growth:

1. Health Sciences and the Broad Determinants of Health
2. Communications and Culture

McMaster President Deane’s *Forward with Integrity* statement identifies three priorities that must be considered in all University matters: “...developing a distinct, effective and sustainable undergraduate experience, enhancing the way we see and build connections between McMaster and the community, and supporting continuing excellence in research that informs and integrates with a reconceived educational mission.” In addition, internationalization is a key institutional objective that must be seen, “...not as a separate project, but as one aspect of those integrated three priorities.”

As an interdisciplinary field of study, Global Health demonstrates McMaster University’s strategic strength in interdisciplinary research and education. In harmony with this strategy, the proposed program intends to offer courses by researchers working in the field from a broad array of disciplinary backgrounds and to draw on this diversity of perspectives to foster critical thinking. These opportunities and invaluable networks provide the fertile academic environment that will promote the inception of research ideas borne out of the recognition of an interdependent and globalized world, as well as the production of comprehensive research that gives back to the global community - always with integrity.

1.4. Program Learning Outcomes

The goal of the proposed program is to offer students a high-quality research doctoral program that will develop and enhance their understanding of the current and the emerging principles and practices of global health. In doing so, it will prepare students to deal with the complex problems they will face in health systems, undertaking research in global health, and analyzing complex policy and regulatory issues that shape the field of global health. The degree learning outcomes for the program are consistent with the Graduate Degree Level Expectations for a Doctoral Degree outlined in Appendix A and are as follows:

- Apply a broad and in-depth understanding of the knowledge that examines the complex interrelationships between health and the global, national, regional, and local forces, processes, and conditions of globalization.
- Demonstrate an interdisciplinary, comparative, and critical approach to unpack major theoretical concepts and principles, and formulate novel questions and hypothesis as they relate to current issues in global health.
- Design and conduct an original research project grounded upon a robust knowledge of current research design and methodology, as well as a high degree of awareness, understanding, and appreciation for the significant ethical issues that arise in the study of Global Health.
- Establish capacity to publish research and scholarship output that meaningfully contributes to the understanding and resolution of current issues in global health, and engages with health-related policy-makers at global, national, regional, and local levels.
Program Proposal Draft for PhD Global Health

- Demonstrate the skills necessary to develop and deliver educational course/lectures on the complex interrelationships between health and globalization at the undergraduate and graduate levels.
- Demonstrate the ability to clearly and effectively communicate complex ideas, findings, and conclusions through oral presentation and written word, to both academic and non-academic audiences, utilizing new and innovative information and communication technologies when appropriate.
- Cultivate a respectful and collegial community of Global Health scholars through participation in mentorship, supervisor roles, and community engagement.

1.5. Consistency with Degree Level Expectations

Graduates from the proposed program will meet or exceed the Degree Level Expectations for a Doctoral Degree outlined in Appendix A. The content of the program will meet Degree Level Expectations for a Doctoral Degree in the following ways:

- Coursework will broaden students' depth and breadth of knowledge and develop a thorough understanding of a substantial body of knowledge in their research area. Flexibility in course selection allows students, in collaboration with the supervisor, to deepen their knowledge within their selected research area and expand their critical thinking by learning to investigate the effects of globalization through multiple lenses.

- Comprehensive exams will challenge students to further demonstrate their depth and breadth of understanding as they delve deeper into the literature of their selected research area.

- Annual professional development seminars will allow students to develop their professional capacity as they participate in professional development sessions focused on collaboration in global health. Students will learn to collaborate in both cross-disciplinary and cross-cultural contexts.

- Committee meetings will challenge students to become aware of limitations of their own knowledge. Annual Supervisory Committee Reports will help students identify gaps in their own understanding and continue honing their research and critical thinking skills.

- Dissertation
  - Write - As students prepare their dissertation, they will demonstrate their developing skills in research and scholarship. Collaborating with their supervisory committee, students will experience the challenges in conceptualizing, designing, and implementing an original research project related to global health. The dissertation will also allow students to demonstrate their level of applied knowledge as they undertake advanced-level research and contribute to the academic literature in their given field of study.
  - Defend - The oral dissertation defense will develop students' level of communication skills through the ability to communicate complex ideas
about the interdisciplinary field of global health. They will learn to effectively translate knowledge between academic and non-academic sectors.

1.6. Demand for Program

1.6.1. Evidence of Societal/Labour Market Need

PhD students will be prepared for academic employment as well as research jobs, senior management and leadership positions in a range of global public, private, and non-profit organizations. Students will develop leadership and high-level skills in community-engaged research and critical theory, and be able to participate constructively in public policy debates. Graduates will be well equipped with an in-depth interdisciplinary knowledge and professional skill-set, which will allow them to succeed across various sectors and remain influential in a rapidly diversifying global health labour market.

In addition to being eligible for teaching and research jobs, graduates from the proposed program will be ideal candidates for interdisciplinary global development jobs. The Institute for Health Metrics and Evaluation reports that the funds allocated to development assistance for health has more than tripled since 1990. In 2015, development assistance for health amounted to $36.4 billion USD.\(^6\) Graduates from the proposed program will be well-positioned to work for global institutions such as the Global Fund, the Global Vaccine Alliance, the Global Alliance for Improved Nutrition, UN organizations, the International Development Research Centre, Global Affairs Canada, and foundations like the Bill & Melinda Gates Foundation. There are currently over 100,000 people currently working in the following six global development agencies alone, as shown in Table 1. Not only are the numbers of positions in these global institutions increasing, but these jobs are increasingly requiring doctoral degrees.

Table 1: Number of Staff Working in Global Development Agencies

<table>
<thead>
<tr>
<th>Global Development Agency</th>
<th>Number of Staff Members Employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Committee of the Red Cross</td>
<td>15,000(^6)</td>
</tr>
<tr>
<td>United Nations</td>
<td>44,000(^6)</td>
</tr>
<tr>
<td>UN Refugee Agency</td>
<td>9,700(^7)</td>
</tr>
<tr>
<td>The World Bank</td>
<td>10,000(^8)</td>
</tr>
<tr>
<td>The World Food Programme</td>
<td>14,700(^9)</td>
</tr>
<tr>
<td>The World Health Organization</td>
<td>8,000(^10)</td>
</tr>
</tbody>
</table>

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Occupations related to Global Health, including Health Policy Researchers, Consultants and Program Officers, Post-Secondary Teaching and Research Assistants, and Government Managers in Health and Social Policy Development and Program Administration, are projected to maintain or exceed labour demand throughout the next decade. These projections are further supported by the *Canadian Occupational Projection System 2013 Projections: Job Openings 2013-2022*, which predicts high rates of job openings and job creation in high-skilled occupations or management positions in the health sector. Similarly, the *Ontario Labour Market Statistics for July 2015* reports increased employment for adults with post-secondary education and those in occupations relating to Social Science, Education, Government, and Religion. These findings are favourable given the diverse and interdisciplinary nature of the global health field.

1.6.2. Evidence of Student Demand

The MSc. in Global Health program’s success in achieving its strategic annual matriculation target of 70 students at McMaster University and more than 100 at Maastricht University, as well as a high rate of graduation and increasing rate of students completing a thesis, indicates the presence of a growing network of highly skilled global health researchers. The MSc. in Global Health program consistently receives one of the highest numbers of applications for graduate studies at McMaster and over 200 students have completed the MSc. in Global Health program at McMaster. Since the MSc. in Global Health program’s inauguration in 2010, 19 students have successfully defended theses (Open Access Dissertations and Theses - Global Health Program). To date, there have been 14 student publications as well as a book highlighting students’ research. The breadth of research topics covered in students’ theses and scholarly papers highlights the interdisciplinary and transcontinental nature of global health. Many graduates have indicated that they would like to continue their research through a PhD program in Global Health at McMaster University, if one were available. Furthermore, the Global Health program staff receives numerous inquiries each year, from both international and domestic students, regarding the availability of a PhD program.

In addition, there are now ten universities offering PhD programs with a Global Health focus, some through Departments of Global Health with fees as high as $43,000 per annum; this suggests that the demand for individuals with doctoral education in Global Health is increasing. Student and labour market demands for a PhD program in Global Health are expected to grow as the field continues to establish an international community of academic leaders and network of influential professionals in various public and private sectors.

1.6.3. Justifiable Duplication

There are currently ten programs worldwide offering doctoral or collaborative degrees in Global Health or related fields (see Table 2). The proposed program’s innovative structure and student-centred curriculum will ensure that it is a unique PhD program institutionally, provincially, nationally, and worldwide. The students entering the
proposed program will therefore be net new students who would otherwise not pursue doctoral studies at McMaster.

The proposed program will involve the Faculties of Business, Health Sciences, and Social Science at McMaster University with the faculty of Health Sciences as the “lead” faculty (mirroring the structure of the MSc. in Global Health program at McMaster University).

While the MSc. in Global Health program involves a true partnership with Maastricht, collaboration in the proposed doctoral program will be through the Co-Tutelle policy (Appendix B). Both McMaster University and Maastricht University are renowned for having an interdisciplinary professoriate, allowing students to investigate the intersections of social sciences, business, and health sciences.

The proposed program will become the second Global Health doctoral program in Canada, with the other being nested within the Dalla Lana School of Public Health at the University of Toronto and the office of Global Public Health education. There are also several global health offices within the Toronto hospital system, including St. Michael’s Hospital and SickKids Hospital. In its first year in 2016-2017, the number of applicants to the PhD in Global Health program at the University of Toronto exceeded the available seats in the program. The faculty members in the collaborative Global Health program at the University of Toronto are particularly strong in health policy. The proposed program at McMaster will encourage students to adopt a broader perspective and investigate the impacts of globalization, development, and global health.

It is the goal of this program to collaborate with existing global health offices to capitalize on the strengths of the global health experts across the province. Several students in the MSc. in Global Health Program have completed practica at SickKids, so there is collaboration between the Global Health Program and the Toronto hospitals. The Co-Tutelle option with Maastricht University in the Netherlands will capitalize on activities within an existing memorandum of understanding.

The breadth of research areas covered in the list of core faculty members in section 6.6 is unlike any other doctoral program in Ontario, with world-renowned faculty in emerging fields of study.

Furthermore, the proposed program will be the first to explore its subject-matter through an interdisciplinary and transcontinental Global Health paradigm. Since global health is interdisciplinary in nature, applicants could come from a number of thesis-based graduate programs across Canada. In addition to global health graduate programs, applicants could come from programs across the health sciences, social sciences, or business, depending on their research interests.

Infectious disease modeling is one emerging field that has become increasingly important as a result of globalization; increasing levels of urbanization; and, increased population density. Infectious diseases remain one of the leading causes of morbidity and mortality worldwide, with over 2 billion cases of upper respiratory infections and diarrheal disease
in 2013. As population densities increase and international travel becomes easier and more affordable, infectious disease modeling will be crucial to predict the impact of infectious disease and develop strategies to prevent their spread. One student approached the Global Health Office seeking to pursue a PhD in infectious disease modeling but felt that no programs existed either at McMaster or in Ontario to meet her research needs.

Infectious disease modeling is one example of an emerging research area within Global Health. Another cross-disciplinary area of study within the field of global health which warrants further research is the intersection between climate change and health, and the disproportionate burden of climate change on indigenous people in the circumpolar north. One student in the MSc. in Global Health program completed a thesis on offshore drilling and its impacts on food security in the Canadian arctic, highlighting the threats of offshore drilling to not only health and food security but also to cultural identity. A third research area which global health doctoral students could pursue is refugee health and access to health services for refugee populations, both in Canada and around the world. In 2016, two students in the MSc. in Global Health program conducted theses on the topic of health and social services for refugees and newcomers to Canada.

In 2014, an alumni survey was distributed to graduates from the MSc. in Global Health program and 45% of respondents indicated an interest in pursuing a PhD in Global Health at McMaster. The doubling of enrolment in the MSc. in Global Health program at McMaster over the past five years has created a large pool of potential doctoral candidates. Cooperation similar to that which currently exists at the Masters’ level will ensure mutual academic benefits across departments and schools and promote a cohesive academic community. There has been agreement for the cross-listing of elective courses with both the Health Management stream of the Business PhD program as well as the Public Health program. Both groups are excited by the prospect of collaborating with the doctoral in Global Health Program.

Table 2: Existing PhD in Global Health Programs

<table>
<thead>
<tr>
<th>Program</th>
<th>Degree</th>
<th>Duration</th>
<th>Tuition per year*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) University of Washington</td>
<td>PhD in Global Health Metrics</td>
<td>4 years</td>
<td>$ 30,240</td>
</tr>
<tr>
<td>2) Arizona State University</td>
<td>PhD in Global Health</td>
<td>4 years</td>
<td>$ 20,800</td>
</tr>
<tr>
<td>3) Brandeis University</td>
<td>PhD in Global Development &amp; Sustainability</td>
<td>4 years</td>
<td>$ 43,756</td>
</tr>
<tr>
<td>4) Erasmus Mundus</td>
<td>PhD in TransGlobal Health</td>
<td>4 years</td>
<td>$ 430 - 860 **</td>
</tr>
<tr>
<td>5) San Diego State University/University of California San Diego</td>
<td>PhD in Global Health</td>
<td>4 years</td>
<td>$ 8,585</td>
</tr>
<tr>
<td>6) Trinity College Dublin</td>
<td>PhD in Global Health</td>
<td>4 years</td>
<td>$ 21,800</td>
</tr>
</tbody>
</table>

Program Proposal Draft for PhD Global Health

<table>
<thead>
<tr>
<th>7) University of Edinburgh</th>
<th>PhD in Global Health</th>
<th>3 years</th>
<th>$28,800</th>
</tr>
</thead>
<tbody>
<tr>
<td>8) University of Florida</td>
<td>PhD in Environmental &amp; Global Health</td>
<td>4 years</td>
<td>$30,270</td>
</tr>
<tr>
<td>9) University of Toronto Dalla Lana School</td>
<td>Collaborative PhD in Global Health</td>
<td>4 years</td>
<td>$8,460</td>
</tr>
<tr>
<td>10) University College London</td>
<td>MPhil/PhD in Global Health</td>
<td>3 years</td>
<td>$37,613</td>
</tr>
</tbody>
</table>

* Tuition Fees are for Foreign Students with the exception of U. of Toronto.
** Per month, dependent upon participating institution
*** Note that Maastricht University is not listed. Maastricht follows a European model for doctoral studies where students do not enter a specific program. Rather, they enter into doctoral studies under a specific supervisor.

1.7. Degree Nomenclature

Students who complete the proposed program will be awarded a PhD degree with ‘Global Health’ as the program title. Global Health has become an increasingly well-recognized field of study, with related undergraduate and graduate programs in universities across Canada.

The proposed program is intended to prepare graduates for careers in research and academia; specialists capable of working with a broad range of institutions, organizations, and enterprises that currently populate the landscape of Global Health. Extensive financial resources have been spent on global health initiatives over the course of the last decade. In 2015, approximately $36 billion USD was spent on global health initiatives alone.\(^{12}\)

The quality of decision-making of how that money is spent rests, to some degree, upon having properly trained professionals making these decisions. In an increasingly complex and competitive market, an interdisciplinary approach, which we have discussed above, is critical to making informed decisions that recognize the complexity of decision making in the field. A multidisciplinary approach provides the intellectual nous to our students, which will allow them to transcend the traditional boundaries that have dominated the field until recently. Our students will develop the capacity to undertake multidisciplinary research that is grounded in the latest advances in global health research.

2. ADMISSION & ENROLMENT

2.1. Admission Requirements

Admission requirements for academic references, grades, and English language proficiency will meet or exceed School of Graduate Studies requirements at McMaster.

As part of the application package, applicants will be expected to submit a Letter of Intent, in which they will identify a research area of interest as well as a potential supervisor.

The proposed program seeks candidates who show high scholarly promise, and who have a strong graduate background in global health or a related field. Applicants to the proposed program are required to have any thesis-based Masters’ degree. Applicants with course-based Masters’ will be reviewed by the admissions committee on a case-by-case basis, where course-based Masters’ graduates with additional research experience may be considered. The pool of applicants will therefore not be limited to graduates from the MSc Global Health Program; they will represent net new applicants from a wide range of academic backgrounds.

The PhD in Global Health Program seeks to attract candidates who have already demonstrated a prior commitment to global health and would like to strengthen their ability to carry out intensive research that will be an original contribution to advancing the state of knowledge in the field. Similar to the way in which ‘demonstrated interest in global health’ is evaluated for applicants to the MSc. program, this commitment to global health should be shown through an applicant’s entire admissions package, which should show an interest in global health issues.

The program is receptive to students in the thesis-based MSc Global Health program transferring to the proposed PhD program.

When offered admission to the program, applicants will be matched with a specific supervisor.

2.2. Enrolment Planning and Allocations

Enrollment is proposed to begin in the 2018-19 academic session, with the admission of eight graduate students each year. The proposed program will then reach maturity in the 2021-22 academic year with a total enrollment of 32 students, as shown in Table 3 below.

<table>
<thead>
<tr>
<th>Program Year</th>
<th>2018-19</th>
<th>2019-20</th>
<th>2020-21</th>
<th>Maturity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
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<tr>
<td>Year 2</td>
<td>0</td>
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<td>Year 3</td>
<td>0</td>
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<td>8</td>
<td>8</td>
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<tr>
<td>Year 4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Total Enrolment</td>
<td>8</td>
<td>16</td>
<td>24</td>
<td>32</td>
</tr>
</tbody>
</table>
3. STRUCTURE

3.1. Administrative, Governance, and Communication

The proposed program will be structured like the MSc. in Global Health program — a multi-faculty, interdisciplinary program with the faculty of Health Sciences as the proposed lead faculty. Graduate admission, enrolment, and program administration will be managed in cooperation with the School of Graduate Studies and supporting faculties at McMaster University. The program will be a standard (i.e. not Professional) program with revenues based upon student fees and BIU funding from the province. Tuition fees will align with standard tuition fees for research programs at McMaster. In 2016-17, these fees were $7,008.00 per year for domestic students and $16,761.00 per year for international students.\(^\text{13}\)

In addition to an interdisciplinary governance structure, faculty members across the three Faculties will engage in supervision of doctoral students and participation in supervisory committees. A revenue sharing model has been built to allocate resources across the Faculties of Business, Health Sciences, and Social Sciences. This revenue sharing model will ensure proper compensation for participation in the proposed program, and will allow for the development of cross-disciplinary supervisory committees. Maastricht University will be compensated by the Dutch government through their doctoral compensation program.

The Letter of Intent, submitted as part of the application package, will help ensure a good fit between students and supervisor. Supervisors should have sufficient time and resources in order to effectively support the student’s work. The supervisor is primarily responsible for helping the student develop the dissertation proposal and support and supervise their research work. Decisions surrounding coursework and comprehensive exams should also be approved by the supervisor, as well as the supervisory committee and the Director of the Global Health Graduate Program. A full supervisory committee, of at least three faculty members, will be established in consultation with the student’s supervisor, by the end of the first term in the program.

The Co-Tutelle policy is a university policy open to all McMaster students, allowing students to complete a PhD and have it jointly awarded by two institutions. Doctoral students can complete a Co-Tutelle at any eligible institution (see Appendix B for Co-Tutelle Policy) but Maastricht would be a natural choice; Maastricht is a full-service university with Global Health housed in the Faculty of Health, Medicine and Life Sciences. Maastricht University is currently developing a Centre for Global Health.

Building on the relationship established in the MSc. in Global Health program, resources are already in place to support students choosing to complete a Co-Tutelle with Maastricht. Additionally, Maastricht is a leading institution in global health research and there is written support for collaboration with the proposed program from the Faculty of Health, Medicine, and Life Sciences at Maastricht. Doctoral students at Maastricht

University follow a European model, where they do not enter as external PhD candidates. Rather, they enter into doctoral studies under a specific supervisor in the faculty of Health, Medicine, and Life Sciences. Students completing the Co-Tutelle with Maastricht would be enrolled as doctoral students in the PhD in Global Health program at McMaster, and as external PhD students in the faculty of Health, Medicine, and Life Sciences at Maastricht University.

Students who choose to do the Co-Tutelle with Maastricht will have members of their committee from both McMaster and Maastricht, with a primary supervisor at each of the Universities. Students will be required to submit a Co-Tutelle Letter of Intent to the School of Graduate Studies for approval within the first twelve months of the proposed program, and will be assigned a supervisor at Maastricht University. The Maastricht PhD supervisor will provide academic support for the duration of the program in conjunction with the supervisor at McMaster. In order to comply with the Co-Tutelle requirements, students will first defend their thesis in Maastricht and then hold a second defense at McMaster.

Primary responsibility for the administration, governance, and communication of the proposed program will reside with the Associate Vice President, Global Health and the Director of the PhD in Global Health Program at McMaster University.

3.2. Structure and Regulation

In keeping with McMaster University's Strategic Mandate Agreement (2014-17) and President Deane's *Forward with Integrity*, the proposed program is structured to promote experiential learning and engagement with the international community, while maintaining a high standard of educational quality and sustainability. It will follow a conventional sequence for PhD programs: coursework (See Section 4.1), comprehensive area exam (See section 4.1), development of a dissertation research proposal with appropriate ethical approvals, and establishment of a supervisory committee in the first year; gathering, processing, and analysis of data for dissertation research project; interpretation of findings, writing, and defense of the dissertation in the fourth year; followed by any necessary revisions.

Students will have four years to complete the program and defend their thesis as an in-time student, or they may choose to extend into overtime as per Graduate Studies policies.

This format provides students with the analytical and research tools necessary to undertake rigorous, innovative, original research; and the intellectual and professional depth necessary to be an insightful global health practitioner. Graduates will build a diverse and thorough understanding of various fields of study and establish intellectual independence that promotes insight and innovation between sectors. With the capacity to evaluate broad implications and provide informed judgment on issues relating to Global Health, graduates will be able to engage in policy development at all levels of government and global health programming (i.e. research concept, design, implementation; contribution to the field; intellectual autonomy, ethical behaviour, evaluation of broad implications; communication; and awareness of limitations).
Global Health faculty members overseeing the PhD program will attend an annual meeting to discuss and assess the progress of every graduate student in the doctoral program, and to share information regarding the learning objectives, contents and pedagogical methods. This meeting will serve as a source of collective information and advice sharing between faculty members and program staff, and will promote cohesion of thoughts and ideas within the proposed program and between the MSc. and PhD programs. Graduate students will be required to have formal supervisory committees, with reports on their progress, at least annually and by the end of each spring/summer semester.

3.3. Program Length and Progression

The program will follow a standard PhD timeline, typically taking four years or 12 terms to complete. In consultation with their supervisor, and with the proposed thesis area in mind, students will be required to do their coursework with a strong emphasis on research methods, followed by the submission of their finished thesis proposal by the end of the third term in the program. Terms three to seven will typically be the data collection phase. During the remaining five terms students will interpret the findings and prepare the dissertation.

4. CURRICULUM AND TEACHING

4.1. Program Content

The proposed curriculum for the PhD Global Health program reflects the innovative, globalized and interdisciplinary constitution of the global health field. These elements are reflected in each of the program components; coursework, comprehensive exams, dissertation proposal, and defense.

a) Coursework: All students will be required to take two courses for a total of 6.0 units.
   
   i. GLOBHTH – Innovative Research Methods for Low-Resource Settings* (3.0 units)
   
   ii. One approved graduate elective (3.0 units)

The new Research Methods for Low-Resource settings will be a required course, which will provide a strong understanding and knowledge of theoretical and methodological frameworks related to global health. Students will also be required to take one approved graduate elective.

Students may choose to take additional electives. The following courses are offered through Global Health faculty and will be available as elective courses to students in the proposed program. Other elective choices are possible but must be approved by the program.

   i. GLOBHTH 707 – Global Burden of Disease
   
   ii. GLOBHTH 708 – Global Health Equity
   
   iii. GLOBHTH 709 – Refugee Health Policies and Practice
*Innovative Research Methods for Low-Resource Settings course is currently being developed and will be run by Global Health faculty.

Corresponding to the diverse academic background and career goals of global health graduate students, the proposed program offers students flexibility when determining an individualized curricular track. Students, in collaboration with their supervisory committee, can also choose to take additional graduate courses related to their thesis in order to support their research and career goals. Electives aside from those listed above may be taken with special permission. Students may also undertake additional graduate-level independent study with faculty members within the global health program.

In addition to coursework, all students will be required to participate in a research and professional development seminar. The seminars will be considered milestones in the program and will therefore not be graded but will be required for students to progress. The seminar will normally be scheduled at the beginning of the second year. Students will be invited to discuss the knowledge and skills relevant to their research project, including scholarship, proposal, grant and report writing, research reviewing, presentation of conference papers and articles for publication in scholarly journals, research networking, and the preparation of application letters and curriculum vitae.

b) Comprehensive exam

Following the completion of coursework, students will complete a comprehensive exam in their specific area of curricular concentration. The comprehensive exam will comprise of an independent study reviewing the body of published literature, summarizing the findings, and presenting them in an oral examination. Students will be able to compare and synthesize different perspectives and interpretations, and clearly communicate these ideas to both academic and lay-people in a creative and stimulating way. Comprehensive exams will strengthen students' confidence in their understanding, and will be used to assess their ability to derive and develop a viable research project from critical engagement with the scholarship in their area of study. The comprehensive exam will require students to integrate the major theoretical writings and the substantive research pertinent to their selected research focus. The timeline for completion of comprehensive exams will align with school of School Graduate Studies policies. The exam will be assessed by the supervisory committee on a pass/fail basis and will include an oral defense, and the outcome will be reported to the School of Graduate Studies. Students will demonstrate an in-depth and broad understanding of the current scholarly literature in their relevant field of study in global health. Through the cross-disciplinary and cross-cultural nature of the program, students will be able to analyze topics through various lenses and critically think, reason, and communicate their knowledge in diverse and innovative ways.

c) Dissertation Proposal

The dissertation proposal will identify a viable project of research, which is grounded in a developed body of scholarly literature. The proposal will outline the project's theoretical perspective and relevance, key research questions, hypothesis and arguments, and the appropriate methodology for examining these. The dissertation proposal will be presented and defended by the student and assessed by the supervisory committee. The dissertation
Program Proposal Draft for PhD Global Health

proposal will be submitted by the end of the 12th month of the program. By the end of
the 12th month of the program, students will therefore have completed coursework,
submitted their dissertation proposal and held their first committee meeting.

d) Dissertation

All students will produce an original piece of empirical research, situated in relevant
scholarly literature, which will become the reference point for conceptualizing and
justifying a central research question and interpreting the significance of the principal
findings. The program will then culminate with the defense of the student’s thesis. The
oral defense will follow standard University procedures.

4.2. Program Innovation

The proposed program incorporates a number of innovations with respect to coursework,
comprehensive exams, and opportunities for students to participate in global health
research initiatives and networks. When compared with other PhD programs in Global
Health worldwide, the proposed program differs significantly in two key respects:

First, most existing PhDs in global health are confined to one faculty in one University.
In the twenty-first century, the velocity of innovation in global health requires
interdisciplinary practitioners to have not only transnational but transcontinental access to
a community of global health academics and practitioners. The proposed program at
McMaster will incorporate key faculty members from the faculties of Business, Health
Sciences, and Social Sciences. In addition, students completing the Co-Tutelle can
include committee members and a supervisor from the faculty of Health, Medicine, and
Life Sciences at Maastricht University. The faculty members involved in the proposed
program will therefore represent a diverse group of academics whose knowledge and
expertise have a truly global reach.

Second, the proposed Co-Tutelle option will offer students the opportunity of having
supervisors at both McMaster University and Maastricht University. These supervisors
will further increase the breadth of research areas available to prospective students and
will also allow for cross-cultural learning. Students will work in close consultation with
an established supervisor at each University, who will also attend the dissertation defense
at the other University (either in person or via teleconference). At Maastricht, the
McMaster students will be registered as external PhD candidates and they will have to
defend their thesis first at Maastricht and then at McMaster to have their doctoral degree
jointly awarded by both universities. This curriculum structure reflects the professional
demands and global domain of the global health field, while also promoting global
research collaborations and providing students with access to a broader transcontinental
range of research supervision and coursework.

4.3. Mode(s) of Delivery

The primary modes of delivery will be coursework, comprehensive exams, and individual
student supervision for dissertation research. Courses will be primarily delivered as
seminars, which will require students to complete weekly reading assignments and engage in focused discussions on issues related to the readings. Instructors will be required to provide students with a course outline that specifies the material and topics to be covered, specific learning objectives and outcomes, expectations regarding student and instructor contributions, and the methods of evaluation. Supplementary teaching and learning methods, such as online information distribution and discussion forums, will be encouraged by the Global Health program.

Comprehensive exams will be administered by the Global Health Program and assessed by the supervisory committee. Students will identify an area of interest related to their field of study in global health and familiarize themselves with the body of published literature. With supervisor guidance, students will perform an independent study reviewing the body of published literature, summarize their findings in a written literature review and then present their findings in an oral examination.

Dissertation proposals will be submitted by the student to the supervisor and supervisory committee. Once the student’s dissertation proposal has been approved and they have obtained the appropriate Research Ethics Board approval, they can begin conducting their research. Annual meetings with the supervisory committee will provide guidance and support for the student as they write their dissertation and prepare for defense. Meetings between the student and the supervisor may require communication technologies, especially when the supervisor is based in Maastricht. Online communication tools may therefore be used to facilitate supervisory committee meetings as required. The program will then culminate in the final written and oral defense of the thesis.

4.4. Experiential Learning

The natural structure of a PhD program is such that experiential learning is a major component as students will acquire the knowledge and skills necessary to formulate a novel research question and protocol, demonstrate this knowledge and skill in practice, and draw critical conclusions that contribute to the academic and public community. The proposed program’s structure aims to enrich graduate education by further fostering a multidisciplinary approach to learning. Each stage of the program will integrate the principles of experiential learning, including scholarship and career exploration.

Equal emphasis will be given to establishing a broad and in-depth knowledge, as well as professional skills, both of which are necessary for graduates to become influential members of academia and the private and public sector. The proposed program will encourage supervisors to view their role not only as the primary directors of a student’s scholarship and research, but also as a personal and professional mentor. Students who decide to complete a Co-Tutelle degree at Maastricht University will benefit from a global academic network; however, they will also be tasked with the challenge of utilizing various technologies to maintain continuous communication with supervisors and supervisory committees in multiple continents.
4.5. Accessibility

The proposed program will aim to maintain the highest standard of accessibility for its students and staff by complying with the objectives set out by the Accessibility for Ontarians with Disabilities Act (AODA) and the McMaster University Accessibility Plan 2011-2025. Accessibility efforts will be made specifically in areas related to customer service, built environment, information and communication systems, transportation, and employment. Active steps will be taken at all stages to identify and remove any program-related or environmental barriers that will prevent persons with disabilities from accessing any element of the proposed program. Program staff and faculty will consult with the McMaster Accessibility Council (MAC) on all related matters, and will work to accommodate students and staff whenever possible. All program staff and faculty involved in the provision of educational and non-educational services to members of the public will complete mandatory training provided by McMaster University regarding accessibility policies and practices.

4.6. Research Requirements

The proposed program will culminate in a research dissertation, which will comprise of an original research protocol and scholarly contribution. This dissertation should be of the calibre expected of a doctoral level outlined in Appendix A. The research question should be novel and related to current issues in Global Health. The dissertation proposal should demonstrate students’ appreciation for the complex ethical considerations implicit in conducting global health research and the implications of conducting research in a cross-cultural context. The dissertation will demonstrate students’ ability to design and conduct high quality empirical research which is grounded in strong research methodology, which will have been developed throughout the program.

These skills will be reinforced throughout the coursework and comprehensive exam, which are structured to provide students with the necessary capacity to design and conduct an original and innovative research project that expands upon existing knowledge and meets the rigorous criteria for peer reviewed scholarly publication. The core research methodology course will address the challenges in designing and conducting research in the field of global health, affording students the opportunity to design a research study in their field of interest and have it critiqued by experts in the field of research methodology.

5. ASSESSMENT OF LEARNING

5.1. Methods for Assessing Students

Students will be evaluated throughout the proposed program using a variety of methods. Courses may be evaluated using written assignments, final essays, or exams. A minimum grade of B- is required in each course to meet requirements of the program.

The students’ performance on the comprehensive exam will be assessed by the supervisory committee as Pass with Distinction, Pass, or Fail. Students who fail the first attempt will have a second opportunity to complete the comprehensive exam.
Progress on the dissertation will be assessed and monitored through the annual completion of the PhD Supervisory Committee Report, which must be submitted to the School of Graduate Studies within two weeks of the end of the academic year. In this report, supervisors will evaluate progress based on a scale ranging from Excellent-Good-Satisfactory-Marginal-Unsatisfactory. Supervisors will also discuss specific goals as well as areas for improvement and additional direction, using the standard SGS Committee Report.

Dissertation research, culminating in a defense at the end of the program, is the primary assessment of the student’s ability to undertake novel research and make an original contribution to knowledge. Students will be required to complete a written and oral defense of their thesis, in accordance with the University requirements.

5.2. Curriculum Map

All decisions regarding coursework will be made by the supervisor in conjunction with the student and the supervisory committee. The course requirements are intended to provide students a strong base in research methods, while providing the flexibility necessary to create a personalized track in line with their research. The curriculum map (see Appendix C), is designed to translate degree level expectations into program learning outcomes. During the first three terms of the program, students will complete the following coursework:

Two courses totaling 6.0 units
   i. GLOBHTH – Innovative Research Methods for Low-Resource Settings
   ii. One approved graduate elective

5.3. Demonstrating Student Achievement

Ability to compete for scholarships, publications, and other achievements will all be used as benchmarks for student achievement.

6. RESOURCES

6.1. Administrative, Physical and Financial Resources

The proposed doctoral program will build upon existing infrastructure developed in the Masters’ program, which has been augmented by the addition of faculty members and potential supervisors with active grant funding. Additional administrative support has been incorporated into the Global Health Program’s budget. While the Co-Tutelle partnership with Maastricht University eases physical and academic resource demands of the proposed program, distance education requires substantial administrative coordination. To partially relieve these resource demands, the proposed program will draw on staff currently appointed to the MSc. in Global Health program. At least two additional days of administrative support per week will be provided to administer the proposed program in an effective and appropriate way.
6.2. Library, Technology, and Laboratory Resources

Library and technology resource demands will be satisfied by drawing on the partnerships and resources established by the MSc. in Global Health program. The Health Sciences Library and the Global Health Library Liaison have agreed to this collaboration. As members of the faculty of Health Science, students will have access to all resources available at faculty of Health Science Library at McMaster University, as well as the assistance of the currently appointed Global Health library-liaison. Students that opt to complete a Co-Tutelle degree will have the added benefit of being able to access a global selection of library and technology resources at Maastricht University. Financial allocation for these support services are included in the proposed program budget. Requirements for further new resources have not been identified in this area.

6.3. Faculty

The MSc. in Global Health program has the active support of 28 associate members and 9 adjunct appointments at McMaster; many sit on various committees and participate in the global health seminar series as well as provide academic counseling for students. Five faculty members from Maastricht University with strong social science backgrounds actively participate in the MSc. in Global Health program and have agreed to supervise students choosing to complete a Co-Tutelle with Maastricht. Maastricht University will be compensated by the Dutch government through their doctoral compensation program. In order to enroll 8 students in 2018, 20 faculty members have been identified as potential primary supervisors (see section 6.6.) Written support has been received from the Deans of Business, Social Sciences, and Health Sciences, as well as Department Chairs and Heads of Schools within the faculty of Health Sciences.

All faculty members at McMaster in Section 6.6 meet the criteria to supervise PhD students within the University and their respective faculties. The interdisciplinary nature of global health is highlighted in the breadth of faculties, departments, and specialty areas represented in the list of faculty members found in Section 6.6. These cross disciplinary academics come from a wide range of academic and research backgrounds and will ensure that the proposed program meets the supervisory needs of doctoral students and sustains a high standard of scholarly excellence. Revenue sharing across faculties will follow a costing formula which will take into account the varying level of commitment required for committee work, teaching, and supervision. This formula estimates the number of hours allocated by faculty members and the associated financial distribution and is based on the formula successfully adopted by McMaster’s interdisciplinary Health Policy PhD program.

In 2018, two existing faculty members from within the Global Health Program will begin teaching in the doctoral program.

6.4. Student Financial Support

Consistent with standard funding practices for doctoral studies at McMaster University, each incoming student will receive an annual minimum of $23,269 from a combination of
graduate scholarship, teaching assistantship and research assistant positions, and research scholarship. This funding base for domestic students will be broken down as follows:

- $7,000 Graduate Scholarship
- $8,769 for .75 TA
- $7,500 Faculty funding
- TOTAL $23,269

Funding for international (visa) students will come primarily from faculty grants, since there will not be basic income units (BIUs) for international students.

This base level of funding will be guaranteed for all incoming doctoral students, although many may obtain external scholarships. In this case, the student would receive more than the minimum amount of funding. Students will also be hired on as teaching assistants (TAs), or in the absence of TA positions, research assistants up to a maximum of 505 hours per year, as per the School of Graduate Studies guidelines for employment of graduate students.

6.5. Faculty Research Funding

The proposed faculty supervisors have a strong record of scholarly research output and applied activity, funded by major external bodies, and published in leading journals and highly reputable academic presses. This includes research done on an individual basis and work done collectively with other university researchers and with researchers in unions, non-profit research units and community agencies. Much of this research is funded by external granting sources, including the Social Sciences and Humanities Research Council (SSHRC) and Global Affairs Canada (GAC). Funding for research in the Global Health program is currently being used to attract and train graduate students in various fields of study, and will continue to be used this way in the proposed program. Table 4 presents the total amount of active funding from 2010-2017 for the supervisors listed in Section 6.6. The sum of the funding listed in the proposed faculty members' curriculum vitae’s over the past seven years totals over $100 million CAD.

Table 4: Operating Research Funding by Source and Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Granting Councils</th>
<th>Other Peer Adjudicated</th>
<th>Contracts</th>
<th>Others 4</th>
</tr>
</thead>
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<td>2010-11</td>
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<td>2012-13</td>
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<td>2013-14</td>
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<td>2014-15</td>
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<td>2015-16</td>
<td>$9,483,785</td>
<td>$0</td>
<td>$0</td>
<td>$30,000</td>
</tr>
</tbody>
</table>
6.6 Supervision

Students will meet with faculty members who have funding about opportunities. Prior to the program start date, students should therefore have an idea for a research topic which aligns with what the supervisor has funding to explore. This information should be submitted in the application package as part of the Letter of Intent. The principal supervisor will be a full-time faculty member that has approved privileges for supervising doctoral students in this interdisciplinary program. The composition of the supervisory committee will be made during the course of the first year of studies.

Once the program is underway, the Graduate Committee will take account of the current distribution of supervisory loads as well as faculty members' areas of research expertise and interest when making decisions about offers of admission for the upcoming academic year. The Committee will strive to keep supervisory loads as evenly balanced as possible, and ensure that students' research interests are matched to faculty expertise.

The proposed faculty have extensive experience supervising Master's students in the MSc. in Global Health program and those that are proposed as Global Health doctoral student supervisors have either supervised PhD students in their home departments and faculties, served on PhD supervisory committees at McMaster, served on PhD supervisory committees at other universities, or served as external examiners for PhD exams and other universities. Offers to incoming students will require a commitment from the proposed supervisor to cover the supervisor’s portion of the student’s financial support.
### Table 5: Core Faculty Members by Field

<table>
<thead>
<tr>
<th>Faculty Name &amp; Rank</th>
<th>M/F</th>
<th>Home Unit</th>
<th>Supervisory Privileges</th>
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<tr>
<td><strong>Category 1</strong></td>
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<tr>
<td>Baumann, Andrea (Prof.)</td>
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<td>Nursing</td>
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<td><strong>Category 2</strong></td>
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<td>Anand, Sonia (Prof.)</td>
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<td>Bhandari, Mohit (Prof.)</td>
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<td>Surgery</td>
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<td>Cook, Deborah (Prof.)</td>
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<td>Crowther, Mark (Prof.)</td>
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<td>Pathology and Molecular Medicine</td>
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<td>Devereaux, Philip J. (Prof.)</td>
<td>M</td>
<td>Health Research Methods, Evidence and Impact</td>
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<td>Gerstein, Hertzel (Prof.)</td>
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<tr>
<td>Holbrook, Anne (Prof.)</td>
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<tr>
<td>Kapiriri, Lydia (Assoc.)</td>
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<td>Health, Aging, and Society</td>
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<td>Leong, Darryl (Assoc.)</td>
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<td>Longo, Chris (Assoc.)</td>
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<td>DeGroote School of Business</td>
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24
Program Proposal Draft for PhD Global Health

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1. This is the budget unit paying the salary: department, school, research centre or institute, or other.
2. Indicate the level of supervisory privileges held by each faculty member: e.g., full, master’s only, co-supervision only, etc.
3. Either give the field name or a footnote reference to it.
4. List faculty members under the categories suggested, as applicable

Fields: 1 – Global Health Management; 2 – Globalization and Development; 3 – Global Diseases

X indicates major activity and x indicates minor activity

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

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

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

Category 4: non-tenure track core faculty members who are involved in teaching and/or supervision in other graduate program(s) in addition to being a core member of the graduate program under review.

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

Category 6: non-core faculty who participate in the teaching of graduate courses.
## Table 6: Completed and Current Number of Thesis Supervisions by Faculty Member

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7. QUALITY AND OTHER INDICATORS

7.1. Academic Quality of the Program

Academic quality of the proposed program will be determined with equal emphasis given to the delivery of a high quality and sustainable academic program and the expectation of a high degree of scholarly performance by students. With a wide range of opportunities to direct individual learning objectives, financial and academic support from both internal and external sources, and supervisory mentorship, graduate students will be expected to engage in-depth with their field of study and produce original academic contributions within an acceptable timeframe. Students who excel in their studies will be encouraged to apply for awards and scholarships, and will be provided employment or research opportunities within the Global Health program when possible.

Annual discussions at faculty meetings, as well as annual progress reports from students, will allow the proposed program to implement program changes to improve educational quality when necessary and remain reflexive to faculty and student needs.

7.2. Intellectual Quality of the Student Experience

The structure of the proposed program is designed so that graduate students have the provisions and resources to pursue their own research interests in conjunction with the research interest of faculty members in the department. Each student will be encouraged to develop a comprehensive program for their coursework, research, data analysis and dissertation that can be discussed and approved by their supervisory committee. Individual supervisors will involve students in their own supervisory committee. The exceptional character and experience of faculty members discussed in detail in Section 6.6 will ensure the intellectual quality of the students’ experience.
REPORT TO SENATE
FROM
UNDERGRADUATE COUNCIL

For Information:

I Revisions to the Business Administration Diploma Program
At its meeting of October 3, 2017, Undergraduate Council approved minor revisions to the Business Administration Diploma program. Revisions include revisions to existing courses, closure of a course and the creation of two new courses. Some of these revisions affect the Project Management and Business Analysis Concentrations and the Essentials Certificate of Completion program.

II Establishment of New Certificate of Completion and Certificate of Attendance Programs

i. Establishment of a Foundational Educator Enhancement and Enrichment Certificate of Completion and an Advanced Educator Enhancement and Enrichment Certificate of Completion
At its meeting of October 3, 2017, Undergraduate Council received information from the McPherson Institute Centre for Continuing Education about two new Certificates of Completion: a Foundational Educator Enhancement and Enrichment Certificate of Completion and an Advanced Educator Enhancement and Enrichment Certificate of Completion. The programs are offered to faculty and sessional instructors, as well as staff members who have an instructional role, and are designed to enable educators to improve their teaching and learning practices based on their own needs and interests.

ii. Establishment of a Certificate of Attendance – Crisis and Mental Health Training
At the same meeting, Undergraduate Council approved a Certificate of Attendance program in Crisis and Mental Health Training. This professional development program will provide a variety of industry-recognized courses in the area of crisis and mental health.

III Terms of Award
At its meeting of October 3, 2017, the Undergraduate Council approved: i) terms of award for seven new awards; ii) changes to terms of six awards; iii) eight new bursaries, iv) changes to terms of four terms of bursary, and v) the removal of eighteen awards from the Undergraduate Calendar.

i. Terms of New Awards
The Fred and Dorothy O'Leary Scholarship
The Darren Lee Pratt Memorial Award for Academic/Clinical Achievement
The Lino Luison and Joanne Licursi Family Academic Grant
The Julie Patel Foundation Academic Grant
The Karen M. Mason Academic Grant in Nursing
The Canadian Medical Association 150th Anniversary Award
The Dr. Robert Chu Memorial Award

ii. Changes to Terms of Award
The Edward Frank Davis Memorial Community Contribution Award
The William Mackenzie Memorial Prize*
The Robert Taylor Scholarship in Commerce
The Leone Betty Blackwell Memorial Book Prize
The Hatch Scholarship for Aboriginal Indigenous Students
The Bill Prestwich Scholarship in Medical Physics

iii. New Bursaries
The Miriam and James Kramer Bursary
The Dr. Freda Mamkior Omaswa Memorial Bursary
The Seeta Etscharoo Memorial Bursary
The E. Anthony James Bursary
The Retired Teachers of Ontario (RTO/ERO), District 13 Bursary in Health, Aging and Society
The Canadian Medical Association 150th Anniversary Bursary
The Joseph and Joanne Lee Bursary
The Dr. Henry and Sylvia Wong Family Bursary

iv. Changes to Terms of Bursary
The William A. Detenbeck Bursaries
The Paul R. MacPherson Bursary
The Canadian Medical Foundation (CMF) Bursary
The Schenkel Medical Assistance Bursary

v. Awards Removed from the Undergraduate Calendar
The Bursary for Linguistics and Languages
The Anderson Academic Grant in Commerce
The Gene Eleanor Fleet Bursary
The Asante Sana Global Health Award

IV Award Name Changes
At its meeting of October 3, 2017, Undergraduate Council received, for information, one award name change.

V Award Value Changes
At the same meeting, Undergraduate Council received, for information, four award value changes.
VI 2016 Aid Year Award Summary Report
Also at the same meeting, Undergraduate Council received, for information, the 2016 Aid Year Award Summary.

VII In-Course, Graduand and Community Contribution Award Summary Report
At its meeting of October 3, 2017, Undergraduate Council received, for information, the In-Course, Graduand and Community Contribution Award Summary Report.

VIII Major University and External Awards Selection Committee Terms of Reference and Membership
At the same meeting, Undergraduate Council received, for information, the Major University and External Awards Selection Committee Terms of Reference and Membership.

IX Travel and Exchange Scholarship Reports
Also at the same meeting, Undergraduate Council received, for information, the Travel and Exchange Scholarship Reports.

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

Senate: October 3, 2017
For Information:

Report from the Committee on Programming in the Arts and Science Faculties (PASF) (Attached)
At its meeting of September 12, 2017, Undergraduate Council reviewed the Report from the Committee on Programming in the Arts and Sciences Faculties (PASF). Undergraduate Council approved the direction of the PASF Report and specifically approved Recommendations 3, 5, and 7 on the understanding that the recommendations referred specifically to the Faculties of Humanities, Science, and Social Sciences. The details of these three recommendations are outlined below.

The PASF Committee was struck by the Provost to examine some of the considerations and solutions put forward in the Report from the Task Force on Future Directions of the Faculties of Humanities, Social Sciences and Science (the Warner Report). The Warner Report examined the possibility and effect of merging the three Faculties of Humanities, Science and Social Sciences, as well as ways to promote the acquisition of core competencies, breadth of knowledge and flexible learning pathways for undergraduate students in these three Faculties. Following the release of the Warner Report, three committees were struck. The Joint Arts and Science Council (JASC), comprised of the Provost, and the three Faculty Deans, will facilitate a better working relationship between the three Faculties and enable them to work together on a variety of issues and initiatives, both in view now and over the horizon. The PASF Committee was struck, as noted above, to review the suggestions set out in the Warner Report in the context of the Faculties of Humanities, Science and Social Sciences. And finally, the Undergraduate Council Ad Hoc Committee on Academic Structures for Student Success (CASS) was struck by Undergraduate Council to review the suggestions in the Warner Report through the broader lens of the University as a whole and to examine and revise the General Academic Regulations in the Undergraduate Calendar. Given that the mandates of the PASF and CASS Committees had considerable overlap, there was some common membership and Ms Andrea Thyret-Kidd, who sat on both Committees, provided project management services to both.

The PASF Report included twelve recommendations directed to a series of different groups and committees on a variety of different initiatives that spanned both operational and academic considerations in the context of its mandate.

Recommendations 11 and 12, which are related to the development of writing and numeracy requirements for all students in the Faculties of Humanities, Science and Social Sciences, were directed to the Joint Arts and Science Council (JASC). An ad hoc committee of the three Faculties, known as the Tri-Faculty Committee on Writing and Numeracy, has been struck to examine, in greater depth, the possibility of writing and numeracy requirements for students
registered in programs in the three Faculties and the form such requirements might take. The results of these deliberations will be presented by the Tri-Faculty Committee to the Faculties themselves, which will then (if approved) implement the writing and numeracy requirements through their regular curriculum revision processes, and which will in turn be brought forward through Undergraduate Council for approval and to Senate as appropriate.

Recommendations 1 through 10 were addressed to Undergraduate Council and, because its Ad Hoc Committee on Academic Structures for Student Success (CASS) was already looking at many of these issues, some of these recommendations were forwarded directly to CASS. In particular, CASS took up consideration of the following recommendations:

Recommendation 1: a review of course prerequisites  
Recommendation 2: revision of the policy on Access to Undergraduate Courses in the Undergraduate Calendar  
Recommendation 4: turning on the waitlist in Mosaic  
Recommendation 6: review of and recommendations to refine and define the nomenclature associated with degree structures  
Recommendation 9: encouraging departments to consider participating in proposed new degree pathways  
Recommendation 10: review of the Challenge for Credit policy in the Undergraduate Calendar

CASS has taken these items under consideration for application to and implementation in all Faculties and has built on the PASF recommendations in its own final report. The CASS Report, which has been reviewed and approved, with amendments, by Undergraduate Council, will be reported to Senate for information in due course.

A series of recommendations from PASF, many of which were also under consideration by CASS for application and implementation University-wide, were addressed directly to Undergraduate Council for consideration specifically within the context of the Faculties of Humanities, Science and Social Sciences. These recommendations are:

Recommendation 3 advocates for opening up seats in courses. Undergraduate Council agreed that, wherever possible, departments in the Faculties of Humanities, Science and Social Sciences should find ways to open seats in all classes (with some exceptions). The PASF Report outlines suggestions about how this might be accomplished.

Recommendations 5 and 7 address the development of a major and two minors pathway, and modification of the program selection process to enable selection of two minors. Undergraduate Council agreed that the possibility of a major and two minors pathway for students in the three arts and science Faculties should be explored. Undergraduate Council struck an Ad Hoc Committee on a Major and Two Minors Pathway, chaired by Dr. Gary Warner. Given that CASS was also looking at the possibility of a major and two minors for students in all Faculties, the terms of reference for the Ad Hoc Committee was expanded to include this prospect and the composition was expanded to include student, faculty and staff members and consultants from across the University.
Recommendation 8 focuses on the development of a concurrent certificate program. Undergraduate Council acknowledged that revisions to the Senate Policy on Diplomas and Certificates, approved by Senate in May 2017, included a category of certificate that could be taken concurrently with degree studies and that would enable up to 100% overlap with degree courses and so this recommendation required no action.

As noted above, Undergraduate Council approved the direction of the PASF Report and specifically recommendations 3, 7, and 7, all within the context of the Faculties of Humanities, Science and Social Sciences.

Senate: October 11, 2017
Programming in the Arts & Science Faculties (PASF) Report

Dr. Susan Searls Giroux (Chair)
Dr. Anna Moro
Dr. Mic Farquharson
Dr. Lori Campbell
Dr. Greg Hooks
Dr. Sean Corner
Dr. Maureen MacDonald
Ms. Chantelle Wardak
Ms. Bhavya Singh
Ms. Kaitlyn Zarcone-Beam
Dr. Del Harnish
Dr. Jean Wilson
Ms. Lynn Giordano
Ms. Andrea Thyret-Kidd
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PASF Report - March 2017
Background:
In May 2015 the Deans of the Humanities, Social Sciences and Science Faculties penned a joint letter to the members of their communities. The letter discussed current opportunities and challenges for universities and how the three faculties could best position themselves to be responsive to the educational and research challenges of the twenty-first century. They subsequently created a task force whose work culminated in the 2016 “Report by the Task Force on Future Directions for the Faculties of Humanities, Social Sciences and Science”, commonly referred to as the Warner Report. The task force considered whether the three Faculties should be merged and how to promote the acquisition of core competencies and broad, interdisciplinary learning by undergraduate students from across the faculties. The task force identified a series of impediments to such learning and outlined some possible solutions. In response to the Warner Report, the Joint Arts and Science Council (JASC) was created and in the summer of 2016 JASC struck the Programming in the Arts & Science Faculties (PASF) committee to continue the work of the Warner Report.

Terms of Reference:
The committee will continue the work of the Warner Report. The committee is asked to review previous and current McMaster interdisciplinary successes and the efforts of competing universities. The committee is asked to consider what type of student the Warner report wanted to graduate and possible ways to achieve this goal in ways that maximize student flexibility and minimize administrative burden.

Specifically:

- Consider a re-focus on a set of core competencies for all humanities, social science and science students
- Consider mechanisms which encourage students to take courses outside of their home Faculty
- Consider a series of interdisciplinary courses that span Faculty interests and do not have specific prerequisites
- Consider allowing students to create a ‘personalized’ interdisciplinary program, with appropriate approvals from faculty members and student advisors
- Consider requiring departments to significantly reduce the number of required discipline-specific undergraduate courses students must take for their degree
- Consider removing barriers which impede students from being able to explore their interests
- Consider and make recommendations which require reasonable resources for record keeping, business processes, and student advising

PASF Report - March 2017
The committee is further asked to make specific recommendations and set timelines for how to implement the ideas the committee recommends.

The committee is asked to complete their report by February 1, 2017. The report and recommendations will be sent to the Provost & three Faculty Deans.

Composition of Committee:

Chair
- Associate Vice-President, Faculty
  - Susan Searls-Giroux

Committee Members
- 3 Associate Deans
  - Anna Moro, Humanities
  - Lori Campbell, Social Sciences
  - Mic Farquharson, Science
- 3 Faculty members, one from each of Humanities, Social Sciences and Science
  - Maureen MacDonald (Science)
  - Greg Hooks, (Social Sciences)
  - Sean Corner (Humanities)
- 3 undergraduate students
  - Chantelle Wardak (Social Sciences)
  - Bhavya Singh (Science)
  - Kaitlyn Zarcone-Beam (Humanities)
- 1 Assistant Dean (Studies)
  - Lynn Giordano (Social Sciences)

Observers & Consultants
- Director, Arts & Science program
  - Jean Wilson
- 1 faculty member representing the other Faculties
  - Del Hamish, Health Sciences

Project Manager
- Andrea Thyret-Kidd, Provost’s Office

PASF Report - March 2017
Introduction

McMaster is in a competitive enrolment environment, and while the university has experienced significant growth for over a decade, this growth should not be taken for granted. Shifting provincial demographics indicate post-secondary education in Ontario is entering a period of decline in enrolments. At the same time, there is increased competition for students, particularly greater Toronto area students, with new university campuses planned for Brampton and Milton. We need to ensure that we retain our competitive edge and continue to be a top choice for students in this changing environment, while continuing to assess the quality and impact of the academic programming we offer.

McMaster should recognize and be attentive to the ongoing transformation of the labor market and the challenges our graduates will confront over the course of their careers. The majority of Ontario’s university graduates report a close match between the subject matter studied and the job they hold: 72% at six months after graduation and 79% two years after graduation according to a 2015 survey.¹ Boudarbat and Chernoff² found that 64.9% of university graduates in Canada reported five years after graduation that their current job was “closely related” to their education. They employed quantitative methods (specifically logistic regression) to control for a number of factors that might influence this match. These methods reveal a good deal of variation in outcomes according to field of study. Compared to the base field of ‘social sciences and law’, those with a degree in a more vocational field—education, business, mathematics/computer science, engineering, and health sciences—were, all else being equal, significantly more likely to obtain a job closely related to their field of education. Those with a degree in the arts or the humanities were significantly less likely to do so, and there was no statistically significant difference between physical and life science and social sciences.³ Thus a significant number of McMaster graduates, especially from the arts and sciences faculties, will pursue jobs and careers that are only indirectly tied to their university majors. Given these trends, we believe that allowing and encouraging our students to explore a number of disciplines and building breadth into degree requirements will serve them well over the course of their careers. Achieving this will require the removal of significant barriers that currently exist at McMaster.

The recommendations in this report are expected to generate questions and conversations with a goal of improving the undergraduate experience for humanities, social sciences and science students at McMaster. The suggested recommendations will take time to develop and implement. They will also require the involvement of departments, faculty offices and central offices. The recommendations revolve around

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³ Ibid., page 1925.

PASF Report - March 2017
three themes: removing barriers, encouraging interdisciplinary study and being deliberate in the delivery of core competencies.
REMOVING BARRIERS

The Warner Report expressed concern regarding barriers that potentially hinder students from exploring courses outside of their majors. The PASF Committee shares these concerns. Specifically, the committee is concerned about the use of prerequisites, the perceived graduation guarantee, the growing use of reserve capacities, the use of a student’s program and level in the reserve capacity process, and the lack of available data regarding which courses students want to take. Processes have been built over time in response to the University’s growth, old and new budget models, classroom shortages, and the difficulties of scheduling classes and exams imposed by the lack of space. Some unintended consequences of these processes include barriers to student exploration across and within faculties and areas of study. The committee believes that these processes, which are all related to how the University enrolls students in classes need to be altered. The following recommendations are designed to work as an ensemble to enable students to explore courses more broadly.

Prerequisites:

The committee recognizes that departments across the six Faculties are currently using prerequisites to accomplish two tasks: to support student success in the course (by ensuring sufficient preparation and scaffolding of skills) and to control seats (i.e., which students have access to a seat in a particular course). The task of controlling seats has, in some cases, become the driving force behind prerequisites. The PASF committee does not believe that prerequisites are the appropriate tool to accomplish the task of controlling seats (which can be accomplished by other, administrative means).

The committee identified two prerequisite policies at other universities that are worth noting (see Appendix A). The policy at University of Minnesota states:

Prerequisites inform students that, in order to be successful in a particular course, they must enter the course already having attained specific knowledge as a necessary background. Prerequisites provide a process for directing students to courses for which the students are adequately prepared.

The University of the Fraser Valley’s policy states that prerequisites exist “to ensure that students have a reasonable chance of success in achieving the learning outcomes of a given course.” The committee strongly believes that prerequisites should be employed only to support student preparedness for and success in a course. It may be necessary, academically, that students take certain courses in a particular sequence or have specific background knowledge for a course. However, in other cases it is possible to teach a course that it does not require prior preparation (e.g., by providing salutary review for students who have more preparation and at the same time

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introducing the material to students who have less). Or courses could be open to students with a certain amount of general but not specific preparation, or to students who have taken certain courses (or a certain number of courses) in the area. The committee believes that many prerequisites currently in place may not, in fact, be necessary for student success.

**RECOMMENDATION 1:**

Undergraduate Council creates guidelines for prerequisites to be employed in the annual curriculum process and in the IQAP curricular review. The guidelines should be established and in place for the 2018-19 academic year.

Departments review their course prerequisites against the guidelines and implement a prerequisite structure which enables student success. The stated goal should be to minimize the number of prerequisites and to remove unnecessary prerequisites. Prerequisites that serve purposes other than student success, such as controlling seats, should be removed.

The undergraduate IQAP process be modified to include a review of all prerequisites.

**Graduation Guarantee:**

McMaster has serious issues with classroom space and a significant amount of administrative effort is required to schedule and enrol students in courses. A number of issues makes the process for putting students into classrooms very complex.

McMaster has a policy on Access to Undergraduate Courses. It reads:

> McMaster’s policy on access to Undergraduate courses is designed to ensure that resources are properly managed while enabling students to enrol in required courses so that their program admission requirements and course requisites can be met, and that their program of study is not extended.

This policy has come to be interpreted as a ‘graduation guarantee’ and represented as such for the purposes of recruitment. The PASF committee agrees students should be able to graduate on time but is concerned about some assumptions and unintended consequences that have arisen in the application of this policy.

As the committee reads the policy, it is not a graduation guarantee, but rather a guarantee that students will have access to required courses for timely graduation. The committee discussed the proviso that a student’s program of study not be extended due to administrative short comings. There are many reasons why students may choose to extend their study, whether by virtue of changing programs, going on exchange, reducing course load, or simply choosing to delay graduation. Students should have

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the freedom to change or extend their course of study. The important point is that a student’s time to graduation should not be extended due to the University’s failure to provide access to required courses in a timely manner.

The committee would like to draw attention to a section of the Academic Regulations that is an important complement to the Policy on Access to Undergraduate Courses. The policy states:

Students must assume certain responsibilities. They include: ... selecting courses that meet the program requirements, completing courses in an order that meets prerequisite requirements ....

There exist anecdotal reports of students who, during the enrolment windows in June, fill their schedule with elective courses, knowing that departments hold seats in required courses long past those enrolment windows. Departments thus allow students to enrol in their required courses as late as September. Holding seats in courses in this manner prevents other students from gaining access to the course as an elective. Departments should discontinue these practices and should hold seats for students requiring the course only for a reasonable amount of time, and then release the seats (see Opening Seats in Courses recommendation below). As per the statement of Student Academic Responsibility, cited above, students must take responsibility for enrolling in the correct courses and for assuming the consequences when they fail to do so. Department and Faculty offices may want to develop a communication strategy to help students understand what is expected of them.

RECOMMENDATION 2:

The University not interpret the Policy on Access to Undergraduate Courses as a "graduation guarantee", but rather interpret it as a "required course guarantee".

The policy on Access to Undergraduate Courses should be modified to read:

McMaster’s policy on Access to Undergraduate courses is designed to ensure that resources are properly managed while enabling students are able to enrol in required courses so that their program admission requirements and course requisites can be met in a timely manner, and that their program of study is not extended.

Opening Seats in Courses:

Departments currently use reserve capacities (in addition to prerequisites) to control seats. Reserve capacity is an administrative tool in Mosaic (and previously SOLAR) that allows departments to dedicate seats in classes to specific types of students based on program and/or level of study. It is important to ensure that seats are saved for students who require the course. It is additionally appropriate to protect 4th-year

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seminars, field-trip classes, and thesis, capstone, laboratory, performance courses, etc. As McMaster has grown, classroom space has become a significant issue and the use of reserve capacities has increased. Originally, reserve capacities were used for large courses which were difficult to schedule but the use has spread to other courses and reserve capacities are now used in this way more than ever before. In some courses the vast majority of seats are reserved for students who require the course or who are program students, leaving little to no seats for students wanting to take the course as an elective.

The previous budget model did not reward faculties for teaching students from other faculties but this has now changed. In the current budget model, faculties benefit financially from providing seats to students from other faculties. However, it is not clear that seats are being made available in significant numbers, in a diversity of courses, or equitably across faculties. The incentive, though, is not only budgetary. In the view of the committee it is of intellectual and pedagogical value to have students from different programs and faculties, who bring different perspectives, learning together in the same class. These financial and educational incentives should encourage departments to review what courses they offer and what blend of students is desirable in those courses.

The committee compared 2016-17 course requirements for three departments - Sociology, Biology and English - at McMaster University, Queen's University, the University of Toronto (St. George) and Western University. The review looked at how many courses were available for each level of study, how many courses had no prerequisite, and what types of requirements were in place. Each university has a unique way of setting requisites for courses but what is common is that each department has a group of courses that are relatively open. Often these courses simply require successful completion of a first-year course and/or a second-year course. Beyond these 'open courses' the departments start restricting access to courses through program and/or level requirements and/or required permissions. The review looked at what percentage of each department's courses were open. What is immediately apparent is that McMaster, in these three departments, has the fewest open courses compared to the other universities.
Percentage of Open Courses*

<table>
<thead>
<tr>
<th></th>
<th>Sociology</th>
<th>Biology</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>McMaster</td>
<td>31.4%</td>
<td>2.4%</td>
<td>33.8%</td>
</tr>
<tr>
<td>Queen's</td>
<td>52.9%</td>
<td>7.2%</td>
<td>33.9%</td>
</tr>
<tr>
<td>Western</td>
<td>46.9%</td>
<td>16.8%</td>
<td>99.1%</td>
</tr>
<tr>
<td>Toronto St. George</td>
<td>55.8%</td>
<td>23.2% (Cell &amp; Systems Biology only)</td>
<td>78.2%</td>
</tr>
</tbody>
</table>

*See Appendix B for more details.

It is striking to see such high percentages of open courses in some departments at these other institutions. For example:

- In U of T’s Sociology department 62 of 111 courses either have no prerequisite, require 6 units of Level I sociology, or require 3 units at the 200+ level (meaning a total of 9 units of sociology)

- Toronto’s Biology department’s most onerous requirement in the open courses is 12 units of chemistry and biology

- Western’s English department has 20 courses with no prerequisite, 52 courses which require 6 units of Level I english with a minimum grade of 60%, and 48 courses that require 12 units of english

McMaster’s percentages are lower due to our use of program and level requirements; we are much quicker to close the door on students coming from other programs and levels.

Student members on the committee gave examples of the impact these requirements have on their university experience. One of the student members is in her fourth year of the Health, Aging and Society program. When she was in second year, she was interested in taking Sociology 3G03 (Sociology of Health Care) as an elective course. She felt the course complimented her studies and she had the prerequisite, but she was denied access because she was not in third year. In her third year she was denied access because she was in the wrong program. When she was unable to enrol in the course in fourth year, she contacted the Sociology Department and the instructor and was told she would have to keep watching the course on Mosaic to see if a seat came available. Happily, she ‘got lucky’ and was able to enrol in the course when a seat did open, presumably when another student dropped it. Another student committee member is in the Linguistics and Languages program. Students who wish to apply to a
graduate speech language pathology program are required to have taken 6 units of anatomy. However, there are no seats in the first year anatomy course reserved for humanities students and students have to earn their anatomy units at another university through a letter of permission. This is a source of enormous frustration and consternation among the dozens and dozens of students caught in this untenable position. Arts and Science students who wish to apply to dentistry programs have the same issue and are also forced to take anatomy classes at another university.

Many of McMaster’s reserve capacities are based on the student’s program and/or level of study. The committee questions why there is an effort to move students through programs in this lockstep way. Holding seats for students based on level has meant that students flow through their degree in somewhat hierarchical bands of courses (students in second year take Level II courses; third-year students take Level III courses, etc.). When pedagogy requires foundational or preparatory learning, this lockstep pathway may be appropriate, but it does not afford students much flexibility or room for exploration. Why can’t a student from 2nd-year take a 3rd-year course, or a 3rd-year student take a 4th-year course? While this is possible in some cases now, it is not the norm. Students should be able to explore courses more freely and only be restricted by proper prerequisites. Prerequisites only based on supporting student success should greatly reduce the need for reserve capacities based on level or program.

Reserve capacities by level are additionally used as a way of ensuring that seats are available when enrolment windows open. Fourth-level students enrol before third-level students, who enrol before second-level students, etc. Consequently there is a concern that upper-level students will take too many seats in lower-year courses causing a shortage of seats in those courses by the time the later enrolment windows open. Reserve capacities can be removed at any time in the enrolment process, with the consequence that seats can be held during the enrolment windows in June, and unused seats released at a later point. The decision to release seats rests with departments and typically seats are released at the end of August or early September. In speaking with Western University and the University of Toronto the committee learned that they release seats much earlier, e.g., two weeks after the last enrolment window opens.

If the barriers described above are not addressed, other recommendations in this report designed to encourage student exploration will be significantly hampered. For example, if we promote a major and two minors option to students (to be discussed later), we must anticipate that students will want to take courses we do not expect them to take. This may put additional pressure on first-year courses that already have many pressures on them. There are also a number of courses in economics, math, chemistry and biology that are in high demand because they serve as prerequisite courses for many programs within and beyond their own faculty. Currently seats are held for
students who are required to take these courses, but with the creation of a major and two minor option, interest/demand may increase. Space will need to be made available.

All three students on the committee attest that the opportunity to have access to courses that they are currently blocked from taking would appeal to and excite them. This issue of access to courses is not restricted to the Humanities, Science and Social Sciences Faculties. It is important that all Faculties make seats available to students outside of their programs.

In most Faculties, general interest courses have recently been launched. This is a welcome development as these courses have facilitated exploration by students. The committee recommends that departments and programs take advantage of these kinds of courses to create pathways for further exploration, including their inclusion in minors and majors (e.g., major and two minors).

RECOMMENDATION 3:

Require departments to find ways to open seats in ALL classes except 4th-year seminars, thesis, capstone, field-trip, laboratory, performance courses, etc. The committee discussed four possible ways to achieve this goal:

1. A requirement that a percentage of seats in each class (20%) are open enrolment – meaning any student with the prerequisite can take the course, with no program or level requirement.
2. Departments agree to shorten the length of time reserve capacities are in place.
3. Departments are encouraged to review the use of program and level requirements in the reserve capacity process.
4. Departments set the same enrolment capacity and requested room capacity unless there is a strong pedagogical reason for not doing so.

Additionally, this recommendation should be passed along to the Committee on Academic Structures for Student Success (CASS) as it will yield the most benefit to students if all faculties open more seats in their courses.

Waiting Lists:

McMaster has limited knowledge of current or future student interest in individual courses. Our planning tools are predicated on past behaviour, which has been shaped by the way prerequisites and reserve capacities have been used to manage enrolment. It is difficult for departments to be responsive to student demand when we have such limited data. Mosaic has an automated waiting-list tool that has not been turned on yet due to the anticipated (and actual) disruption of the switch from SOLAR to Mosaic. Now that enrolment in Mosaic is better understood by both staff and students, the committee recommends the wait-list tool be activated. The sooner we turn this tool on, the sooner

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we will have real data to measure student demand for specific courses, which will aid departmental planning. It is important to ease the stress on departments and administrative staff by utilizing every tool available for the difficult process of scheduling and enrolling students in courses. Additionally, there are planning tools available to students in Mosaic that can be data mined. Any methods or processes that generate information on student demand should be explored.

RECOMMENDATION 4:

The Provost with the Deans investigate and allocate the resources required to activate the Mosaic wait-list tool by the summer of 2018.
INTERDISCIPLINARY STUDY

Major and Two Minors:
The Warner Report posed the following questions:

Are we well positioned to facilitate the emergence of "leaps of knowledge" while, at the same time, preserving and reinvigorating ancient or traditional knowledge? Are we well positioned to prepare our students for the constant reinvention of themselves and multiple careers that lay ahead for them?

The PASF committee was asked to consider mechanisms which encourage students to take courses outside of their home Faculty and to consider allowing students to create a 'personalized' interdisciplinary program.

With the exception of the Arts and Science program, Faculties and departments design curricula which reward specialization. Programs at McMaster excel at preparing students for graduate school, a strength that should, of course, be maintained. However, not all students, in fact not even the majority of students, will attend graduate school and those that do also stand to benefit from intellectual breadth. The committee believes McMaster University has the ability to produce both excellent candidates for graduate school and excellent candidates for employment. Exposing students to multiple fields of study and methodologies is desirable in itself and makes good sense for students who will have multiple careers in their working lives. The committee recommends the creation of a "major and two minors" pathway leading to either a Hons. B.A. or a Hons. B.Sc. as a way of formally encouraging and recognizing interdisciplinary study.

Currently, many programs offer students the option to earn a "combined honours" degree requiring a stipulated number of units from two programs – see Appendix C. In a major and two minors option, the 'major' component of the degree would be satisfied in the same way as one half of a combined honours degree; students would add two minors (24 units each) to complete the degree. The full range of minor options, from all Faculties, would be available for students pursuing this degree. Minors should include no more than 6 Level I units and a maximum of 12 units could be double counted. The required unit count towards a major and two minors might look as follows:
### Required Unit Counts for Major and 2 Minor Degrees*

<table>
<thead>
<tr>
<th>Honours degree = 120 units</th>
<th>Humanities</th>
<th>Science</th>
<th>Social Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year</td>
<td>6 units towards 1\textsuperscript{st} minor</td>
<td>6 units towards 1\textsuperscript{st} minor</td>
<td>6 units towards 1\textsuperscript{st} minor</td>
</tr>
<tr>
<td></td>
<td>6 units towards 2\textsuperscript{nd} minor</td>
<td>6 units towards 2\textsuperscript{nd} minor</td>
<td>6 units towards 2\textsuperscript{nd} minor</td>
</tr>
<tr>
<td>Major</td>
<td>33-45</td>
<td>~36-45</td>
<td>36-42</td>
</tr>
<tr>
<td>1\textsuperscript{st} Minor</td>
<td>18</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>2\textsuperscript{nd} Minor</td>
<td>18</td>
<td>24</td>
<td>18</td>
</tr>
<tr>
<td>Total Required Unit Count</td>
<td>81 - 93</td>
<td>84-93</td>
<td>84 – 90</td>
</tr>
</tbody>
</table>

*Assuming no double counting.

The Faculties of Humanities and Social Sciences are well positioned for this change. Every department has established program requirements for a combined honours degree. The Faculty of Science, however, has fewer combined degrees and those that exist are more narrowly defined. For example, the Biology and Environmental Science combined honours degree requires 27 units of biology, 33 units of environmental science, 3 units of statistics and 6 units from either biology or environmental science and students are limited to this specific combination. In order for science students to be able to participate in the new pathway, Science departments who wish to participate will need to establish a set of requirements for achievement of a major in their discipline as part of a major and two minors degree. Currently, first-year science students are generally required to take 24 Level I science units in order to become eligible for Level II science programs. Science students are well positioned to earn science minors as so many of their Level I units are science courses. However, there is little room in first year to take elective units from other faculties which could lead to minors.

The major and two minors pathway would lead to an honours degree. It is important that the degree has academic rigour. To that end departments should ensure that an appropriate number of the units required for the major component of the degree are at Levels III and IV. Without requiring specific courses, Science minors often require a minimum of 6 units at Level III or above (see Appendix D); in the interest of academic rigour other departments might consider following suit.
RECOMMENDATION 5:

Undergraduate Council create a major and two minors pathway leading to either a Hons. B.A. or Hons. B.Sc. This should be in place for the 2019-2020 academic year.

Definition and Nomenclature:

If McMaster adopts the major and two minors pathway, continued use of the term ‘combined honours’ is likely to cause confusion. As a major in the new pathway would satisfy the same requirements as one half of a combined honours degree, it makes sense that ‘combined honours’ should be re-named a ‘double major’.

There is currently some ambiguity in the use of such designations at McMaster; the committee recommends the establishment of clear and consistent definitions of the terms “specialization”, “honours”, “major” and “double major”. The term “minor” was defined when the concept was introduced in the 1990s in an Ad Hoc Undergraduate Council Committee report. Six recommendations were approved which outlined how a minor was to be introduced and administered and what it should consist of. Formal definitions of ‘specialization’, ‘honours’, and ‘combined honours’, however, are lacking and a review of McMaster honours programs shows a wide range in the number of units required. In Humanities, the required units in an honours degree can range from 57-78 while in Social Sciences the range is 63 – 84. The range for a Hons. B.Sc. is 57 – 96. The committee believes that this is too disparate (21 units representing seven 3-unit courses, or 70% of a year’s study). While the range may be attributed in part to new “specialized honours” degrees targeted towards students who are intending to pursue graduate studies, other factors are involved. The Warner Report identified as a problem “a slow creep of program and disciplinary requirements over the decades, and indeed, the very way in which a student’s education and experience at the University is cast within a rigidly disciplinary framework.” The report went on to recommend that programs should reduce the number of required discipline-specific courses.

The PASF committee is not well positioned to do the work of defining these terms. A nomenclature review would affect all undergraduate programs and thus all faculties should be represented. The committee currently reviewing academic structures would be an appropriate body to do this work.

RECOMMENDATION 6:

McMaster University discontinue the term ‘combined honours’ and replace it with the term ‘double major’.

The Committee on Academic Structures for Student Success (CASS) conduct a review with respect to the terms ‘specialization’, ‘honours’, ‘major’, ‘double major’ and ‘minor’ to determine appropriate required unit ranges and administrative arrangements. The review should be complete by December 2017.

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Declaring Minors:

Students currently declare minors as part of the graduation process. With the creation of a major and two minors pathway, faculties will require that declaration earlier. Every May and/or August, students’ academic progress is reviewed. Without knowing which two minors the student is trying to complete, it will be difficult to review their progress. Additionally, it will benefit department planning to know how many students are taking courses to earn a minor. The program selection process could be modified to allow students to add one or two minors. Students in the major and two minors option should be required to declare their minors as part of the Level II selection process and to use the program change process should they wish to make changes after Level II. Students earning an honours or specialization should also be able to declare their minor as part of the Level II selection process. This should not be required, however, as students on this pathway may realize later in their degree that they wish to complete a minor. The option to declare a minor should be available to these students up to the time of graduation.

RECOMMENDATION 7:

The program selection process be modified to allow students to add up to two minors. Students enrolling in the major and two minors pathway are required to declare their minor programs as part of the Level II selection process. This work should be complete for the 2019-2020 academic year.

Certificates:

Continuing with the theme of recognizing student achievements in ways commensurate with future employment opportunities, certificates offer students the opportunity to develop skills and/or study broadly and gain a valuable credential. The committee finds that certificates align nicely with the mandate of this report. Currently, however, McMaster certificates must include a percentage of unique units (40%) dedicated towards the certificate and not counted towards a degree. For a certificate with 15 units, this means 6 units of work must be unique to the certificate. In effect, this means students must pay for and take extra courses outside of their degree, which may delay graduation and be cost prohibitive for many. A review of the Policy on Certificates and Diplomas is currently underway and the PASF committee does not wish to interfere with that on-going work, but would like to make a specific recommendation on the issue of certificates. The committee feels strongly that it should be possible to earn a certificate within the 120 units of an honours degree, meaning that the units earned for the certificate count towards both the certificate and the degree.

RECOMMENDATION 8:

Undergraduate Council create options for certificates that can be achieved within the 120 units of a Hons. B.A. or Hons. B.Sc. degree.

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Department Reviews:

It is not the expectation of this committee that all departments will want to provide every option to their students. Departments would need to determine whether they wish to offer a major or minor as part of a major and two minors option and what, if any, certificates to offer. This would, of course, require consideration of a number of factors, including student interest and the implications for the department’s curriculum. One important consideration is how students might switch between pathways (e.g., should a student enrolled in an honours path decide in third year they would rather pursue a major and two minors or vice versa). Any new standards in respect of unit requirements for various pathways might also require a department to revise its curriculum and course offerings.

RECOMMENDATION 9:

Departments consider which pathways to degrees they wish to offer and make curriculum adjustments through the Undergraduate Council curriculum process. The Warner Report’s recommendation that programs reduce the number of required discipline-specific courses to afford students more time for exploration and interdisciplinary study should be part of the conversation. Curriculum changes will be approved by Undergraduate Council in 2018-2019.

The undergraduate IQAP process be modified to include a review of the pathway(s) offered by the department.

Challenge for Credit:

Currently McMaster has a challenge for credit policy. This is found in the Admissions section of the Undergraduate Calendar rather than the Academic Regulations section. Committee members were unaware of the existence of this policy and it appears that the option to challenge for credit is rarely, if ever, utilized. The policy reads:

Credit in Courses by Special Assessment (Challenge Examinations)

If you have acquired knowledge at a different type of institution or in a manner that makes assessment of your qualifications difficult, you may be permitted to seek degree credit through special assessment (Challenge for Credit).

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

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

The committee feels that this language may discourage students to challenge courses and its location in the calendar makes it unlikely that students will be aware of the option. In the United States, schools have created gateway programs incorporating challenge exams as a path for mature students to return to university. McMaster has experienced a great deal of student growth for many years but that growth has not been evenly distributed among the Faculties. Humanities and Social Sciences have not experienced the same level of student enrolment and mature students may be a new market to pursue. This is just one example of a circumstance in which challenge for credit would expand options for students and departments while acknowledging anticipated demographic shifts in enrolment.

The students on the committee were unaware of the challenge for credit option and were immediately able to think of situations in which they might have utilized it. For example, students who go on exchange may wish to challenge a language credit. Similarly, a student might be in a position to challenge a required statistics course. Challenge exams also offer a way for students to demonstrate fitness to enter a course without a prerequisite; the student may lack a specific prerequisite, but nevertheless be well positioned to pass a challenge for credit by virtue of other courses they have taken in the department or of independent study. They might demonstrate this by sitting for a challenge exam, not for credit, but to gain admission to the course.

RECOMMENDATION 10:

The Committee on Academic Structures for Student Success (CASS) conduct a review of the challenge for credit policy and make recommendations about whether it should be revised and/or expanded.
CORE COMPETENCIES

The PASF committee reviewed how other institutions approach core competencies and graduation requirements. Schools with the approach of mandating study tend to have a distribution or breadth requirement and/or a writing requirement. The distribution approach simply requires students to complete a minimum of 3 or 6 units of courses from each of the three faculties. This ensures students are exposed to different areas during their time at university. Breadth requirements are more involved as they stipulate a particular structure of distribution and so entail the categorization of all undergraduate courses. The University of Toronto St. George Campus, for example, has five breadth categories:

1. Creative and Cultural Representations
2. Thought, Belief, and Behaviour
3. Society and Its Institutions
4. Living Things and Their Environment
5. The Physical and Mathematical Universes

Students are required to take a specific number of units (24 units at U of T) across the breadth categories, ensuring that students are exposed to a broad range of courses across the stipulated areas. Universities with distribution or breadth requirements have been thoughtful and deliberate about how students can satisfy the requirements and, while there was some debate about requiring students to take a range of courses, the majority of the committee, including its student members, felt that this is desirable. The committee also discussed the benefit of a common reading programme (in which first-year students all have the common experience of studying the same book), the possibility in addition to distribution or breadth requirements of creating new interdisciplinary courses and/or courses specifically designed for non-specialists, and core competency courses. For its recommendations, the committee decided to concentrate, as a first step, on writing and numeracy requirements.

Writing Requirement:

The ability to write clearly and cogently is a crucial and fundamental skill which all arts and science students should develop throughout their undergraduate careers. The committee was in agreement that students should learn to write within the genre appropriate to their field of study but should also learn skills of written communication and argumentation of general applicability, and that their education in writing should extend beyond only academic writing to other forms of written communication important in today's world (technical reports, memoranda, writing for social media, etc.).

There is a widespread view, shared within the committee, that as things currently stand many students are not reaching a sufficient level of competence. Achieving this requires more than merely designating existing courses that have a writing component
as writing courses. It requires a dedicated foundational writing course (involving intensive instruction, criticism, and practice) and ongoing development throughout a student's university career.

The committee favours a required introductory 3-unit writing course followed by 9 required units of courses in the student's field of study with a writing component meeting certain curricular requirements. The committee discussed how to design and deliver an introductory writing course. The committee felt strongly that the delivery of such a course should be a shared responsibility and that tasking one department with the responsibility for teaching it is not advisable. Expertise in writing exists across the campus and it is important to leverage that knowledge and all faculties and departments should be engaged and involved in the delivery of writing skills. Indeed, the committee believes that every department should give consideration to writing competency in the context of their IQAP report. The committee recommends:

- A required 3-unit foundation course with key writing skills delivered as on-line modules and in-class tutorials focussed on discipline-specific writing, and
- The establishment of curricular criteria that a course must meet to count to the fulfillment of a writing requirement. Students are required to take 9 units of writing courses before graduation.

Importantly, instructors should be supported by a central writing center. It was suggested that senior PhD students might be employed to teach writing courses and/or to work in the writing center, to the benefit of their professional development.

Concerns were expressed which the committee did not have the time to fully explore and resolve, e.g. expertise in writing pedagogy, the time commitment for faculty members teaching a writing class, the difficulty of getting students to make use of a writing center, the need for appropriate expertise in writing styles appropriate for technical fields of study, etc. Additionally, the committee recognized that implementation will require funding and space. To work out these questions it would be advisable to include campus partners like the MacPherson Institute, the Student Success Center and CCE (who were not represented on the committee) in the conversation and to learn from the best practices of other institutions in respect of how to structure and implement a writing requirement.

RECOMMENDATION 11:
All students in the Humanities, Social Sciences and Science Faculties take a 3-unit foundational writing course and a further 9 units in courses identified as fulfilling the writing requirement. The committee recommends that a committee of 6 faculty members (2 from each faculty) and 3 students (1 from each faculty) be struck, together with appropriate campus partners, to work out in greater detail how to implement a
writing requirement. The committee recommends that the writing requirement be in place for incoming 2019-20 students.

Numeracy Requirement:
The discussion of numeracy skills centered on numerical literacy. Many arts and science students are required to take a math and/or statistics course as part of their program requirements, and while these are critically important to progressing in the student’s program, the committee was not focussed on this type of skill. An arts and science graduate should have sufficient numeracy skills to function well in society: to be able to reason with quantities and numbers, to understand news reports quoting numbers and statistics, to be able to make decisions involving numbers in a competent manner, etc. The committee was very interested in the new Math 2UU3 course designed by Dr. Miroslav Lovric with the following course objectives:

- To show that math is indeed relevant and a lot more interesting than formulas and algebraic manipulations taught in high school and in some university math courses.
- To discuss a variety of important and amazing mathematical concepts, notions, and ideas, and to connect them to sciences, humanities, social sciences, and other disciplines.
- To inform and learn about critical problems that we, and our planet, face in the near (and not so near) future. To equip us with tools and skills that will enable us to live as concerned, reflective, and constructive citizens.
- To improve our logical thinking skills, so that we can learn how to be smart and alert in dealing with everyday situations, and to make good decisions based on knowing how to analyze numeric and statistical information.
- To recognize nonsense, fake science, intentionally misleading narratives, and fallacies in someone’s arguments, in our daily interactions with other people, in media, books, newspapers, research articles, and on the internet.
- To teach us how to reason about risk, probability and chance.
- To present basics of inference and its importance in supporting scientific (and general) arguments.
- To motivate us to learn more on our own, to appreciate ideas in mathematics and statistics, and to use them whenever appropriate.

It would be problematic to rely on one course and one faculty member to deliver numeracy skills. Ideally, there would be multiple courses available that would fulfil a numeracy requirement, for example, a course on personal finance may also qualify. Initially, it is important to establish curricula criteria for a numeracy course.
RECOMMENDATION 12:

All students in the Humanities and Social Sciences Faculties meet a 3-unit numeracy requirement. The committee recommends that a committee of 6 faculty members (2 from each faculty) and 3 students (1 from each faculty) be struck to propose curricular criteria for a course to be counted as a numeracy course, to be submitted for approval by the Undergraduate Curriculum Committee and Senate. Once the curriculum is set, departments would submit courses to be designated as numeracy courses and a sufficient number of courses and seats would then have to be made available in order for students to fulfill the requirement before graduation. The committee recommends that the numeracy requirement be in place for incoming 2019-20 students.
Summary of Recommendations and Responsible Party:

RECOMMENDATION #1:

Undergraduate Council creates guidelines for prerequisites to be employed in the annual curriculum process and in the IQAP curricular review. The guidelines should be established and in place for the 2018-19 academic year.

Departments review their course prerequisites against the guidelines and implement a prerequisite structure which enables student success. The stated goal should be to minimize the number of prerequisites and to remove unnecessary prerequisites. Prerequisites that serve purposes other than student success, such as controlling seats, should be removed.

The undergraduate IQAP process be modified to include a review of all prerequisites.

Responsible Party – Undergraduate Department & Program Curriculum Committees

RECOMMENDATION #2:

The University not interpret the Policy on Access to Undergraduate Courses as a “graduation guarantee”, but rather interpret it as a “required course guarantee”.

The policy on Access to Undergraduate Courses should be modified to read:

McMaster’s policy on Access to Undergraduate courses is designed to ensure that that resources are properly managed while enabling students are able to enrol in required courses so that their program admission requirements and course requisites can be met in a timely manner, and that their program of study is not extended

Responsible Party – Undergraduate Council

RECOMMENDATION #3:

Require departments to find ways to open seats in ALL classes except 4th-year seminars, thesis, capstone, field-trip, laboratory, performance courses, etc. The committee discussed four possible ways to achieve this goal:

1. A requirement that a percentage of seats in each class (20%) are open enrolment – meaning any student with the prerequisite can take the course, with no program or level requirement.
2. Departments agree to shorten the length of time reserve capacities are in place.
3. Departments are encouraged to review the use of program and level requirements in the reserve capacity process.

PASF Report - March 2017
4. Departments set the same enrolment capacity and requested room capacity unless there is a strong pedagogical reason for not doing so. Additionally, this recommendation should be passed along to the Committee on Academic Structures for Student Success (CASS) as it will yield the most benefit to students if all faculties open more seats in their courses.

**Responsible Party – Undergraduate Departments & Programs**

**RECOMMENDATION #4:**

The Provost with the Deans investigate and allocate the resources required to activate the Mosaic wait-list tool by the summer of 2018.

**Responsible Party – Provost, Deans, UTS, Registrar’s Office and Faculty Offices**

**RECOMMENDATION #5:**

Undergraduate Council create a major and two minors pathway leading to either a Hons. B.A. or Hons. B.Sc. This should be in place for the 2019-2020 academic year.

**Responsible Party: Undergraduate Council**

**RECOMMENDATION #6:**

McMaster University discontinue the term ‘combined honours’ and replace it with the term ‘double major’.

The Committee on Academic Structures for Student Success (CASS) conduct a review with respect to the terms ‘specialization’, ‘honours’, ‘major’, ‘double major’ and ‘minor’ to determine appropriate required unit ranges and administrative arrangements. The review should be complete by December 2017.

**Responsible Party – CASS, recommendations to Undergraduate Council**

**RECOMMENDATION #7:**

The program selection process be modified to allow students to add up to two minors. Students enrolling in the major and two minors pathway are required to declare their minor programs as part of the Level II selection process. This work should be complete for the 2019-2020 academic year.

**Responsible Party – Undergraduate Council, UTS, Registrar’s Office & Faculty Offices**

**RECOMMENDATION #8:**

Undergraduate Council create options for certificates that can be achieved within the 120 units of a Hons. B.A. or Hons. B.Sc. degree.

**Responsible Party – Undergraduate Council**

PASF Report - March 2017
RECOMMENDATION #9:

Departments consider which pathways to degrees they wish to offer and make curriculum adjustments through the Undergraduate Council curriculum process. The Warner Report’s recommendation that programs reduce the number of required discipline-specific courses to afford students more time for exploration and interdisciplinary study should be part of the conversation. Curriculum changes will be approved by Undergraduate Council in 2018-2019.

The undergraduate IQAP process be modified to include a review of the pathway(s) offered by the department.

Responsible Party – Undergraduate Department & Program Curriculum Committees

RECOMMENDATION #10:

The Committee on Academic Structures for Student Success (CASS) conduct a review of the challenge for credit policy and make recommendations about whether it should be revised and/or expanded.

Responsible Party – CASS, recommendations to Undergraduate Council

RECOMMENDATION #11:

All students in the Humanities, Social Sciences and Science Faculties take a 3-unit foundational writing course and a further 9 units in courses identified as fulfilling the writing requirement. The committee recommends that a committee of 6 faculty members (2 from each faculty) and 3 students (1 from each faculty) be struck, together with appropriate campus partners, to work out in greater detail how to implement a writing requirement. The committee recommends that the writing requirement be in place for incoming 2019-20 students.

Responsible Party: Committee struck by JASC. Committee report goes to Undergraduate Council for approval.

RECOMMENDATION #12:

All students in the Humanities and Social Sciences Faculties meet a 3-unit numeracy requirement. The committee recommends that a committee of 6 faculty members (2 from each faculty) and 3 students (1 from each faculty) be struck to propose curricular criteria for a course to be counted as a numeracy course, to be submitted for approval by the Undergraduate Curriculum Committee and Senate. Once the curriculum is set, departments would submit courses to be designated as numeracy courses and a sufficient number of courses and seats would then have to be made available in order for students to fulfill the requirement before graduation. The committee recommends that the numeracy requirement be in place for incoming 2019-20 students.
Responsible Party: Committee struck by JASC. Committee report goes to Undergraduate Council for approval.
APPENDIX B
2016-17 - Review of Requirements

McMaster Sociology Requirements:

<table>
<thead>
<tr>
<th>Course Level</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Courses Offered</td>
<td>1</td>
<td>15</td>
<td>19</td>
<td>25</td>
<td>70</td>
</tr>
</tbody>
</table>

2 Courses with no prerequisites
20 Level 2 and 3 courses that are open if a student takes Sociology 1A06.

__________________ Open Courses = 31.4%

12 Level 3 courses with pre-requisite courses & a program requirement & a level of program requirement
25 Level 4 courses (all) require both program and level requirement
3 Level 4 courses additionally require permission
21 Level 4 courses – “or” students who do not meet the prerequisites can take the course with department permission

Queen’s Sociology Requirements:

<table>
<thead>
<tr>
<th>Course Level</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Courses Offered</td>
<td>1</td>
<td>12</td>
<td>19</td>
<td>15</td>
<td>4</td>
<td>51</td>
</tr>
</tbody>
</table>

2 Courses with no prerequisites
25 Level 2 & 3 courses that are open if a student takes 6 units of 1st year sociology with a minimum grade of C-

__________________ Open Courses = 52.9%

19 Level 4 & 5 courses (all) which require 3 or more prerequisites with a minimum grade and enrolment in a specific program and level

PASF Report - March 2017
### Western's Sociology Requirements:

<table>
<thead>
<tr>
<th>Course Level</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Courses Offered</td>
<td>7</td>
<td>42</td>
<td>23</td>
<td>26</td>
<td>98</td>
</tr>
</tbody>
</table>

24 Courses with no requisites (1st year courses = 7, 2nd year courses = 17)

18 Courses available if student takes 6.0 units of 1st year sociology (2nd year courses = 17, 3rd year courses = 1)

4 Courses (2nd year) which require a grade of at least 60% in 6.0 units of 1st year sociology

Open Courses = 46.9%

47 Level 3 & 4 courses which require specific program and level registration (13 of which also have additional course prerequisites)

### U of T St. George Sociology Requirements:

<table>
<thead>
<tr>
<th>Course Level</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Courses Offered</td>
<td>3</td>
<td>29</td>
<td>44</td>
<td>35</td>
<td>111</td>
</tr>
</tbody>
</table>

2 Courses with no requisites

27 Level 2 courses which require 6 units of Level 1 sociology

33 Level 3 courses with a prerequisite of “A sociology course at the 200+ level” (min of 9 units of sociology)

Open Courses = 55.8%

8 Courses with 2 prerequisites courses

35 Level 4 courses (all) are restricted to Level 4 students (some have recommended preparation courses listed)
28  Level 4 courses with a prerequisite of “A sociology course at the 300+ level”

**McMaster’s Biology Requirements:**

<table>
<thead>
<tr>
<th>Course Level</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Courses Offered</td>
<td>3</td>
<td>7</td>
<td>18</td>
<td>13</td>
<td>41</td>
</tr>
</tbody>
</table>

1  Courses with no prerequisite

Open Courses = 2.4%

20  Courses with a program and/or level requirement

9  Courses with at least 2 prerequisites

**Queen’s Biology Course Requirements:**

<table>
<thead>
<tr>
<th>Course Level</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Courses Offered</td>
<td>4</td>
<td>5</td>
<td>22</td>
<td>18</td>
<td>20</td>
<td>69</td>
</tr>
</tbody>
</table>

5  Courses with no prerequisites

Open courses = 7.2%

38  All Level 4 & 5 courses require a min. GPA of 2.0 (C or 63-66.9%) in any previously taken course on the Biology Foundations List

20  All Level 5 courses are Advanced Honours Seminars. Require Level 4 and registration in an honours biology plan and/or permission of the department

PASF Report - March 2017
**Western's Biology Requirements:**

<table>
<thead>
<tr>
<th>Course Level</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Courses Offered</td>
<td>7</td>
<td>11</td>
<td>36</td>
<td>33</td>
<td>77</td>
</tr>
</tbody>
</table>

3 courses with no prerequisite

3 Level 2 courses that require 6 units of Level 1 biology

7 Level 2 & 3 courses that require 6 units of Level 1 biology with a 60% grade

__________________________ Open Courses = 16.8%

3 Level 3 courses with a level requirement

15 Level 4 courses with program and/or level requirements

16 Level 4 courses with 3 or 4 prerequisite courses

6 Level 4 courses with only 1 prerequisite course

**U of T St. George Cell & Systems Biology**

**Course Requirements:**

*U of T also offers Ecology & Evolutionary Biology courses but these are not included

<table>
<thead>
<tr>
<th>Course Level</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Courses Offered</td>
<td>1</td>
<td>8</td>
<td>20</td>
<td>27</td>
<td>56</td>
</tr>
</tbody>
</table>

2 Courses with no prerequisites

PASF Report - March 2017
3 Courses which require 1 (3 unit) first year biology class; 2 of which also require 3 units of first year chemistry

8 Level 2, 3 & 4 courses which require Bio 130, 6 units of chemistry & Bio 230 (total of 12 units)

_________________ Open Courses = 23.2%

0 Courses with program or level requirements

11 Level 4 courses which have 1 pre-requisite course

13 Courses which list “Recommended Preparation courses” – usually recommending a single course and sometimes the recommendation is to take the courses concurrently

**McMaster’s English & Cultural Studies Requirements:**

<table>
<thead>
<tr>
<th>Course Level</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Courses Offered</td>
<td>4</td>
<td>13</td>
<td>21</td>
<td>27</td>
<td>65</td>
</tr>
</tbody>
</table>

4 Courses with no prerequisites

9 Courses that require 3 units of English & Level 2 registration or above in any program

9 Courses that require registration in Level 2 or above in any program

_________________ Open Courses = 33.8%

6 Level 3 courses that require registration in Level 3 or above in English

26 Level 4 courses that require registration in Level 4 of an Honours program in English

PASF Report - March 2017
Queen’s English Requirements:

<table>
<thead>
<tr>
<th>Course Level</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Courses Offered</td>
<td>2</td>
<td>38</td>
<td>25</td>
<td>46</td>
<td>1</td>
<td>112</td>
</tr>
</tbody>
</table>

1  Course with no prerequisite

37  Level 2 courses that require a min. grade of C in ENGL 100 (6 units)

_________________ Open Courses = 33.9%

4  Level 3 courses that require 9 units of Level 2 English AND a GPA of 2.4 on all English units OR a GPA of 2.6 and registration in a MDVL plan (Medieval Studies)

66  Level 3 or 4 course which require 9 units of Level 2 English AND a GPA of 2.4 on all English units AND English program registration

Western’s English Requirements:

<table>
<thead>
<tr>
<th>Course Level</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Courses Offered</td>
<td>5</td>
<td>34</td>
<td>34</td>
<td>48</td>
<td>121</td>
</tr>
</tbody>
</table>

20  Courses with no prerequisite (4 courses at Level 1 and 16 courses at Level 2)

52  Level 2 & 3 courses that require 6 units of Level 1 English with a min. grade of 60%

48  Level 4 courses that require 12 units of Level 2 English OR dept. permission

_________________ Open courses = 99.1%

PASF Report - March 2017
Level 1 course requires minimum of 85% in Grade 12 English

**U of T, St. George’s English Requirements:**

<table>
<thead>
<tr>
<th>Course Level</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Courses Offered</td>
<td>4</td>
<td>26</td>
<td>55</td>
<td>16</td>
<td>101</td>
</tr>
</tbody>
</table>

4 Level 1 courses with no prerequisites

26 Level 2 courses which require 6 units of English OR any 24 units

_________________________ Open Courses = 29.7%*

49 Level 3 courses which require 18 units of English AND any 24 units

_________________________ Open Courses = 78.2%*

15 Level 4 courses which require 24 units of English AND any 54 units

_________________________ Open Courses = 93%*

*Very hard to determine where courses stop being ‘open’. If a student takes English courses as part of their degree, more English courses open for them.
# APPENDIX C

**McMaster Unit Count for Combined Honours Programs**

Based on 2016-17 Calendar

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Program</th>
<th>Required Units (after 1st year)</th>
<th>Required Units (after 1st year)</th>
<th>Total Required Upper-Level Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanities*</td>
<td>Art History</td>
<td>33-36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level I req'd</td>
<td>Music</td>
<td>39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>units = 12</td>
<td>Theatre &amp; Film Studies</td>
<td>36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>units</td>
<td>Classics</td>
<td>36</td>
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<tr>
<td></td>
<td>Communication Studies</td>
<td>36</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Multimedia</td>
<td>39</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cultural Studies &amp;</td>
<td>36</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Critical Theory</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>English &amp; Cultural Studies</td>
<td>36</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>English &amp; Cultural</td>
<td>English = 36</td>
<td>Upper-level Units = 72</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Studies &amp; Mathematics</td>
<td>Math = 36</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>French</td>
<td>36</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>French &amp; Mathematics</td>
<td>French = 36</td>
<td>Upper-level Units = 72</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Math = 36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>History</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>History &amp; Mathematics</td>
<td>History = 33</td>
<td>Upper-level Units = 72</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Math = 36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Peace Studies</td>
<td>36</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Cognitive Science of</td>
<td>42</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Language</td>
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</tr>
</tbody>
</table>

PASF Report - March 2017
<table>
<thead>
<tr>
<th>Discipline</th>
<th>Units</th>
<th>Course Details</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linguistics</td>
<td>45</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Philosophy & Biology                   |       | Philosophy = 36  
Biology = 36                                                                              | Upper-level |
| Philosophy & Mathematics               |       | Philosophy = 39  
Math = 36                                                                               | Upper-level |
| **Science** *                         |       | **Level 1 req'd  
units ~ 24 units**                                                                 |       |
| Biology & Environmental Science        |       | Biology = 27  
EnviroSci = 33  
Other = 3  
Mixed = 6                                                                 | Upper-level |
| Biology & Mathematics                  |       | Biology = 21  
Math = 15  
Choice = 6-18  
Additional = 3                                                                  | Upper-level |
| Biology & Pharmacology Co-Op (admission after Level II) |       |                                                                               | Upper-level |
| Biology & Psychology, Neuroscience & Behaviour |       |                                                                               | Upper-level |
| Geography & Environmental Science      |       | Geography = 27  
EnvoSci = 18  
Choice = 6-9                                                                  | Upper-level |
| Mathematics & Computer Science         |       | Math = 27  
CompSci = 30  
Choice = 9                                                                  | Upper-level |
| Mathematics & Physics                  |       | Math = 36  
Physics = 36  
Choice = 3                                                                  | Upper-level |
| **Social Sciences** *                  |       | **Level 1 req'd  
units = 18  
units from SocSci and Sci programs**                                  |       |
| Anthropology                           | 39    |                                                                               |       |
| Economics                              | 45    |                                                                               |       |
| Economics & Computer Science           |       | Economics = 36  
CompSci = 36                                                                    | Upper-level |

PASF Report - March 2017
<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
<th>Economics = 30</th>
<th>Math = 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geography (B.A.)</td>
<td>42</td>
<td></td>
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<tr>
<td>Gerontology</td>
<td>36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Studies</td>
<td>36-39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indigenous Studies</td>
<td>39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labour Studies</td>
<td>39-42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political Science</td>
<td>36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychology, Neuroscience &amp; Behaviour (BA)</td>
<td>36-39</td>
<td></td>
<td></td>
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<tr>
<td>Religious Studies</td>
<td>36-42</td>
<td></td>
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</tr>
<tr>
<td>Sociology</td>
<td>42-45</td>
<td></td>
<td>Upper-level Units = 72</td>
</tr>
</tbody>
</table>
# APPENDIX D

McMaster Unit Counts and Requirements for Minors

<table>
<thead>
<tr>
<th>Program</th>
<th>Total Units</th>
<th>1st Year Units</th>
<th>Required Upper Year Units</th>
<th>Flexible Units</th>
<th>Enrolment Limit</th>
<th>Application?</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>33</td>
<td>6</td>
<td>27</td>
<td>0</td>
<td>30</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Accounting &amp; Financial Mgmt Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business</td>
<td>24</td>
<td>6</td>
<td>18</td>
<td>0</td>
<td>40</td>
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<td>Finance</td>
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<td>Information Systems</td>
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<td>Specialized Minor in Commerce for Humanities Students</td>
<td>33</td>
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<td>24</td>
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<td>Music</td>
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<td>Theatre &amp; Film Studies</td>
<td>24</td>
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<td>Diploma in Music Performance</td>
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<td>Greek</td>
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<td>Latin</td>
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PASF Report - March 2017
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<tr>
<th>Program</th>
<th>Total Units</th>
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<th>Flexible Units</th>
<th>Enrolment Limit</th>
<th>Application?</th>
<th>Notes</th>
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<tr>
<td>English &amp; Cultural Studies</td>
<td>24</td>
<td>6</td>
<td></td>
<td>18 units at Levels II and III English</td>
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<tr>
<td>French</td>
<td>24</td>
<td>6</td>
<td>6</td>
<td>12 units from Level II or III French (3 courses excluded)</td>
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<td>History</td>
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<tr>
<td>Peace Studies</td>
<td>24</td>
<td>0</td>
<td>24 units from a list of 44 courses. 9 units must be Peace Studies courses.</td>
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<td>Only one 3 unit Peace Studies course on the list. All other courses Level II and III.</td>
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<td>Women's Studies</td>
<td>24</td>
<td>3</td>
<td>3 units from Level II, 18 units from a list of 14 courses.</td>
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<td>German Studies</td>
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<td>6</td>
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<td>18 units from Level II, III &amp; IV German or 2 History courses, or 2 Philosophy courses.</td>
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<td>Italian Studies</td>
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<td>18 units from Level II, III &amp; IV Italian or 1 Art History course, or 1 History course.</td>
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<td>18 units from Levels II and III Linguistics</td>
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<td>Program</td>
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<td>Flexible Units</td>
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<td>Application?</td>
<td>Notes</td>
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<tr>
<td>Philosophy</td>
<td>24</td>
<td>No more than 6 units</td>
<td>9</td>
<td>15 units of Philosophy and may include 1 Humanities course</td>
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<td>Science</td>
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<tr>
<td>Biochemistry</td>
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<td>6</td>
<td>6 units required &amp; 6 units from a list of 6 courses</td>
<td>6 units from Levels III &amp; IV Biochemistry</td>
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<td>At least 12 units (above Level I) must be elective to degree. Notes allowing specific course substitutions.</td>
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<td>Biology</td>
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<td>18 units from Levels II, III &amp; IV Biology or Molecular Biology including at least 6 units from Levels III &amp; IV.</td>
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<td>At least 12 units (above Level I) must be elective to degree. Notes allowing specific course substitutions.</td>
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<td>Chemical Biology</td>
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<td>6</td>
<td></td>
<td>6-12 units from Levels II, III, IV ChemBio courses or a list of 6 courses. 0-6 units from Levels II &amp; III Bio. 6 units from Levels III &amp; IV ChemBio.</td>
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<td>At least 12 units (above Level I) must be elective to degree. Notes allowing specific course substitutions.</td>
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<td>Program</td>
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<td>Required Upper Year Units</td>
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<td>Application?</td>
<td>Notes</td>
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<td>Chemistry</td>
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<td>6</td>
<td></td>
<td>12 units from Level II, III, IV Chemistry courses or a list of 4 courses. 6 units from Levels III, IV Chemistry.</td>
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<td>At least 12 units (above Level I) must be elective to degree. Notes allowing specific course substitutions.</td>
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<td>Earth Sciences</td>
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<td>18 units from a list of 25 courses, at least 6 units have to be Level III, IV Earth Sciences</td>
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<td>At least 12 units (above Level I) must be elective to degree. Notes allowing specific course substitutions.</td>
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<td>Environmental Sciences</td>
<td>24</td>
<td>6 units from a choice of 4 courses</td>
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<td>18 units from a list of 53 courses, at least 6 units have to be Level III, IV Environmental Sciences courses &amp; at least 3 units from Levels II, III, IV Biology or Chemistry courses</td>
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<td>At least 12 units (above Level I) must be elective to degree. Notes allowing specific course substitutions.</td>
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<td>Program</td>
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<td>Required Upper Year Units</td>
<td>Flexible Units</td>
<td>Enrolment Limit</td>
<td>Application?</td>
<td>Notes</td>
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</tr>
<tr>
<td>Environmental Studies</td>
<td>24</td>
<td>6 units from a choice of 5 courses</td>
<td>3</td>
<td>3 units from a list of 4 courses, 12 units from a list of 32 courses 6 units of which must be Level III or IV</td>
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<td>At least 12 units (above Level I) must be elective to degree. Notes allowing specific course substitutions.</td>
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<tr>
<td>Geographic Information Systems (GIS)</td>
<td>24</td>
<td>6 units from a choice of 8 courses</td>
<td>18 units. All divided up into small choice packages (e.g., 3 units from a list of 3 courses)</td>
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<tr>
<td>Geography</td>
<td>24</td>
<td>6 required units</td>
<td>18 units from Levels II, III &amp; IV Geography courses, at least 6 of which must be Level III or IV</td>
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<td>At least 12 units (above Level I) must be elective to degree. Notes allowing specific course substitutions.</td>
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<td>Program</td>
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<td>Required Upper Year Units</td>
<td>Flexible Units</td>
<td>Enroll Limit</td>
<td>Application?</td>
<td>Notes</td>
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<tr>
<td>Geography &amp; Earth Sciences</td>
<td>24</td>
<td>6 units from a choice of 6 courses</td>
<td>18 units from Levels II, III &amp; IV Geography or Earth Sciences courses, at least 6 of which must be Level III or IV</td>
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<td>At least 12 units (above Level I) must be elective to degree. Notes allowing specific course substitutions.</td>
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<tr>
<td>Mathematics</td>
<td>27</td>
<td>9 units from among 3 groups of courses</td>
<td>18 units from Levels II, III, IV Math or Stats courses including at least 6 units from Levels III or IV</td>
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<td>At least 12 units (above Level I) must be elective to degree. Notes allowing specific course substitutions. A minor in Math cannot be declared together with a minor in Stats</td>
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<tr>
<td>Statistics</td>
<td>27</td>
<td>9 units from among 3 groups of courses</td>
<td>9 units from a list of 5 courses</td>
<td>9 units from Levels II, III, IV of Math or Stats</td>
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<td>At least 12 units (above Level I) must be elective to degree. Notes allowing specific course substitutions. A minor in Stats cannot be declared with a minor in Math</td>
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<tr>
<td>Program</td>
<td>Total Units</td>
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<td>Required Upper Year Units</td>
<td>Flexible Units</td>
<td>Enrollment Limit</td>
<td>Application?</td>
<td>Notes</td>
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<tr>
<td>Astronomy</td>
<td>24-25</td>
<td>6 units from 4 courses</td>
<td>9 units required plus 9-10 units from a list of 11 courses</td>
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<td>At least 12 units above Level I must be elective to degree</td>
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<tr>
<td>Physics</td>
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<td>6 units from 6 courses</td>
<td>18 units from Level II, III, IV Astronomy, Biophysics, Physics including at least 6 units from Levels III, IV</td>
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<td></td>
<td>At least 12 units (above Level I) must be elective to degree. Notes allowing specific course substitutions.</td>
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<tr>
<td>Psychology</td>
<td>24</td>
<td>6 units from 4 courses</td>
<td>18 units from Levels II or III Psychology at least 6 units from Level III</td>
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<td></td>
<td>At least 12 units (above Level I) must be elective to degree. Notes allowing specific course substitutions. No course guarantee and the minor may not be possible to complete.</td>
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Social Sciences

Anthropology 24 6 required units 3 Level II units from a list of 3 classes 15 units Level II, III or IV Anthropology
<table>
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<tr>
<th>Program</th>
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<th>Required Upper Year Units</th>
<th>Flexible Units</th>
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<th>Application?</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Economics</td>
<td>21-24</td>
<td>3-6 units from 3 courses</td>
<td>18 units from Levels II, III or IV Economics with no more than 6 units from a list of 11 courses</td>
<td>18 units from Levels II, III or IV Economics with no more than 6 units from a list of 11 courses</td>
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<td>Notes allowing specific course substitutions.</td>
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<tr>
<td>Health, Aging &amp; Society</td>
<td>24</td>
<td>6 required units</td>
<td>18 units from Health Aging &amp; Society plus a list of 39 courses</td>
<td>18 units from Health Aging &amp; Society plus a list of 39 courses</td>
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<tr>
<td>Indigenous Studies</td>
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<td>6 units from 5 courses</td>
<td>18 units from Level II, III Indigenous students plus a course list of 31 courses</td>
<td>18 units from Level II, III Indigenous students plus a course list of 31 courses</td>
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<td>At least 12 of the 18 units must be from Indigenous Studies or Indigenous language courses</td>
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<td>Labour Studies</td>
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<td>6 required units</td>
<td>6 Level II required units</td>
<td>12 units levels II, III or IV Labour Studies</td>
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<td>No more than 3 units of Level IV Labour Studies</td>
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<td>Application?</td>
<td>Notes</td>
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<tr>
<td>Justice, Law &amp; Order</td>
<td>24</td>
<td>6</td>
<td>6 Level II required units, 6 units Level III required units</td>
<td>6 units from a course list of 21 courses</td>
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<td>At least 12 units (above Level I) must be elective to the degree.</td>
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<td>Japanese Studies</td>
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<td>6</td>
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<td>3-6 units from a list of 5 courses, 12-15 units from Levels II, III, IV Japanese plus a list of 9 courses</td>
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<tr>
<td>Religion &amp; Diversity</td>
<td>24</td>
<td>6 required units</td>
<td>3 units Level II, 6 units Level III from a list of 4 courses</td>
<td>9 units from Level II, III, IV Religious Studies</td>
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<td>Religious Studies</td>
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<td></td>
<td>24 units with no more than 6 units from Level I</td>
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<td>Program</td>
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<td>1st Year Units</td>
<td>Required Upper Year Units</td>
<td>Flexible Units</td>
<td>Enrolment Limit</td>
<td>Application?</td>
<td>Notes</td>
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<td>Sociology</td>
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<td>6 required units</td>
<td>18 units Level II or III Sociology with at least 9 units at Level III</td>
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<td>African &amp; African Diaspora Studies</td>
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<td>24 units from a list of 61 courses</td>
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<td>No more than 6 units of Level I</td>
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<tr>
<td>Archaeology</td>
<td>24</td>
<td>3 units from Level I Anthropology</td>
<td>6 units required from a list of 3 courses</td>
<td>15 units from a list of 46 courses</td>
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<td>At least 9 of the 15 units must be from outside the student's own department</td>
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<tr>
<td>Community Engagement</td>
<td>24</td>
<td>3 units</td>
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<td>21 units from 2 or more Faculties; must include a min. of 6 units from Course List A (52 courses) and a min. of 6 units from Course List B (32 courses)</td>
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<td>No more than 6 units of Level I</td>
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<td>Program</td>
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<td>Required Upper Year Units</td>
<td>Flexible Units</td>
<td>Enrolment Limit</td>
<td>Application?</td>
<td>Notes</td>
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<tr>
<td>Globalization Studies</td>
<td>24</td>
<td>3 required units</td>
<td>21 units from Course Lists 1, 2 and 3.</td>
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<td>At least 9 of the 21 units must be from outside the student's own department and no more than 12 units may be selected from any 1 of the 3 lists.</td>
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<tr>
<td>Jewish Studies</td>
<td>24</td>
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<td>24 units. At least 12 units from List A, minimum of 6 units from List B.</td>
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<td>Student must be registered in a 4 or 5 level program. Students are encouraged to engage in a year of study in Israel.</td>
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<tr>
<td>Sustainability</td>
<td>24</td>
<td>3 required units</td>
<td>21 units from the Course List</td>
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<td>Students are encouraged to speak to their Faculty advisors about Faculty-specific rules on double-counting courses.</td>
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<td>Origins</td>
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<td>Radiation Sciences</td>
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<td>Asian Studies</td>
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<td>Canadian Studies</td>
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REPORT TO SENATE
FROM THE
EXECUTIVE COMMITTEE
Open Session

At its September 27, 2017 meeting, the Executive Committee approved the following recommendation and now recommends it to Senate for approval:

i. Proposed Policy: Copyright Ownership and a Policy Framework for Licensing Instructional Material (attached)

Senate: For Approval
October 11, 2017
A. PREAMBLE

McMaster University strives to exemplify learning-centred, innovative pedagogy, and encourages openness, collaboration, and partnerships in teaching. New instructional modalities using digital, blended and online learning platforms are rapidly evolving. Instructional Materials ("IM") now include not only textbooks and course packs, but also podcasts, vidcasts, and multimedia materials in interactive formats, learning modules, and other formats that will continue to evolve.

This evolution has prompted McMaster to outline principles to facilitate the use, sharing, improvement and commercialization of innovative IM. It has also provided an opportunity to update its policy framework and affirm faculty ownership of copyright with respect to IM in both online and offline environments.

The principles outlined in this policy are drawn from and build on the Canadian Copyright Act (the "Act"). Section 13(1) of the Act states that the author should be the first owner of the copyright. Section 13(3) of the Act states that an author's employer is the first owner of the copyright where the work is produced in the course of the author's employment, in the absence of any agreement to the contrary. This document is intended to serve as the "agreement to the contrary" respecting the University and its Instructors.
This policy applies to all original IM created at the University, including non-print materials. Ownership of copyrightable works created by students is governed by the University’s *Ownership of Student Work* policy. This policy framework should be consistent with related regulations of the School of Graduate Studies, specifically the licensing agreement signed by graduate students when they submit their dissertations. The *Act*, and employment contracts or collective agreements, as applicable, govern ownership of copyrightable works created by Non-Teaching Staff. Commercialization has been defined in the definitions section of this policy.

**B. PURPOSES**

The purposes of this policy are:

1. To clarify ownership of copyright of IM at the University for Instructors;
2. To affirm the principle that Instructors are normally the first owners of copyright in the IM that they produce, whether analog or digital, and whether offline or online; and to identify the conditions under which this is not the case;
3. To encourage and reward Instructors who create new IM; and
4. To establish a framework to administer best practices in licensing arrangements for IM and to facilitate the use, sharing, improvement and dissemination of IM.

**C. POLICY**

**1. COPYRIGHT OWNERSHIP**

1.1 The University affirms that copyright of IM belongs to the Author(s), except in the special cases listed below.

   a. The University hereby retains ownership of copyright in Administrative Documents as defined in the definitions section of this policy.

   b. When the University employs Non-teaching Staff for the express purpose of creating or producing works which may be eligible for copyright, or when there is an explicit requirement in a job description for this responsibility (e.g. and without restricting the generality of the foregoing computer programmers, editors, film makers, media producers), the University hereby retains ownership of copyright in the works so produced, unless prior alternative provisions are made in writing.

   c. In cases of a Work of Joint Authorship created by Instructors and Non Teaching Staff working under the normal conditions of employment, the University and Instructors shall be considered joint owners of the copyright
in the work. If Non-Teaching Staff are not working within the normal conditions of their employment, then both they and the Instructors may claim, between themselves, joint ownership of the copyright in the work. For the purposes of this policy, normal conditions of employment at the University would mean:

i. Non-teaching Staff would be under a contract of employment with the University;
ii. the copyright work would be made in the course of the Non-Teaching Staff's employment; and
iii. there is no agreement to the contrary.

With respect to condition (ii) above, what constitutes "in the course of the Non-Teaching Staff's employment" would be set out and determined by the Non-Teaching Staff's employment contract.

2. FAIR DEALING, OPEN ACCESS, EDUCATIONAL EXCEPTIONS AND THE PUBLIC DOMAIN

2.1 Fair Dealing
In many situations involving the use of course materials, neither the University nor individual staff or faculty require a formal license to use materials created by someone else, if such materials are in the public domain, or if the proposed use fits under the rubric of fair dealing. Such situations include providing photocopied textbook limited excerpts to a class as part of course materials, use of individual slides or pictures with attribution. As well, voluntary sharing of course materials between course instructors may be a normal part of course development and should not require formal licensing arrangements. When thinking about fair dealing it is strongly advised to consult with the appropriate personnel at the University. A list of individuals who can provide assistance can be found on the McMaster University Copyright website.

2.2 Creative Commons and Open Access
Creative commons works are those copyright works that do not require payment for use, but may require the user to adhere to certain license terms attached to the work. Open access refers to scholarly research that is made freely available on the internet. In a scholarly environment, open access often focuses on journal articles. Similar to creative commons works, open Access removes the need to pay for access—to research output and, increasingly, to research data, allowing researchers to more easily disseminate their own work as well as access other people's scholarly work. However in both cases it is important to read and review the license attached to the copyright works.

2.3 Educational Exceptions
The Act sets in place certain fair dealing and educational exceptions that allow certain uses of copyright works, including course materials, without permission of the copyright owner. As such, in some cases, obtaining a license for, or
ownership of, copyright in course material may not be necessary for the use of the materials in a course.

2.4 Public Domain

Some IM may be in the public domain. The public domain means that the copyright term of a copyrighted material has expired or that the copyright holder has placed a copyrighted material into the public domain and thus it is available for all to use or build upon.

3. POLICY FRAMEWORK

1. The University may determine that it requires a license for certain IM in which it does not have ownership. In such cases, the University will initiate steps to obtain a license for only those rights that it needs for those rights that it requires. The following sections are intended to provide guidance in setting the terms of standard copyright licenses. Cases requiring a formal license might include:

   i. efforts to sell or commercialize the IM;
   ii. efforts to make the IM available via an open license or to otherwise license the IM to third parties; or
   iii. instances where the University has assisted and invested substantially in the construction of a course or IM, and/or wishes to continue to offer this course for a period of time despite the absence of the original developer of the IM.

2. When the University requires a license for use of IM in which the copyright is, according to the provisions set out above, owned by Instructors and/or Non-Teaching Staff, the University shall obtain a license from the owner(s) of the copyright for use of such IM—as soon as possible, preferably before either Instructors or the University have committed significant time and resources to the project. Licensing arrangements such as standard form licenses/license agreements shall be made available by McMaster’s Office of Legal Services for use in such licensing procedures. It is strongly recommended that any standard form license/license agreement should be executed prior to the development of a course. The licensing arrangements should detail:

   a. The specific individual, joint, and collective works to be covered by the license;
   b. The expected lifespan of the course in which the IM will be used, and, in relation to that, the length of the license;
   c. The possibility of license renewal;
   d. How the copyright holder(s)’s departure from the University, incapacitation, or death will affect the terms of the license. Licensing arrangements should normally leave the University in a position where the University can continue to use and adapt IM even if one of the developers of the material is no longer teaching the course. At the same time, some instructors may
desire that certain materials associated with their person, such as videos of lectures, be used only for limited times;

e. The control of the economic rights associated with the copyright work(s) (see Copyright Act s. 3). The approach taken in Section 5 to works of Joint Authorship can serve as a guide in this instance; and

f. The control of the moral rights associated with the copyright work(s) (see Copyright Act s. 14).

3. When copyright licenses in IM are obtained from external or temporary contractors (e.g. in the case of sessional instructors), they should be obtained by the University in exchange for compensation beyond the normal remuneration provided for the teaching of a course.

4. The University, in recognition of the importance of IM to the careers and career mobility of instructors, should not, as a general rule, make any license that would prevent instructors from creating or teaching similar or related courses at the University or another institution, whether online or offline. This is particularly true in the case of instructors whose term of employment at the University is not permanent.

5. For Works of Joint Authorship where the University is a Joint Author:

(a) Net Revenue, that is revenue net of Direct Production Costs, received from the distribution of works of Joint Authorship will be divided between the Author(s) and the University according to their degree of ownership of the IM. In the absence of any agreement between the University and the Author(s) as to the exact degree of ownership there shall be no authorization of any of the exclusive rights enumerated in the Act such as but not limited to reproduction, adaptation, distribution, or publication, by any of the Joint Authors or any authorization thereof until there is agreement in writing between the Joint Authors. Such an agreement should determine the exact percentage of ownership in the IM. If an agreement cannot be reached, an adjudicator jointly agreed to by the Provost and the relevant bargaining unit shall resolve the dispute.

Upon reaching an agreement, the Net Revenue received after recovery by the University of Direct Production Costs will be divided between the Joint Author(s) according to the agreed upon percentage of ownership and a sliding scale. This sliding scale encourages the creation and development of innovative IM representing the distribution of royalties.

The table below shows two examples of a royalty distribution sliding scale assuming a 50/50 Joint Authorship agreement and ongoing income. Note, the first example incentivizes faculty in cases where net revenue is not
expected to increase over $100,000 for the life of the project and assigns a higher proportion of the royalties for the first $100,000 in net revenue.

<table>
<thead>
<tr>
<th>Example 1</th>
<th>Joint Authors</th>
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<tbody>
<tr>
<td>Accrued Net Revenue</td>
<td>% Author(s) Royalty</td>
</tr>
<tr>
<td>up to $10,000</td>
<td>100</td>
</tr>
<tr>
<td>over $10,000 under $50,000</td>
<td>75</td>
</tr>
<tr>
<td>$50,000 to $100,000</td>
<td>50</td>
</tr>
<tr>
<td>over $100,000</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Example 2</th>
<th>Joint Authors</th>
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</thead>
<tbody>
<tr>
<td>Accrued Net Revenue</td>
<td>% Author(s) Royalty</td>
</tr>
<tr>
<td>up to $10,000</td>
<td>100</td>
</tr>
<tr>
<td>over $10,000 under $50,000</td>
<td>75</td>
</tr>
<tr>
<td>$50,000 or over</td>
<td>10</td>
</tr>
</tbody>
</table>

In both examples, the distribution of royalties shall be made annually.

(b) the University and the other joint author(s) each should grant to each other non-exclusive copyright licenses and the rights to acquire and use copies of the copyright materials at the cost of reproduction without payment of fee or royalty.

6. In a licensing arrangement the University will normally seek to recover all Direct Production Costs. Indirect Production Costs funded by the University will not be included in any calculation of Net Revenues.
## Definitions

<table>
<thead>
<tr>
<th><strong>Author</strong></th>
<th>An individual who creates a copyrightable work</th>
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<tbody>
<tr>
<td><strong>Administrative Documents</strong></td>
<td>Documents created to support the University’s ongoing administrative operations in relation to teaching, such as reports and memoranda, and would not normally include Scholarly Works defined below.</td>
</tr>
<tr>
<td><strong>Collective Work</strong></td>
<td>Any work written in distinct parts, by different authors, or in which works or parts of works of different authors are incorporated. (Copyright Act R.S.C., 1985, c. C-42 s.2)</td>
</tr>
<tr>
<td><strong>Commercialization</strong></td>
<td>The act of involving Scholarly Works, Collective Works or Works of Joint Authorship in commerce for a financial gain. The McMaster University, Hamilton Health Sciences, St. Joseph’s Healthcare Hamilton Joint Intellectual Property Policy (‘Joint IP Policy’) also defines and governs the commercialization of intellectual property within the three institutions and thus this definition should be used in accordance with the Joint IP Policy.</td>
</tr>
</tbody>
</table>
| **Direct Production Costs** | Costs directly incurred in the production and/or commercialization of the IM and, without limitation, may include the following:  
- printing, materials and processing  
- advertising fees  
- licensing or royalties paid for use of copyright materials  
- instructional design and multi-media expertise  
- development stipends paid to the author  
- Cost of course releases to support the development of IM  
- direct fees paid for distribution  
- hosting |
<p>| <strong>Indirect Production Costs</strong> | Costs which exist independent of the decision to develop Instructional Materials and are associated with providing the infrastructure for the development of Instructional Materials including but not limited to provision of functional space and technology. |
| <strong>Instructional Materials</strong> | A work created by Instructors intended for the purposes of teaching activities at the University. |</p>
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructor</td>
<td>The employees of University or of a college affiliated with the University who hold the academic rank such as professor, associate professor, assistant professor, adjunct, or lecturer (<em>McMaster University Act, 1976, s.1(j)</em>), including Clinical Faculty, Contractually Limited Appointments and Sessional Lecturers and those who are teaching credit-granting courses at the University.</td>
</tr>
<tr>
<td>Member of the Institution</td>
<td>The Instructors, Non-Teaching Staff and Students of the University.</td>
</tr>
<tr>
<td>Net Revenue</td>
<td>Revenue less all Direct Production Costs relating to publication and commercialization of the Instructional Materials.</td>
</tr>
<tr>
<td>Non-Teaching Staff</td>
<td>The employees of the University and of a college affiliated with the University who are not members of the Instructors (<em>McMaster University Act, 1976, s.1(e)</em>)</td>
</tr>
<tr>
<td>Owner</td>
<td>The person or entity who retains legal control over all (or some) of the rights granted under copyright law.</td>
</tr>
<tr>
<td>Revenue</td>
<td>All revenue or other consideration generated by the commercialization of Instructional Materials excluding Weighted Grant Units (WGU’s) and tuition.</td>
</tr>
<tr>
<td>Student</td>
<td>A person who is registered in a course of study approved by the Senate (<em>McMaster University Act, 1976, s.1(l)</em>) and includes a post-doctoral fellow.</td>
</tr>
<tr>
<td>Scholarly Works</td>
<td>Works comprising traditional academic materials such as, without limitation, lecture notes, laboratory manuals, articles, books, artifacts, works of visual art, maps, charts, plans, photographs, engravings, sculptures and music, no matter in which format any of the foregoing materials may have been recorded or embodied including, without limitation, a computer readable format, where any of the foregoing material has been created by someone who is a member of the Instructors unless they have otherwise agreed in a document in writing. (Definition adapted from s.4.3(a) of McMaster Joint IP Policy).</td>
</tr>
<tr>
<td>University</td>
<td>McMaster University.</td>
</tr>
<tr>
<td>Work of Joint Authorship</td>
<td>A work produced by the collaboration of two or more authors in which the contribution of one author is not distinct from the contribution of the other author or authors (<em>Copyright Act, R.S.C., 1985, c. C-42 s.2</em>)</td>
</tr>
</tbody>
</table>