

UNDERGRADUATE COUNCIL
Tuesday, April 16, 2019 at 2:30 p.m.
Gilmour Hall, Council Room (Room 111)

AGENDA

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**REPORT TO UNDERGRADUATE COUNCIL
FROM THE
UNDERGRADUATE COUNCIL AWARDS COMMITTEE
FOR APPROVAL**

I Terms of Award

At its March 26, 2019 meeting, the Undergraduate Council Awards Committee approved the following for recommendation to Undergraduate Council. Details of the following are contained in Attachment I of the circulated report.

i. New Awards

The Patrick Deane Award for Community Engagement

ii. Changes to Award Terms

The Nina Louise Hooper Scholarship
The William J. McCallion Scholarship
The McMaster University Retirees Association Prize
The Lorie Scott Nursing Scholarship
The Somerville Scholarships
The University Scholarships
The Marguerite Z. Yates Scholarship
The Yates Scholarships

iii. New Bursaries

The Anita and Joseph Robertson Bursary
The McMaster Global Experience Exchange Bursary

iv. Removal of Awards from the Undergraduate Calendar

The Air Liquide Canada Bachelor of Engineering Scholarship
The Air Liquide Canada Bachelor of Technology Scholarship
The American Concrete Institute Scholarship
The Cape Class of '76 and Mary Keyes Bursary
The Jennifer Carter Bursary
The Lifelong Learning Bursary
The Palatine Hills Estate Winery and The Cloverleaf Foundation Bursary
The Awwasha Treish Academic Grant

The Undergraduate Council Awards Committee now recommends,

that Undergraduate Council approve one new award, changes to eight terms of awards, two new bursaries, and the removal of eight awards from the *Undergraduate Calendar*, as set out in the attached.

FOR INFORMATION

II Award Value Changes

At the same meeting, the Awards Committee also received, for information, 41 award value changes.



OFFICE OF THE REGISTRAR, STUDENT FINANCIAL AID & SCHOLARSHIPS
To Undergraduate Council
From Undergraduate Council Awards Committee
April 16, 2019

PROPOSED NEW AWARDS FOR APPROVAL

In-Course and Renewal Awards

The Patrick Deane Award for Community Engagement

Established in 2019 in honour of Dr. Patrick Deane, the seventh President and Vice-Chancellor of McMaster University, to recognize his service to the University and deep commitment to community engagement throughout his nine years as President.

Requirements: To be awarded to students enrolled in Level III or above in any program who have demonstrated exceptional leadership and commitment to community-focused initiatives during their time at McMaster and who intend to continue their engagement by undertaking a community-focused project or initiative while completing their degree at McMaster.

CHANGES TO AWARD TERMS FOR APPROVAL

The Nina Louise Hooper Scholarship

Established in 1959 by bequest of Bertram O. Hooper.

Requirements: To be awarded to students in any program with high averages.

The William J. McCallion Scholarship

Established in 1984 in honour of Professor McCallion, B.A. (Class of '43), M.A. (Class of '46), first Dean of the School of Adult Education from 1970 to 1978, in recognition of his outstanding contribution to adult education and to the Department of Mathematical Sciences during 41 years of service.

Requirements: A variable number of To be awarded to graduating part-time students who have attained the highest Grade Point Average at the most recent review completed a program primarily on a part-time basis with high averages.

The McMaster University Retirees Association Prize

Established in 1992 by the McMaster University Retirees Association.

Requirements: To be awarded to the part-time students graduating from enrolled in a program in Gerontology or Aging and Society who attains the highest Grade Point Average high averages.

The Lorie Scott Nursing Scholarship

Established in 2014 2016 by Lorie Scott, B.Sc.N. (Class of '79) CD.

Requirements: To be awarded to a students in the B.Sc.N program in the School of Nursing who has have completed at least Level I and who, in the judgment of the School of Nursing, has have successfully completed a Canadian project with a strong teaching focus and has also demonstrated a significant commitment to community- through service, teaching, advocacy and/or health promotion in Canada. This award is open to second degree students.

The Somerville Scholarships

Established in 1966 by bequest of William L. Somerville, architect of the McMaster University buildings of 1930.

Requirements: To be awarded to students in any program with high averages.

The recipient of this award is eligible to receive the corresponding donor bursary if financial need is demonstrated.

The University Scholarships

Established in 1978.

Requirements: Twenty scholarships to be awarded to part-time students who have attained the highest Grade Point Average at the most recent review. To be awarded to graduating students who have completed a program primarily on a part-time basis with high averages.

The Marguerite Z. Yates Scholarship

Established in 1960 by bequest of Mrs. W.H. Yates of Hamilton.

Requirements: To be awarded to students in any program with high averages.



OFFICE OF THE REGISTRAR, STUDENT FINANCIAL AID & SCHOLARSHIPS
To Undergraduate Council
From Undergraduate Council Awards Committee
April 16, 2019

The Yates Scholarships

Established in 1963 by bequest of William Henry Yates of Hamilton.

Requirements: To be awarded to students in any program with high averages.

PROPOSED NEW BURSARIES FOR APPROVAL

Submitted by the Office of Student Financial Aid & Scholarships

The Anita and Joseph Robertson Bursary

Established in 2019 from the Estates of Anita Robertson, B.Sc.N. (Class of '89) and Joseph Robertson.

Requirements: To be granted to students enrolled in the School of Nursing who demonstrate financial need.

The McMaster Global Experience Exchange Bursary

Established in 2018 by McMaster University to support global learning opportunities.

Requirements: To be granted to undergraduate students enrolled in any program who are participating in a formal McMaster Exchange and who demonstrate financial need.

AWARDS REMOVED FROM THE UNDERGRADUATE CALENDAR FOR APPROVAL

The Air Liquide Canada Bachelor of Engineering Scholarship
The Air Liquide Canada Bachelor of Technology Scholarship
The American Concrete Institute Scholarship
The Cape Class of '76 and Mary Keyes Bursary
The Jennifer Carter Bursary
The Lifelong Learning Bursary
The Palatine Hills Estate Winery and The Cloverleaf Foundation Bursary
The Awwasha Treish Academic Grant

FOR INFORMATION

AWARD VALUE CHANGES

The Alumni Association Scholarship	Typically Available: 1 x \$400 1 x \$475
The Bates Residence Scholarship	Typically Available: 1 x \$750 1 x \$800
The Dr. Chris Bart Scholarship	Typically Available: 1 x \$5,000 1 x \$6,500
The Laura Baldwin Scholarship	Typically Available: 1 x \$500 1 x \$650
The M. Banker Bates Scholarship	Typically Available: 1 x \$1,400 1 x \$1,500
The Barbara and Ronald Bayne Award	Typically Available: 1 x \$450 1 x \$750
The Louise E. Bettger Scholarships in Music	Typically Available: 3 x \$450 3 x \$500
The Charu Late Bhaduri Scholarship in Nursing	Typically Available: 1 x \$1,000 1 x \$800
The Bachelor of Health Sciences (Honours) Program Scholarship	Typically Available: 2 x \$1,000 3 x \$2,000
The Dr. Garth Boulter Memorial Award	Typically Available: 11 x \$1,000 5 x \$2,000
The Nancy Car Memorial Scholarship in Kinesiology	Typically Available: 1 x \$450 1 x \$500
The Edwards Hall Residence Scholarship	Typically Available: 1 x \$750 1 x \$800
The Frith Academic Grant for Nursing Excellence	Typically Available: 1 x \$3,000 1 x \$5,500
The Hedden Hall Residence Scholarship	Typically Available: 1 x \$750 1 x \$800
The Ross Hume Hall Memorial Scholarship	Typically Available: 1 x \$500 1 x \$600

OFFICE OF THE REGISTRAR, STUDENT FINANCIAL AID & SCHOLARSHIPS
To Undergraduate Council
From Undergraduate Council Awards Committee
April 16, 2019

The Internetco Limited Scholarship	Typically Available: 1 x \$600 1 x \$625
The H.L. Jackson Memorial Scholarship	Typically Available: 1 x \$425 1 x \$450
The Lawrence and Kathleen Mary Johnston Memorial Prize	Typically Available: 1 x \$250 1 x \$350
The Mary Keyes Residence Scholarship	Typically Available: 1 x \$750 1 x \$800
The J. Beverly Krugel Scholarships in German Language Studies	Typically Available: 2 x \$1,500 2 x \$2,000
The Sam Lawrence Prize	Typically Available: 1 x \$175 1 x \$200
The Feliks Litkowski Memorial Prize in Political Science	Typically Available: 1 x \$900 1 x \$950
The Betty MacMillan Prize	Typically Available: 1 x \$150 1 x \$200
The Matthews Hall Residence Scholarship	Typically Available: 1 x \$750 1 x \$800
The William J. McCallion Scholarship	Typically Available: 7 x \$250 2 x \$800
The Boyd McLay Scholarship in Physics	Typically Available: 1 x \$575 1 x \$625
The McKay Hall Residence Scholarship	Typically Available: 1 x \$750 1 x \$800
The Evelyn Ruth McLean Scholarship in Canadian History	Typically Available: 1 x \$1,000 1 x \$1,150
The Moulton Hall Residence Scholarship	Typically Available: 1 x \$750 1 x \$800
The Pioneer Energy LP Scholarship in Gerontology	Typically Available: 1 x \$1,000 1 x \$4,500
The Les Prince Residence Scholarship	Typically Available: 1 x \$750 1 x \$800
The Provost Entrance Scholarship for International Students	Typically Available: 16 x \$5,000 10 x \$7,500
The Retired Teachers of Ontario Trust Fund – Gerontology	Typically Available: 1 x \$200 1 x \$250
The Sheila Scott Scholarship for Brandon Hall	Typically Available: 1 x \$750 1 x \$800
The Sheila Scott Scholarship for Wallingford Hall	Typically Available: 1 x \$750 1 x \$800
The University Scholarships	Typically Available: 20 x \$250 6 x \$800
The Varey Scholarship	Typically Available: 1 x \$275 1 x \$300
The Whidden Hall Residence Scholarship	Typically Available: 1 x \$750 1 x \$800
The Woodstock Hall Residence Scholarship	Typically Available: 1 x \$750 1 x \$800
The Ivor Wynne Memorial Prize	Typically Available: 1 x \$250 1 x \$300

**REPORT TO UNDERGRADUATE COUNCIL
FROM THE
UNDERGRADUATE COUNCIL
CERTIFICATES AND DIPLOMAS COMMITTEE**

FOR APPROVAL

By electronic vote, the Undergraduate Council Certificates and Diplomas Committee approved the following for recommendation to Undergraduate Council. Details of the following are contained in Attachments I-III of the circulated report.

I. Establishment of New Certificate and Diploma Programs

a. Responding to Violence Against Women Certificate

The Undergraduate Council Certificates and Diplomas Committee now recommends,

that Undergraduate Council approve the establishment of a *Responding to Violence Against Women Certificate*, as recommended by the Centre for Continuing Education.

II. Revisions to Certificate and Diploma Programs

a. Human Resources Management Program

The Undergraduate Council Certificates and Diplomas Committee now recommends,

that Undergraduate Council approve revisions to the *Human Resources Management Program*, as recommended by the Centre for Continuing Education.

FOR INFORMATION

III. Establishment of New Certificates of Completion

a. Professional Communication in the Canadian Workplace



Centre for Continuing Education Program Approval

A. Department & Program Information (Complete all fields):	
Academic Designation:	Certificate program
Program Name:	Responding to Violence Against Women
Name of Representative:	Christine Stevens- Gopsill – Program Manager
Proposed Date/Term of Program Start:	Winter 2020
Date of Submission:	March 12, 2019
B. Faculty Statement (Required):	
Refer to attached letter of support from the Director, School of Social Work with cc to Associate Dean, Faculty of Social Sciences	
C. Academic Merit (Complete all fields; write “not applicable” as needed):	
i. Program Overview:	<p>The purpose of this program is to provide a substantive grounding for those who work in and around the practice field of Violence Against Women. McMaster Centre for Continuing Education reached out to key stakeholders in the Hamilton community to explore ways that the University could help address this serious social issue. These conversations have grown into a working partnership between McMaster Centre for Continuing Education, the Woman Abuse Working Group, and Core Collaborative Learning, with collaboration from the McMaster School of Social Work.</p> <p>Courses in this program will consist of a combination of expert speakers, review and interaction with carefully prepared content, and experiential learning activities (case studies, facilitated group discussions, and group work).</p> <p>The Certificate program is a five (5) course-15-unit program that may be eligible for credit transfer within select programs within the Faculty of Social Sciences.</p>
ii. Learning Objectives:	<p>The program is designed to prepare graduates to:</p> <p>Describe the social and historical causes of violence against women*;</p>

	<p>Articulate how power and privilege impact survivors differently based on identity and on experiences of oppression and privilege;</p> <p>Describe and critique key mainstream societal, feminist, and grassroots responses to violence against women*;</p> <p>Reflect on and identify practices and policies within their own work, and within the systems that survivors navigate that have the potential to re-victimize survivors;</p> <p>Demonstrate an intersectional framework for responding to the needs of diverse survivors; and</p> <p>Identify and demonstrate attitudes, actions, skills, and strategies for supporting survivors based on an intersectional, trauma-informed, survivor-centered framework</p>
iii. Meeting Learning Objectives:	<p>The five courses comprising the Certificate will enable the achievement of the program objectives. Individual course objectives are mapped to the overall program objectives. Delivery formats and teaching methods have been carefully selected in order support achievement of the learning objectives.</p>
iv. Program Admission Requirements:	<p>The program is an open admission program. In compliance with the Certificates and Diplomas admission policy from Undergraduate Council, students who wish to enter the Violence Against Women program need to meet the following requirements based on their education and work experience:</p> <ol style="list-style-type: none"> 1) Be a part-time or fulltime university student in an undergraduate or graduate program; or a mature student as defined in the Undergraduate Calendar of McMaster University; or deemed an exceptional case by the Centre for Continuing Education 2) Experience with using word processing programs and tools 3) Basic computer skills such as using a web browser (search and navigation), sending and receiving emails, locating and uploading files 4) English Language Proficiency requirements: Completion of TOEFL exam with minimum acceptable

	score of IBT: 86 overall with a minimum score of 20 on each of the four components (Reading, Writing, Speaking, Listening), valid for 2 years
v. Program Pre-requisites (if applicable):	Students coming into this program value the feminist theory which supports the outcomes of the program. Students are also expected to be familiar with the requirements of academic reading, writing, and interaction.
vi. Program Completion Requirements:	Students must successfully complete the five (5) courses (15 units of study) to earn the Violence Against Women Certificate.
viii. Program Delivery Format:	Courses will be developed for online delivery only. A mix of case study, group work, and instructor-facilitated web-based sessions will be part of the delivery format for this program.
ix. Student Evaluations (Grading Process):	Each course will include several evaluation components. The evaluations may consist of shorter and longer writing assignments; small group discussions; group projects; case studies; and participation in peer-based activities.
x. Course Evaluation:	For each course, students will complete an evaluation of methods, evaluation approaches, and instructional strategies used in the course.
xi. Course Instruction:	Instructors for courses will be selected from a pool of qualified teachers with background in both academic and life/workplace expertise. In compliance with <i>McMaster's Senate and Undergraduate Council Guidelines for Certificates and Diplomas</i> , selection will be based on academic background and/or relevant experience. Instructors must have a Master's degree and proven experience in the field. Instructors necessarily require alignment with intersectional feminist theory.
xii. Credit Towards Degree Programme Studies:	The academic credit courses included in this certificate program can be used for credit towards degree programs in accordance with the normal academic rules specified by the Faculty offering the degree.
xiii. Program Advanced Standing:	Advanced standing will not be available for this program.
D. Statement of Financial Viability:	

I have reviewed the business case and financial projections which includes enrolment projections and costs. Sources of revenue for this program include tuition and supplementary fees (MAPS). Expenses are typical and include up front development and marketing costs, as well as typical ongoing delivery costs (such as payment of facilitators, materials, advertising and administration).

**Lorraine Carter, Director, Centre for Continuing Education, February 2019*

E. Statement of Administrative Responsibilities:

The human and systems infrastructure to support the following functions exists within CCE. Costs will be fully covered by tuition, except for the first year of the program, when the start-up will be subsidized by CCE.

Responsibilities for the programs are as follows:

- Budget development and monetary responsibilities
- Program and Course Development
- Course Registrations/Administration
- Supervision of Instructors to ensure University policies and practices are adhered to; course are taught according to program requirements and standards
- Marketing and Promotions

F. Listing of Courses

Course Name	Required/Elective	Academic Units	Proposed Term
Understanding Violence Against Women*: Ideologies, Contexts, and Responses to Gender-based Violence	1	3	Winter 2020
From "It's none of my business" to System Transformation: Critical Perspectives, Skills and Strategies for Working with Survivors of Domestic Violence	2	3	Spring 2020
From Childhood Sexual Abuse to Human Trafficking: Working with Adult Survivors of Sexual Violence	3	3	Fall 2020
Advocacy, Activism, and Allyship: Anti-Violence Skills for Navigating Systems, Structures, and Organizations	4	3	Winter 2021
Understanding violence against Indigenous Women and Girls	5	3	Spring 2021

Course Descriptions:**1. Understanding Violence Against Women*: Ideologies, Contexts, and Responses to Gender-based Violence**

This course provides the theoretical foundations for the next four practice-based courses in the VAW certificate program. For the first part of the course, we will make connections between the everyday violences that women* experience across their life spans, and global, historical interlocking systems of oppression and domination (namely patriarchy, colonialism, and capitalism). Next, we will explore key theoretical and practice perspectives on violence against women* (VAW). In doing so, we will ask the questions “What are the ideological underpinnings of this approach?”, “Who does it benefit?”, and “How does this approach assign blame or promote change (individual or social)?”. This process of contextualizing key responses to VAW will help us to recognize which elements of each approach are helpful to survivors, and which can be re-victimizing. In the final sessions of the course, we will explore key concepts, skills, and strategies that enable us to work from an intersectional, trauma-informed, survivor-centered perspective that recognizes the political and social roots of VAW. These perspectives will assist us in moving past individualizing mainstream approaches, to address the systemic and cultural community roots of these violences.

2. From “It’s none of my business” to System Transformation: Critical Perspectives, Skills and Strategies for Working with Survivors of Domestic Violence

This course focuses on developing the understanding, strategies, and skills required to work with domestic violence and abuse survivors from an intersectional, trauma-informed, survivor-centered perspective. Recognizing “Domestic Violence” (DV) as a systemic rather than individual problem, the course begins with an exploration of the social ideologies that normalize DV, and prevent survivors from leaving their abusers. We will utilize the Power & Control Wheel (Duluth Project) to explore the ways that violence manifests in the relationships of women* over their lifespans, and to recognize the immediate and long term risks and impacts of these violences in survivors’ lives, in their attempts to leave their abusers, and in their experiences of service provision. In doing so, we will explore how privilege and oppression impact survivors’ experiences. Next, we will explore feminist responses to the problem of DV, from consciousness-raising, to DV shelters, to social action for legislative protections and social change. The final sessions of the course will focus on developing skills that support survivors in more safely planning to leave their abusers, and in creating the conditions for healing from violence and abuse.

3. From Childhood Sexual Abuse to Human Trafficking: Working with Adult Survivors of Sexual Violence

This course focuses on developing the understanding, strategies, and skills required to work with sexual violence and abuse survivors from a trauma-informed, survivor-centered perspective. Driven by social media, recent activism has created an unprecedented social dialogue about sexual assault and harassment, drawing attention to the persistent and pervasive ideologies that comprise Rape Culture. In the first part of the course, we will explore how systems of oppression have normalized sexual violence and exploitation and contribute to the myriad ways that women* experience sexual violence across their lifespans,

and across cultural communities. Next, we will discuss the different forms that these violences take; critique how identity, social location, and experience contribute to the uneven experiences of survivors; and explore the impacts that different forms of sexual violence can have on survivors. In the next sessions, we will explore feminist responses to the problem of sexual violence, from rape crisis centre work, to legislative advocacy, to activism for awareness and cultural change. In the final weeks of the course, we center the voices of survivors of sexual violence, to help us identify and develop the skills to support healing from sexual violence.

4. Advocacy, Activism, and Allyship: Anti-Violence Skills for Navigating Systems, Structures, and Organizations

This course focuses on developing the knowledge and skills to be a more effective, survivor-centered ally at the organizational and structural level of our work. We begin the course by tracing the paths that DV, SV, and HT survivors are compelled to navigate, in their attempts to seek safety and healing, and to hold their abusers accountable. In doing so, we will pay attention to the additional roadblocks experienced by survivors with intersecting experiences of oppression and marginality. Learners will develop their understanding of federal legislative contexts, while working together to research their own local legislation and policy. In the next sessions, we will explore organization-level barriers to support and service provisions—from internal to external constraints, and from organizational policies, to interpersonal politics, to re-victimizing practices. In doing so, we will work together to identify windows of opportunity for organizational advocacy to make our own workplaces and sectors safer and more accessible for violence survivors. Finally, we will listen to the voices and stories of survivors, to guide us in becoming better allies for change.

5. Understanding Violence against Indigenous Women and Girls

Indigenous – First Nations, Inuit, and Métis – women and girls experience disproportionately high rates of all forms of violence in contemporary Canadian society. Drawing primarily on the wisdom and experience of Indigenous women and girls, students will explore the roots causes, prevention, and ‘treatment’ of this violence. While emphasizing feminist intersectionality, this course foregrounds indigenous feminist perspectives emphasizing the violent intersections between settler colonialism and heteropatriarchy and their genocidal impact on indigenous women and girls and, by extension, their communities.

Content notes:

Language

We acknowledge that all of the language that we use to talk about patriarchal violence is inherently incomplete, risky, and contested. In this document, we adopt feminist terms like “domestic violence” and “violence against women”, in order to align ourselves with these crucial movements to support survivors and organize for systemic change; while at the same time recognizing that the binary nature of gender that is assumed within this language is embedded in, and reinforces, patriarchal violence. Courses will include ongoing discussion

about the problems and possibilities contained in the different words we use to talk about the pervasive, persistent problem of systemic violence against women and trans people.

For the purposes of this document, we have included an asterisk on the word “woman”, to indicate that this word includes individuals (cis and trans) who identify with the social category “woman”, as well as individuals on the trans spectrum (including non binary people) for whom the category of “woman” doesn't fit neatly or apply. When possible, we have used the gender-neutral term “survivor”, to emphasize the strength, autonomy, and self-determination of individuals who have experienced these violences.

We have used first person language throughout this document. This is in keeping with feminist tenets of non-hierarchical, communally-driven, peer support and organizing against violence.

Student Support and Supervision

The courses are centered on content that is uniquely challenging in any classroom. The prevalence of violence against women* in society means that many students will have experienced these violences in their lifetime. Discussion of the course topics has the capacity to be deeply unsettling and difficult for survivors.

We also recognize that service provision for survivors is challenging, complex, and potentially re-victimizing. Students require support and supervision to learn the skills for working sensitively and effectively with survivors.

These unique challenges require deliberate course design, particularly in an online learning environment. Our course design team is working to develop course formats, activities, and assessments that are supportive to student needs and learning, and that build in student learning partnerships and one-to-one instructor feedback mechanisms.



School of Social Work
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DATE: 13 March 2019
TO: Dr. Christina Sinding, Director, School of Social Work (McMaster)
FROM: Dr. Sandra Preston, Teaching Professor and Undergraduate Chair of the School of Social Work (McMaster)
SUBJECT: Evaluation of the Violence Against Women Program (Certificate) Proposal

At your request, I have reviewed the academic assessment document for the Violence Against Women Certificate program to be offered through the Centre for Continuing Education (CCE). I have examined the program's structure and the proposed course descriptions. I am impressed with the thoroughness of the program and the breadth of the course descriptions. As a whole it provides a solid base for the development of a unique and needed certificate program.

I have been particularly impressed with the involvement of the women's community in the development of the certificate. Their continuing support will mean that the further development of material will be relevant and useful to those practicing in the field. The fact that the course will be offered online will also mean that the program is widely available, especially to those who work in the field. The academic submission indicates that the courses will be taught by qualified individuals (possessing a Master's degree or equivalency), as defined by Undergraduate Council's Diploma and Certificate requirements. The students taking the courses will meet the minimum requirements set out in the [Policy on Diplomas and Certificates](#) for Undergraduate Council.

I am prepared to assist in the further development of these courses as I believe they will be of great interest to students pursuing a BSW. In conclusion, I support this certificate moving forward.

A handwritten signature in black ink, appearing to read "Sandra Preston", with a stylized flourish at the end.

Sandra Preston, PhD
Teaching Professor, School of Social Work
KTH 313
McMaster University
905-525-9140 x23781

Cc: Christine Stevens-Gopsill, Program Manager
Dr. Lorraine Carter, Director



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TO: Certificate & Diploma Committee

FROM: Chris Sinding, Director, School of Social Work

DATE: March 14, 2019

RE: Proposal for Violence Against Women certificate program

At my request, my colleague Dr. Sandra Preston has participated in meetings to conceptualize and develop this Violence Against Women certificate program, and has reviewed the proposal.

Dr. Preston notes that the certificate program has been created in collaboration with well-respected community advocates. Its overall framing is strong and well considered, and relevance to practitioners clear. As the submission indicates the courses will be taught by instructors with a Master's degree, proven experience in the field of violence against women, and demonstrated alignment with intersectional feminist theory. I concur with Dr. Preston's assessment that the proposal articulates a solid foundation for the development of a unique and needed certificate program.

As the program addresses a clear community need, and the objectives and course overview thoughtfully capture many key aspects of responding to violence against women, I am pleased to support this proposal.

Consideration of transfer credit will be undertaken through consultation between the Associate Dean Academic's office and the School of Social Work.

Please be in touch if you require further information.

Cc: Tracy Prowse, Associate Dean Academic, Faculty of Social Sciences
Lorraine Carter, Director, Centre for Continuing Education
Christine Stevens-Gopsill, Program Manager, Centre for Continuing Education

Undergraduate Certificate & Diploma Committee Course Submission

A. Department & Program Information (Complete all fields):	
Department:	Centre for Continuing Education
Program Name:	Human Resources Management Program
Name of Representative:	Nathalie Vallée, Program Manager
Nature of Submission:	Course revision
Effective Date:	September 2019
Submission Date:	March 20 th , 2019
B. Course Revision #1	
Current Course Title:	Business Finance and Accounting
Is this course currently offered? Yes	
Existing Course Code: HRM 817	
Course Unit Value:	3 units
List Course Pre-requisites (if applicable): N/A	
Revised Course Description:	<p>This course covers the financial and management accounting principles that are used to make business decisions within organizations, especially in relation to human resource functions. Since many of the decisions that human resource managers face have financial implications, they need to understand the metrics and underlying methodologies used.</p> <p>Aspiring human resource practitioners will learn about financial and management accounting concepts such as financial statements, ratio analyses, budgeting, cost behaviour, capital budgeting, and more. Furthermore, this course will cover the connections between business strategy, financial strategy, and human resources strategy.</p>

Undergraduate Certificate & Diploma Committee Course Submission

<p>Revised Course Learning Outcomes:</p>	<p>By the end of this course, students will be able to:</p> <ul style="list-style-type: none"> • Discuss the importance of both financial and management accounting within a human resource management context. • Analyze financial statements for the purpose of making business decisions that affect human resources functions. • Identify human resource risk factors that may affect organizational performance. • Analyze cost behaviour by using various quantitative and qualitative methods. • Recommend appropriate business decisions by using relevant financial and non-financial information, while also considering the costs and benefits. • Create budgets for human resources functions that align with organizational goals. • Use written communication skills to explain information and findings.
<p>Rationale for Revision:</p> <p>Upon development of the course with the Subject Matter Expert, the course description and learning outcomes needed to be revised to reflect the content and assessment changes made to the course.</p>	
<p>B. Course Revision #2</p>	
<p>Current Course Title:</p>	<p>Human Resources Management</p>
<p>Is this course currently offered? Yes</p> <p>Existing Course Code: HRM 901</p>	
<p>Course Unit Value:</p>	<p>3 units</p>
<p>List Course Pre-requisites (if applicable):</p> <p>N/A</p>	
<p>Revised Course Description:</p>	<p>This course provides an overview of the fundamentals of human resources management by introducing key components of its function, relevance, and impact in an organization. It is designed to build a broad foundation of</p>

Undergraduate Certificate & Diploma Committee Course Submission

	<p>knowledge and skills required for managing human resources in the current business environment.</p> <p>The course uses case studies, as well as other tools and resources, to engage learners and help them apply theoretical concepts to practical situations in human resource management.</p> <p>Topics to be covered include: the strategic role of HRM; talent management; performance management; compensation and benefits; occupational health & safety; the legal/compliance environment; and strategic issues and challenges in HRM, in both domestic and global contexts.</p>
Revised Course Learning Outcomes:	<p>By the end of this course, students will be able to:</p> <ol style="list-style-type: none"> 1. Describe the function of HRM and its importance to business organizations. 2. Identify the specific functional areas in HRM and describe the knowledge required for a practitioner in each one. 3. Analyze the role and impact of employment related legislation and various compliance requirements on HR operations in the current business environment. 4. Identify the concepts and techniques involved in meeting human resource requirements including attracting, hiring, and keeping the right talent for the organization. 5. Explain the concepts and techniques involved in meeting human resource requirements through training and development. 6. Define and assess effective goal setting and performance management. 7. Analyze the concepts and techniques used in strategic compensation, and describe the use of Total Compensation to drive business objectives. 8. Explain various legislative and non-legislative employee benefits, and identify and explain current issues and challenges faced by employers.
<p>Rationale for Revision:</p> <p>Upon development of the course with the Subject Matter Expert, the learning outcomes needed to be revised to reflect the content and assessment changes made to the course.</p>	



March 20th, 2019

TO: Susan McCracken, DeGroote School of Business

FROM: Aaron Schat, Human Resources & Management Area

SUBJECT: Evaluation of HRM Course Revisions, Proposal for the Centre for Continuing Education (CCE)

I have reviewed the proposal for the revision of two HRM courses (Business Finance and Accounting, Human Resources Management) offered through the Centre for Continuing Education (CCE). I have examined the submission document and it is my finding that the proposed changes to the courses in the Human Resources Management Program are appropriate, and the courses continue to meet the standards necessary for an academic program with courses of 3.0 units. Students taking the courses will continue to meet the minimum requirements set out in the Policy on Certificates and Diplomas for Undergraduate Council. In conclusion, the revised courses will meet all criteria as set out in the Policy on Diplomas & Certificates for Undergraduate Council, and I am in support of the proposed changes to HRM 901 and HRM 817.

Sincerely,

A handwritten signature in black ink, appearing to read 'Aaron Schat'.

Aaron Schat
Chair, Human Resources & Management Area
DeGroote School of Business
Phone: (905) 525-9149, ext 23946
Email: schata@mcmaster.ca

Cc: Susan McCracken, Associate Dean, DeGroote School of Business



DATE: March 20th, 2019

TO: Certificate and Diploma Committee, Undergraduate Council and Senate

FROM: Sue McCracken, Associate Dean, Academic, DeGroote School of Business

SUBJECT: Evaluation of Revisions Made to the Human Resources Management Program Courses (HRM 901 and 817) for the Centre for Continuing Education (CCE)

I have reviewed the proposal for revision of two courses in the Human Resources Management program offered through the Centre for Continuing Education (CCE). I have examined the proposed revisions of the course descriptions and learning outcomes as well as the rationale for their changes. Based on my examination, the proposed courses are still of the intellectual rigour in undergraduate degree courses. They also align with industry trends and the requirements of professional associations, and will be beneficial to the program and the students. Students taking the courses will continue to meet the minimum requirements set out in the Policy on Certificates and Diplomas for Undergraduate Council.

Since the courses and diploma meet the criteria set out in the Policy on Certificates and Diplomas for Undergraduate Council, I support the submission of these revisions to the Committees for approval.

Sincerely,

Sue McCracken
Associate Dean (Academic)
DeGroote School of Business
Tel: 905-525-9140 ext. 23993
smccrac@mcmaster.ca



Centre for Continuing Education Program Approval

A. Department & Program Information (Complete all fields):	
Academic Designation:	Certificate of Completion
Program Name:	Professional Communication in the Canadian Workplace
Name of Representative:	Anne Dwyer, Program Manager
Proposed Date/Term of Program Start:	Fall 2019
Date of Submission:	March 26, 2019
B. Faculty Statement (Required):	
Refer to attached letter of support from Dr. Tracy Prowse, Associate Dean (Academic), Faculty of Social Sciences	
C. Academic Merit (Complete all fields; write "not applicable" as needed):	
i. Program Overview:	<p>Upon consultation with representatives from various administrative divisions of the University, it was determined that some McMaster staff would benefit from this program. Likewise, there are undergraduate, graduate students and post-doctoral fellows who may be interested in further enhancing and developing the professional and intercultural communication skills required to succeed in a diverse and inclusive Canadian workplace. These same skills will likely be of interest to adults in the broader Hamilton community based on the City's demographic diversity across age, gender, culture, etc.</p> <p>Based on the above, the purpose of this academic Certificate of Completion is to assist staff, students and community members in the development of their professional communication skills in the context of the Canadian workplace. The program will focus on writing, reading, listening, presentation, and interpersonal communication skills for working professionals and post-doctoral fellows at McMaster University, as well as working adults in the broader Hamilton community, who wish to improve their communication skills.</p> <p>The program will be an open enrolment program (see "Program Admission Requirements" and "Program Pre-requisites below).</p>

ii. Learning Objectives:	<p>The program is designed to enhance staff and students' skills in professional communication, so they can succeed in the Canadian workplace.</p> <p>Specifically, those who complete the certificate will:</p> <ul style="list-style-type: none"> • Recognize the importance of excellence in professional communication in the workplace • Practise active listening and reading • Demonstrate increasing proficiency in the variety of writing and presentation skills needed in the workplace • Apply effective writing and oral skills in situations of professional reporting and presentation • Explain important expectations and practises in the Canadian workplace • Recognize and appreciate how intercultural differences influence communication approaches and behaviours in the workplace. • Identify the fluidity and nuances of intercultural communication • Use key elements of English grammar and structure correctly
iii. Meeting Learning Objectives:	<p>Students must complete a series of three academic courses to achieve the stated program objectives. Individual course objectives are mapped to the overall program objectives. The delivery format and teaching methods are structured to have a maximum effect on achieving the learning outcomes.</p>
iv. Program Admission Requirements:	<p>The program will be an open enrolment program that serves the learning needs of professionals interested in improving their professional communication skills. Potential students will not be required to apply to the program for admission; however, students who wish to enter the program must</p> <ul style="list-style-type: none"> • Have an Ontario Secondary School Diploma, or equivalent; or • Be a mature student as defined in the Undergraduate Calendar of McMaster University <p>In order to ensure that students have the basic capabilities necessary to be successful in their courses, they are required to have the following pre-requisite knowledge and/or skills:</p> <ul style="list-style-type: none"> • Knowledge and skills with general computer applications, such as keyboarding, file management, video talks, and word processing; • Familiarity with internet browsers and web surfing

	<ul style="list-style-type: none"> English Language Proficiency requirements: Completion of TOEFL exam with minimum acceptable score of IBT: 86 overall with a minimum score of 20 on each of the four components (Reading, Writing, Speaking, Listening), valid for 2 years OR resided in an English speaking country for at least four years OR upon recommendation/approval of supervisor
v. Program Pre-requisites (if applicable):	as per above
vi. Program Completion Requirements:	Students must complete all three courses in order to qualify for the Professional Communication in the Canadian Workplace Certificate of Completion
viii. Program Delivery Format:	<p>Courses in the program may be delivered in face to face, blended, or online delivery formats.</p> <p>Courses will use a combination of lectures, facilitated group discussions, activities, interactive exercises, group work, e-learning-tools and other methods that support the learning of those interested in developing/enhancing their professional communication in the context of the Canadian workforce.</p>
ix. Student Evaluations (Grading Process):	Each course will include an evaluation component. Evaluation may be based on assignments, case studies, presentations, individual or group projects, participation, or a combination thereof. Evaluations will be structured to assess students' level of competency in achieving overall learning objectives.
x. Course Evaluation:	At the end of each course, students will complete a course evaluation that explores content, delivery, materials, method of evaluation, and instruction.
xi. Course Instruction:	Instructors for courses will be selected from a pool of qualified applicants. In compliance with McMaster's Senate and Undergraduate Council Guidelines for Certificates and Diplomas, selection will be based on academic background and/or experience in the field. Instructors will have the equivalency of a Master's degree or significant professional and teaching experience within the field.
xii. Credit Towards Degree Programme Studies:	Courses offered under the Professional Communication in the Canadian Workplace Certificate of Completion are valued at three-unit academic courses that may be used as elective courses.
xiii. Program Advanced Standing:	NA

D. Statement of Financial Viability:

I have reviewed the business case and financial projections which include enrolment projections and costs. Sources of revenue for this program include tuition, as well as supplementary fees (MAPS) and other fees if applicable (transfer credit fees and deferred exam fees). Expenses are typical and include marketing costs, as well as typical ongoing delivery costs (such as instructor honoraria, materials, advertising and administration).

Lorraine Carter, Director, Centre for Continuing Education, Winter 2019

E. Statement of Administrative Responsibilities:

The human and systems infrastructure to support the following functions exist within CCE. Costs will be covered by tuition.

Responsibilities for the program are as follows:

- Budget development and monetary responsibilities
- Program and Course Development
- Course Registrations/Administration
- Supervision of Instructors to ensure University policies and practices are adhered to; courses are taught according to program requirements and standards
- Marketing and Promotion

The Faculty of Social Sciences will serve as the academic home for the program. The Faculty will be responsible for review and assessment of the curriculum at appropriate intervals.

F. Listing of Courses

Course Name	Required/Elective	Academic Units	Proposed Term for First Offering
Strategies for Effective Communication in the Canadian Workplace	Required	3.0	Fall 2019
Professional Business Writing in the Canadian Workplace	Required	3.0	Winter 2020
Professional Presentations in the Canadian Workplace	Required	3.0	Spring 2020

Required Course Descriptions:**Strategies for Effective Communication in the Canadian Workplace (3 units)**

This course will introduce students to an essential toolkit of professional interpersonal communication skills and strategies to succeed in the Canadian workplace. Students will learn the unspoken rules of the Canadian workplace, practice what to say, what not to say and will participate in various case scenarios to identify effective context-specific communication strategies. Topics include resolving conflict, networking, professionalism and etiquette (phone interactions, meetings), non-verbal communication, cultural/intercultural considerations, active listening and reading, giving and receiving feedback, expressing disagreement, and participating in informal workplace discussions.

Professional Business Writing in the Canadian Workplace (3 units)

Professional business writing is about writing with intent, clarity, effectiveness, and efficiency. This course will provide students with the skills needed to plan and execute various types of business communications (email, letter, report, proposal, and so forth) with tact and diplomacy. Students will learn about different audiences need and the importance of tone to use for each. Other topics include persuasion, constructive feedback, intercultural considerations, the importance of editing and proofreading, as well as formatting and citations.

Professional Presentations in the Canadian Workplace (3 units)

This practice-based course explores how skill and personal confidence are foundational to a professional presentation. Based on this, the course is designed to provide students with the skills they need to plan, prepare, and execute professional presentations, as well as grow in their confidence to do so. Informal oral exchanges will also be practised in the course.

Topics include purpose, audience a, persuasion, managing presentation anxiety, public speaking, managing the room, body language, storytelling, design, and use of visual aids. Through practice-based learning situations, students will develop a solid understanding of the role and value of effective public speaking in the workplace and acquire skill in designing and delivering persuasive presentations.

DATE: March 31, 2019

TO: Certificate and Diploma Committee, Undergraduate Council and Senate

FROM: Tracy Prowse, Associate Dean Academic, Faculty of Social Sciences

SUBJECT: Support of Certificate of Completion: Professional Communication in the Canadian Workplace

I have reviewed the Program submission for the Certificate of Completion entitled Professional Communication in the Canadian Workplace presented by the Centre for Continuing Education. I have determined that it meets the criteria set out by the Undergraduate Council and its guidelines in Certificates and Diplomas and therefore endorse this submission on behalf of the Faculty of Social Sciences.

We are willing to serve as the academic Faculty for this program providing both review of the initial submission and overview of ongoing curriculum issues. Consideration for transfer credit will be undertaken at the discretion of the Faculty to which a student applies, as per policy.



Dr. Tracy Prowse
Associate Dean Academic
Faculty of Social Sciences

**REPORT TO UNDERGRADUATE COUNCIL
FROM THE
UNDERGRADUATE COUNCIL
CURRICULUM AND ADMISSIONS COMMITTEE**

FOR APPROVAL

- I** Addenda to Curriculum Revisions for Inclusion in the 2019-2020 Undergraduate Calendar
By electronic vote, the Undergraduate Council Curriculum and Admissions Committee approved, for recommendation to Undergraduate Council, the following curriculum revisions for inclusion in the *2019-2020 Undergraduate Calendar*.

Faculty of Business	(Attachment I)
Faculty of Engineering	(Attachment II)
Application Procedures	(Attachment III)

The Undergraduate Council Curriculum and Admissions Committee now recommends,

that Undergraduate Council approve curriculum revisions for inclusion in the *2019-2020 Undergraduate Calendar*, as recommended by the Faculties of Business and Engineering, and outlined in Attachments I and II.

The Undergraduate Council Curriculum and Admissions Committee now recommends,

that Undergraduate Council approve revisions to Application Procedures, for inclusion in the *2019-2020 Undergraduate Calendar*, as recommended by the Office of the Registrar, and outlined in Attachment III.

**Undergraduate Council
April 16, 2019**

**REPORT TO THE FACULTY OF BUSINESS
FROM THE UNDERGRADUATE
CURRICULUM AND POLICY COMMITTEE**

FOR THE 2019-2020 ACADEMIC CALENDAR

APRIL 2019 - REVISIONS

FACULTY OF BUSINESS REPORT TO SENATE

Summary of Proposed Changes

A summary of the proposed changes;

- New course: Commerce 4CA3: *Managing and Promoting Health and Healthcare Services*.
- Updating INNOVATE 3ZZ3 course title from *Imagining and Shaping the Future* to *Imagining and Navigating the Future*. The latter new title is more accurate.
- Updating Minor In Innovation course list to include INNOVATE 3ZZ3 new course title

**FACULTY OF BUSINESS
REPORT TO SENATE
SUMMARY OF MAJOR CURRICULUM CHANGES FOR 2019-2020
ACADEMIC CALENDAR**

APRIL 2019 - REVISIONS

This report highlights substantive changes being proposed to the Undergraduate curriculum. For a complete review of all changes, please refer to the Faculty of Business Curriculum Report for Changes to the 2019-2020 Undergraduate Calendar, located electronically at:

<http://ug.degrootemcmaster.ca/curriculum-report/>

New Programs

N/A

Program Closures

N/A

Major Revisions

N/A

**FACULTY OF BUSINESS
REPORT TO UNDERGRADUATE COUNCIL
SUMMARY OF CURRICULUM CHANGES FOR 2019-2020 ACADEMIC
CALENDAR**

APRIL 2019 – ADDITIONS AND REVISIONS

This report highlights substantive changes being proposed to the Undergraduate curriculum. For a complete review of all changes, please refer to the Faculty of Business Curriculum Report for Changes to the 2019-2020 Undergraduate Calendar, located electronically at:
<http://ug.degroote.mcmaster.ca/curriculum-report/>

Below is a summary of the proposed changes for approval by the Faculty of Business.

REVISIONS TO MCMASTER GENERAL ACADEMIC REGULATIONS

N/A

**REVISIONS TO DEGROOTE SCHOOL OF BUSINESS (FACULTY OF BUSINESS) –
ACADEMIC REGULATIONS**

N/A

NEW COURSES

**Commerce 4CA3: Managing and Promoting Health and Healthcare Services
3 unit(s)**

This course provides coverage through a health lens of Social Marketing, Strategy, Segmentation and Targeting, Consumer Behaviour, Marketing Research and Ethical Issues, the “4Ps” and Controlling/Monitoring.

Prerequisite(s): Commerce 3MC3 and registration in Level III or above in any four or five-level program.

Rationale: *Including a health management course as part of our undergraduate offerings is consistent with the DeGroote mission and could lead to increased interest in the Health Services Management MBA. There is interest and support for this course from representatives from the City of Hamilton Public Health department; they would like to be involved in a guest speaker capacity as well as helping to design course assignments and project material. Consequently, this course will include a significant community engagement component. With the assistance of Christine Homuth (McMaster Library, Spatial Information Specialist) and Jeannie An (Reference Librarian RJC), students will be introduced to the Business Analyst Online database, and therefore the proposed course also is relevant to the Big Data element of DeGroote’s mission. Further, Maureen Hupfer, Christine Homuth and Jeannie An expect to apply for a MacPherson grant to support the development of online training modules for BAO.*

REVISIONS TO EXISTING COURSES

**INNOVATE 3ZZ3 – ~~Imagining and Shaping the Future~~ Imagining and Navigating the Future
3 unit(s)**

This ambitious interdisciplinary course provides a platform for students to develop the strategic foresight, planning and leadership skills needed to imagine and shape the future. Students will analyze the systems,

trends and uncertainties driving the future of such business and social domains as workplaces, healthcare systems, climate change, and financial markets. Students will also develop the skills needed to mobilize people and resources towards desired outcomes. In addition to team experiential learning projects, students will explore future directions on issues of personal interest.

Prerequisite(s): Registration in Level III or above in a four or five year program.

Rationale: *The new title is more accurate to the course content according to planned instructor.*

REVISIONS TO EXISTING MINORS

Minor in Innovation

The minor in innovation is a partnership between the Faculty of Engineering and the DeGroote School of Business and is intended for students from all Faculties who wish to learn more about innovation and develop a level of innovation literacy, as well as those who are themselves innovators and wish to develop skills to create their own enterprise. To meet these varied needs, the minor includes a wide range of courses in innovation and may be taken as a course only option, or may include a practicum.

Requirements

24 units total

6 units

- INNOVATE 1X03 - The World of Entrepreneurship
- INNOVATE 2X03 - Lean Startup

6-9 units

from

- INNOVATE 2Z03 - Sprint Methodologies
- INNOVATE 3X03 - Persuasion, Pitching Skills and Marketing
- INNOVATE 3Z03 - From Founder to CEO

9-12 units

from

- COMMERCE 2AB3 - Managerial Accounting I
- COMMERCE 3MA3 - Marketing Research
- COMMERCE 3MC3 - Applied Marketing Management
- COMMERCE 3MD3 - Introduction to Contemporary Applied Marketing
- COMMERCE 3S03 - Management Skills Development
- COMMERCE 4AK3 - Accounting Information for Decision Making
- COMMERCE 4BB3 - Recruitment and Selection
- COMMERCE 4BK3 - The Management of Technology

- COMMERCE 4BN3 - Leadership Development
- COMMERCE 4FO3 - Small Business and Entrepreneurial Finance
- COMMERCE 4FV3 - Venture Capital
- COMMERCE 4FW3 - Finance for Entrepreneurs
- COMMERCE 4KF3 - Project Management
- COMMERCE 4KH3 - Strategies for Electronic and Mobile Business
- COMMERCE 4KI3 - Business Process Management
- COMMERCE 4MC3 - New Product Marketing
- COMMERCE 4ME3 - Sales Management
- COMMERCE 4PA3 - Business Policy: Strategic Management
- COMMERCE 4SA3 - International Business
- COMMERCE 4SD3 - Commercial Law
- COMMERCE 4SE3 - Entrepreneurship
- COMPSCI 4EN3 A/B - Software Entrepreneurship
- ENGNMGT 4A03 - Innovation Driven Project Development and Management
- HISTORY 2EE3 - Science and Technology in World History
- HISTORY 3UA3 - The History of the Future
- HTHSCI 4ID3 - Innovation By Design
- INNOVATE 1Z03 – Artificial Intelligence - Innovative Technologies
- INNOVATE 3EX3 - Experiential Learning in Innovation
- INNOVATE 3ZZ3 – Imagining and Navigating the Future
- INNOVATE 4EX6 A/B - Founders Startup
- SUSTAIN 3S03 - Implementing Sustainable Change

***Rationale:** Aligning with Engineering and reflecting the proposed name change.*

REVISIONS TO EXISTING CERTIFICATES

N/A

COURSE DELETIONS

N/A



RECOMMENDATION FOR CHANGE IN UNDERGRADUATE CURRICULUM FOR 2019-2020 New Course Proposal

DeGroote School of Business McMaster University

1. All sections of this form must be completed.
2. This form must be completed for all course changes.
3. If the committee has any questions regarding this proposal, who should be contacted?

Instructor or Chair Name: **Dr Glen Randall**

Extension: x 26191

4. A faculty representative will be required to attend the DeGroote Undergraduate Curriculum & Calendar Committee meeting and the DeGroote Faculty of Business meeting at which this recommendation for change in undergraduate curriculum is to be discussed.

Submitted by which area group (select one):

- ☐ Strategic Management
- ☐ Marketing
- ☒ **Health Policy and Management**
- ☐ Accounting and Financial Management Services
- ☐ Finance and Business Economics
- ☐ Human Resources and Management
- ☐ Information Systems
- ☐ Operations Management
- ☐ Joint Areas (please specify):

Proposed Course Details:

Course Title: Managing and Promoting Health and Healthcare
Services
Instructor(s): Maureen Hupfer

Course Code: 4CA3
Credit Value: 3

Prerequisites: COMMERCE 3MC3 and registration in Level III or above in any four or five-level program.

Rationale: Explain briefly the reasons behind the recommendation. If the course is being re-named, give the old and new titles, and old and new course numbers. If the course is to be cancelled, state the rationale.

Including a health management course as part of our undergraduate offerings is consistent with the DeGroote mission and could lead to increased interest in the Health Services Management MBA. There is interest and support for this course from representatives from the City of Hamilton Public Health department; they would like to be involved in a guest speaker capacity as well as helping to design course assignments and project material. Consequently, this course will include a significant community engagement component. With the assistance of Christine Homuth (McMaster Library, Spatial Information Specialist) and Jeannie An (Reference Librarian RJC), students will be introduced to the Business Analyst Online database, and therefore the proposed course also is relevant to the Big Data element of DeGroote's mission. Further, Maureen Hupfer, Christine Homuth and Jeannie An expect to apply for a MacPherson grant to support the development of online training modules for BAO.

Course Description: Provide a brief description to be included in the Undergraduate Calendar (max. 6 lines).

This course provides coverage through a health lens of Social Marketing, Strategy, Segmentation and Targeting, Consumer Behaviour, Marketing Research and Ethical Issues, the "4Ps" and Controlling/Monitoring.

Statement of purpose (How does the course fit into the Faculty's programme?):

Please see description above with respect for the course rationale. In addition, research by Jeannie An indicates that comparable courses do not exist at Ontario competitor universities. (Attached to this email)

Method of presentation of course material:

Course material will be conveyed through face-to-face lectures, case discussions, online materials and, depending on the term project, off-campus site visits.

Method of evaluation (exams, essays, assignments, group projects, class participation, etc.):

Students will be evaluated with two case-style assignments, a term project, final presentation and class participation.

To prevent overlap, is a similar course being offered elsewhere on campus? If so, please attach any relevant correspondence with the other area(s) or department(s)? ☐ **not offered elsewhere**

If the proposed course is to be **cross-listed** in another department/faculty, please attach relevant correspondence with the department/faculty. ☐ **not cross-listed elsewhere**

If this course is intended primarily for students **outside the DeGroote School of Business**, have you the support of the department concerned? ☐ **not intended for students outside the faculty (with the exception of those students from outside the faculty that have access to Commerce courses).**

A **draft course outline** is attached to this form. ☐ **Yes it is included. NB – Note that this course should be offered during the Winter Term to allow the maximum number of eligible students to enrol (students who have completed Comm 3MC3).**

Configuration for Mosaic Course Catalog

Component(s) required: <i>Check all that apply to a maximum of 3. All components used in the catalog must be scheduled or students won't be able to enrol in the course. For example, if a course is approved with lecture and tutorial components and the tutorial is not scheduled, students will not be able to enrol into the course.</i> <i>The components configured in Mosaic should also match the calendar description (i.e. if the phrase "Three hours (lectures, tutorials); one term" is used, then lectures and tutorials should be used in Mosaic.)</i>	
<input checked="" type="checkbox"/> Lecture <input type="checkbox"/> Tutorial <input type="checkbox"/> Lab <input type="checkbox"/> Seminar <input type="checkbox"/> Field Study <input type="checkbox"/> Independent Study <input type="checkbox"/> Placement <input checked="" type="checkbox"/> Project <input type="checkbox"/> Thesis <input type="checkbox"/> Work Experience	
Default section size: <i>(For the primary component, how many seats per section would an average offering of this course have? This can be adjusted later.)</i>	25
<u>Note regarding Personal Interest Courses (PIC):</u> <i>All undergraduate courses will be eligible for PIC unless they use a field study, independent study, placement or thesis component. Additionally, students are not eligible to use the PIC option for required (program) courses.</i>	
Is a Registrar-scheduled exam required?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
What is the grading basis for the course?	<input checked="" type="checkbox"/> Standard (A+ to F) <input type="checkbox"/> Pass/Fail <input type="checkbox"/> Other (specify):
Is this course repeatable for credit?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes, to a maximum of units.
Is permission required to enrol in the course?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes; department permission <input type="checkbox"/> Yes; instructor permission
Is this a multi-term (A/B) course?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



RECOMMENDATION FOR CHANGE IN UNDERGRADUATE CURRICULUM FOR 2019-2020 Course and Calendar Change Proposal Form

DeGroote School of Business McMaster University

5. All sections of this form must be completed.
6. This form must be completed for all course changes.
7. If the committee has any questions regarding this proposal, who should be contacted?

Instructor's Name: **Aaron Schat**

Extension: **x 23946**

8. A faculty representative will be required to attend the DeGroote Undergraduate Curriculum & Calendar Committee meeting and the DeGroote Faculty of Business meeting at which this recommendation for change in undergraduate curriculum is to be discussed.

Submitted by which area group (select one):

- ☐ Strategic Management
- ☐ Marketing
- ☐ Health Policy and Management
- ☐ Accounting and Financial Management Services
- ☐ Finance and Business Economics
- ☐ Human Resources and Management
- ☐ Information Systems
- ☐ Operations Management
- ☐ Student Experience Office
- ☒ Joint Areas (please specify): **INNOVATE courses**

Nature of recommendation (check whichever is applicable):

- ☐ Course cancellation
- ☐ Change in prerequisites / corequisites
- ☒ Change in course title

- ☐ Change in credit value: from [] credits to [] credits
☐ Change in Academic Calendar Text
☐ Other:

Current Course Description

Course Title: Imagining and Shaping the Future
 Prerequisites: Registration in Level III or above in a four or five year program.

Course Code: INNOVATE
 3ZZ3
 Credit Value: 3

Current Calendar Text

INNOVATE 3ZZ3 Imagining and Shaping the Future

3 unit(s)

This ambitious interdisciplinary course provides a platform for students to develop the strategic foresight, planning and leadership skills needed to imagine and shape the future. Students will analyze the systems, trends and uncertainties driving the future of such business and social domains as workplaces, healthcare systems, climate change, and financial markets. Students will also develop the skills needed to mobilize people and resources towards desired outcomes. In addition to team experiential learning projects, students will explore future directions on issues of personal interest.

Prerequisite(s): Registration in Level III or above in a four or five year program.

Rationale: Explain briefly the reasons behind the recommendation.

Instead of the original title 'Imagining and Shaping the Future', we would like it changed to Imagining and Navigating the Future. The latter new title is more accurate to the course content.

Please copy and paste the text as it appears now in the calendar, and then provide a strikethrough edit as proposed. Please visit <http://academiccalendars.romcmaster.ca> for the most complete version of this calendar.

INNOVATE 3ZZ3 –Imagining and ~~Shaping~~ Navigating the Future

3 unit(s)

This ambitious interdisciplinary course provides a platform for students to develop the strategic foresight, planning and leadership skills needed to imagine and shape the future. Students will analyze the systems, trends and uncertainties driving the future of such business and social domains as workplaces, healthcare systems, climate change, and financial markets. Students will also develop the skills needed to mobilize people and resources towards desired outcomes. In addition to team experiential learning projects, students will explore future directions on issues of personal interest.

Prerequisite(s): Registration in Level III or above in a four or five year program.

FACULTY OF ENGINEERING

UNDERGRADUATE CURRICULUM

ADDENDA REPORT TO UNDERGRADUATE

COUNCIL

FOR THE 2019-20 CALENDAR

Minor in Innovation

The minor in innovation is a partnership between the Faculty of Engineering and the DeGroote School of Business and is intended for students from all Faculties who wish to learn more about innovation and develop a level of innovation literacy, as well as those who are themselves innovators and wish to develop skills to create their own enterprise. To meet these varied needs, the minor includes a wide range of courses in innovation and may be taken as a course only option, or may include a practicum.

Requirements

24 units total

6 units

- INNOVATE 1X03 - The World of Entrepreneurship
- INNOVATE 2X03 - Lean Startup

6-9 units

from

- INNOVATE 2Z03 - Sprint Methodologies
- INNOVATE 3X03 - Persuasion, Pitching Skills and Marketing
- INNOVATE 3Z03 - From Founder to CEO

9-12 units

from

- ~~COMMERCE 2AB3 - Managerial Accounting I~~
- COMMERCE 3MA3 - Marketing Research
- COMMERCE 3MC3 - Applied Marketing Management
- COMMERCE 3MD3 - Introduction to Contemporary Applied Marketing
- COMMERCE 3S03 - Management Skills Development
- COMMERCE 4AK3 - Accounting Information for Decision Making
- COMMERCE 4BB3 - Recruitment and Selection
- COMMERCE 4BK3 - The Management of Technology
- COMMERCE 4BN3 - Leadership Development
- COMMERCE 4FO3 - Small Business and Entrepreneurial Finance
- COMMERCE 4FV3 - Venture Capital
- COMMERCE 4FW3 - Finance for Entrepreneurs
- COMMERCE 4KF3 - Project Management
- COMMERCE 4KH3 - Strategies for Electronic and Mobile Business
- COMMERCE 4KI3 - Business Process Management
- COMMERCE 4MC3 - New Product Marketing
- COMMERCE 4ME3 - Sales Management
- COMMERCE 4PA3 - Business Policy: Strategic Management

- COMMERCE 4SA3 - International Business
- COMMERCE 4SD3 - Commercial Law
- COMMERCE 4SE3 - Entrepreneurship
- COMPSCI 4EN3 A/B - Software Entrepreneurship
- ENGNMGT 4A03 - Innovation Driven Project Development and Management
- HISTORY 2EE3 - Science and Technology in World History
- HISTORY 3UA3 - The History of the Future
- HTHSCI 4ID3 - Innovation By Design
- INNOVATE 1Z03 – Artificial Intelligence - Innovative Technologies
- INNOVATE 3EX3 - Experiential Learning in Innovation
- INNOVATE 3ZZ3 – Imagining and **Shaping Navigating** the Future
- INNOVATE 4EX6 A/B - Founders Startup
- SUSTAIN 3S03 - Implementing Sustainable Change

Application Procedures

3. Application and Documentation Deadlines

All programs have enrolment limits and may become full prior to published deadlines. Therefore, applying early and submitting all of the required documentation in support of your application in a timely manner may improve your chances of consideration for admission.

Application fees are non-refundable so we strongly advise you to review our admission requirements carefully before applying, to determine your academic eligibility for consideration for admission. See the *Admission Requirements* section of this Calendar for information about the academic requirements. The University reserves the right, at its sole discretion, not to accept, process or adjudicate applications or amendments to applications to any program at any time.

Equal consideration deadline: February 1. McMaster University reserves the right, at its sole discretion, not to accept, process or adjudicate applications or amendments to applications to any program at any time. Meeting minimum application requirements does not guarantee admission to any program at McMaster University. **Application fees are non-refundable so we strongly advise you to review our admission requirements carefully before applying**, to determine your academic eligibility for consideration for admission. Please see the Admission Requirements section of this calendar for general information. University transfer applicants should review programs by Degree and Minors requirements before applying.

McMaster University has a number of highly competitive by-selection programs that require a mandatory supplementary application/assessment, and all of these programs have early application and supplementary submission deadlines, as specified in the chart below. Failure to apply on time or to submit the required supplementary application/assessment by the specified dates will automatically disqualify consideration for these specified programs. You are advised to submit your application and/or amendments well in advance of the deadlines listed below.

Fall and Winter Terms

The dates and deadlines listed below are for applications submitted for the 2019-2020 academic year. Please refer to <http://future.mcmaster.ca> for the date and deadline information for new applications.

PROGRAM	APPLICATIONS	MANDATORY SUPPLEMENTARY APPLICATIONS
Arts & Science	February 1	February 1
Actuarial & Financial Mathematics (Above Level 1) Regular and Co-op Programs	April 1	April 30 For information see: https://www.math.mcmaster.ca/index.php/undergraduate-studies/undergraduate-programs/41-undergraduate-studies/1758-afm-supplementary-application.html
Bachelor of Technology Degree Completion (Above Level 1)	April 1 (May intake) July 15 (September intake) November 1 (January intake)	Must be completed by the application deadline. View more information about the mandatory supplementary application for the Bachelor of Technology degree .
Biomedical Discovery & Commercialization (Level III entry)	February 1	February 1
Engineering 1 (Regular and Co-op)	January 16	Kira© Assessment Assessment dates available February 1 to February 14 after payment via: http://www.eng.mcmaster.ca/future/apply.html
Health Sciences I (Honours)	January 16	Mid- Early February Details at http://bhsc.mcmaster.ca
Health Sciences (Honours) (Above Level I)	April 1	Early May April Details at http://bhsc.mcmaster.ca
Health Sciences (Above Level II) Biomedical Discovery & Commercialization	February 1	February 1 Details at: https://bdcprogram-mcmaster.ca/
Honours Biology and Pharmacology Co-op (Above Level 1)	February 1	February 1 Mandatory Letter of Intent specifying reasons for applying and applicant suitability for the program. Email biophrm@mcmaster.ca by February 1.
Honours Integrated Science I	February 1	February 1
Integrated Biomedical Engineering & Health Sciences 1 (Regular and Co-op)	January 16	February 1 Online Kira© Assessment

Integrated Business & Humanities	February 1	February 1 Online Kira© Assessment
Justice, Political Philosophy & Law	April 1	April 1 For more information see: https://www.humanities.mcmaster.ca/programs/undergraduate-programs/justice-political-philosophy-law/
Midwifery (including submission of all transcripts)	February 1	N/A
Physician Assistant (including submission of all official transcripts) Note: This program is not open to International Applicants. This program is open to Canadian citizens and present Permanent Residents of Canada only.	February 1	February 1
Social Work	December 1	March 1
Nursing I: Secondary School Applicants	February 1	CASPer™ Assessment For full detail regarding the CASPer™ Assessment: http://nursing.mcmaster.ca/prospective-students/admission Mandatory Supplementary application information is available on the CASPer™ website .
Nursing 1 (university transfer applicants from programs other than Nursing and applicants from college pre-health programs) (including submission of all official transcripts)	February 1	CASPer™ Assessment For full detail regarding the CASPer™ Assessment: http://nursing.mcmaster.ca/prospective-students/admission Mandatory Supplementary application information is available on the CASPer™ website .
Transfer from another Nursing program to the McMaster site.		Students from other university Nursing programs should contact the McMaster Nursing program office at 905-525-9140, ext. 22232, for information about transfer options and application procedures. McMaster will not typically accept transfer applications from students already in a Nursing program elsewhere.
Nursing Basic-Accelerated Stream (above level I) (including submission of all official transcripts)	February 1	CASPer™ Assessment For full detail regarding the CASPer™ Assessment: http://nursing.mcmaster.ca/prospective-students/admission Mandatory Supplementary application information is available on the CASPer™ website .

Application Deadlines for All Other McMaster Programs for Fall and Winter Terms

***February 1:** Applications received on or before February 1 with all supporting official documentation received no later than February 15 from applicants with no postsecondary experience will be reviewed for admission pending space availability in the program. All applications received after February 1 will be considered only if there is space available in the program.

Post-February 1: All applications will be considered on a first-come, first-served basis depending on the availability of space in the program.

April 1: The final date to apply for admission and submit all required documentation for admission consideration is April 1. This final deadline applies to all International and Domestic applicants.

***February 1** – Applications received on or before February 1 with all supporting official documentation received no later than February 15 from applicants with no postsecondary experience will be reviewed for admission pending space availability in the program. All applications received after February 1 will be considered only if there is space available in the program.

April 1 – The final date to apply for admission and submit all required documentation for admission consideration is April 1. This final deadline applies to all international and domestic applicants.

	APPLICATION DEADLINE	SUPPORTING DOCUMENTATION DEADLINE
Ontario High School Applicants (Recommended)	January 17 ⁶	April 1
Early Consideration-Deadline* (see above)	February 1	February 15
Final Deadline Domestic Applicants	April 1	April 1
Final Deadline International Applicants	April 1	April 1
B.Tech. Degree Completion Program Only - January Entry	November 15	November 15

Spring/Summer Term

	DOMESTIC DEADLINE	INTERNATIONAL DEADLINE
May Entry (Term 1 or 3)	April 1	April 1
Supporting Documentation for May Entry	April 1	April 1
June Entry (Term 2)	May 15	May 15
Supporting Documentation for June Entry	May 15	May 15

Former McMaster Students: Re-admission / Re-instatement Deadlines for Fall and Winter Terms

	DOMESTIC DEADLINE	INTERNATIONAL DEADLINE
Re-instatement Deadline	June 30	June 30
Re-admission Deadline	July 15	July 15
Nursing Deadline	February 1	February 1

Academic Counselling for Admitted Students

If you are offered admission to a program at McMaster, you will be asked to confirm that you have accepted the offer of admission and will attend the University. Your admission will include information regarding acceptance procedures for the offer of admission, specified deadline for your acceptance and registration procedures. Offer of admission acceptance deadlines specified in your Offer of Admission letter are strictly enforced. Please ensure that you accept your offer of admission as directed well before the specified deadline date.

If you are admitted to Level I, your Faculty may also arrange a visit to the University so you may meet with a Faculty advisor to set up your program. Although attendance at the summer counselling and registration sessions is not compulsory, you are strongly advised to participate. If you cannot attend one of these sessions, counselling will be provided in September.

If you are offered admission above Level I, you may arrange for academic counselling with the Office of the Associate Dean of the Faculty offering the program, or the Office of the Director of the program.

4. Review of Admission and Re-Admission Decisions

No appeal procedure shall be available for decisions on admission or re-admission to the University. Such decisions may be reviewed within the following framework:

- An applicant to the University who believes that the admission or re-admission decision, or, in the case of a transfer student the decision to grant credits, is incorrect, or based on incorrect or incomplete information, may, **within one week of receiving the decision**, request a review of that decision by writing to the Senior Associate Registrar, Undergraduate Admissions, stating why she/he thinks the decision should be reviewed.
- The Senior Associate Registrar, Undergraduate Admissions, shall determine whether the information on which the decision was based was incomplete or incorrect and, if so, shall refer the request for review to the appropriate Faculty Committee. That Committee shall make a final decision and report it to the Senior Associate Registrar, Undergraduate Admissions, who shall then convey the decision in writing to the student. The Senior Associate Registrar, Undergraduate Admissions may, at his/her discretion, supply reasons.

McMASTER UNIVERSITY: SESSIONAL DATES 2020-2021

Fall and Winter Terms 2020-2021

	Fall Term (62 days)	Winter Term (62 days)	Courses Spanning both Terms (124 days)
Enrolment begins	<i>To be announced</i>		
Classes begin	Tuesday, September 8	Wednesday, January 6	Tuesday, September 8
Last day for enrolment and adding or dropping courses	Wednesday, September 16	Thursday, January 14	Wednesday, September 16
Mid-Term Recess(es)	Monday, October 12 to Sunday, October 18	Monday, February 15 to Sunday, February 21	Monday, October 12 to Sunday, October 18 and, Monday, February 15 to Sunday, February 21
Last day for withdrawing from courses without failure by default	Friday, November 13	Friday, March 12	Friday, March 12
Good Friday: No classes or examinations	--	Friday, April 2	Friday, April 2
Test and Examination Restriction	Thursday, December 3 to Wednesday, December 9	Monday, April 5 to Monday, April 12	Tuesday, April 6 to Tuesday, April 13
Classes end	Wednesday, December 9	Friday, April 9	Thursday, April 8
Mid-Term Tests Level (I)	--	--	Wednesday, December 9 to Tuesday, December 22
Final Examinations	Thursday, December 10 to Wednesday, December 23	Tuesday, April 13 to Wednesday, April 28	Wednesday, April 14 to Thursday, April 29
Deferred examinations	Tuesday, February 16 to Friday, February 19	Monday June 21 to Thursday June 24	Monday June 21 to Thursday June 24

2021 Spring/Summer Term

	Spring Session (34 days)	Summer Session (33 days)	Full-Term Courses (67 days)
Classes begin	Monday, May 3	Monday, June 21	Monday, May 3
Last day for enrolment and adding or dropping courses	Monday, May 10	Monday, June 28	Monday, May 10
Victoria Day: No classes	Monday, May 24	--	Monday, May 24
Canada Day: No classes	--	Thursday, July 1	Thursday, July 1
Last day withdrawing from courses without failure by default	Wednesday, June 2	Wednesday, July 21	Wednesday, July 21
Civic Holiday: No classes	--	Monday, August 2	Monday, August 2
Classes end	Friday, June 18	Friday, August 6	Friday, August 6
Final Examinations	<i>As arranged by instructor in class time</i>		
Deferred Examinations	Tuesday October 12 to Friday, October 15, 2021		



April 2019

TO: Undergraduate Council

FROM: Susan Searls Giroux
Vice-Provost, Faculty
Co-Chair, Quality Assurance Committee

RE: 2016-18 IQAP Cyclical Program Reviews

INTRODUCTION

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

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

All program review reports (including self-studies, review team recommendations, departmental responses, and dean's implementation plans) are submitted to McMaster's Quality Assurance Committee, a joint committee of Undergraduate and Graduate Councils. The Quality Assurance Committee assesses all submitted reports and prepares a Final Assessment Report (FAR) for each program review conducted during the previous academic session. Each FAR:

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

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

2016-2018 IQAP CYCLICAL PROGRAM REVIEWS

The following programs were reviewed during 2016-17:

Undergraduate Programs

Biochemistry

Biology

The following programs were reviewed during 2017-18:

Undergraduate Programs

Mathematics and Statistics

Medical Radiation Sciences

FINAL ASSESSMENT REPORT

Institutional Quality Assurance Program (IQAP) Review

Biochemistry

Date of Review: April 4 - 5, 2017

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

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

Executive Summary of the Cyclical Program Review of the Undergraduate

Biochemistry Program

In accordance with the Institutional Quality Assurance Process (IQAP), the Biochemistry program submitted a self-study in February 2017 to the Associate Vice-President, Faculty to initiate the cyclical program review of its undergraduate programs. The approved self-study presented program descriptions, learning outcomes, and analyses of data provided by the Office of Institutional Research and Analysis. Appendices to the self-study contained all course outlines associated with the program and the CVs for each full-time member in the department.

Two arm's length external reviewers, both from Ontario and one internal reviewer were endorsed by the Dean, Faculty of Science, and selected by the Associate Vice-President, Faculty. The review team reviewed the self-study documentation and then conducted a site visit to McMaster University on April 4 - 5, 2017. The visit included interviews with the Provost and Vice-President (Academic); Vice-Provost, Faculty, Dean of Science and Chair of the department and meetings with groups of current undergraduate students, full-time faculty and support staff.

The Chair of the program and the Dean of the Faculty of Science submitted responses to the Reviewers' Report (August 2017, June 2018). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.

Strengths

In their report (May 2017), the Review team noted that the Biochemistry program is incredibly strong and provides students with an engaging and current curriculum with emphasis on all critical areas ranging from memorization of fundamental key concepts, development of critical thinking, exposure to “real world” lab experience, and development of “soft skills” including effective teamwork, public speaking, and reading primary literature. Many students in this program participate in laboratory research and a real strength of the program is the true excellence of the faculty and facilities they have access to.

The reviewers’ further noted that the program’s success is reflected by the fact that the students in the program are both largely happy and extremely loyal to the school. Many of the students choose to stay at McMaster for their graduate degrees and approximately 40% of the graduate students in Biochemistry were undergraduates from this program. This is a strong endorsement showing that both students and faculty are generally happy with the program.

Further highlights identified in the report include:

- On average, each year, 50-90 students have participated in research projects due to the increased interest and demand from students to obtain first-hand research experience. In order to facilitate and meet the increased demand, we opened up our restrictions to only being permitted to do research with a faculty member to any faculty member at the university who would supervise a project suitable for a degree in Biochemistry. And in spite of the opening of a new program in Biomedical Discovery and Commercialization which requires a thesis placement, we continue to accommodate large numbers of students in our research courses.
- The core biochemistry program is strong and emphasizes transferable skills and active learning
- The reviewers identified the teaching professors and support staff as a key strength to the program.

Areas of Improvement

In their report, the Review Team identified some recommendations for areas of improvement as outlined below.

- Increasing the number of course offerings in areas of interest to students, which will also facilitate scheduling for co-op students which always proves to be a challenge due to the distribution of the co-op terms. For this reason, we have included student representation on our undergraduate curriculum committee for the first time this year, and will continue with this very positive addition to the committee.
- Students expressed mixed/negative feelings about the launch of the Biomedical Discovery and Commercialization program three years ago. Some of the issues are no doubt growing pains and we have always been mindful of the divergence and perceived competition. These will be identified and resolved over time and with careful handling. Our goal is to have two unique programs but with equity wherever feasible.

- The reviewers suggested that we use focus groups in light of recent changes in the department and the introduction of the new Biomedical Discovery and Commercialization program. While we formerly conducted round table sessions at the end of each academic year, attendance was very low, and these sessions were abandoned, we propose that scheduling such groups in January will improve attendance and feedback.
- Career mentoring was formerly included in Biochemistry 2L06 upon its first few offerings, however, the course has changed with the introduction of a new instructor. This can be reintroduced to the course or another suitable area in our programming.

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

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

Recommendation	Proposed Follow-Up	Responsibility for Leading Follow-Up	Timeline for Addressing Recommendation
1.Top-to-bottom review of the program and curriculum in light of changes that have occurred over the past eight years	In light of changes in our faculty complement, and in line with discussions at the department educational retreat in November 2016, and the feedback from the IQAP review, we propose to develop suites of courses that would flow from level II through to IV that would align with our faculty expertise. Program learning objectives (PLOs) and course learning objectives (CLOs) will be integrated in course outlines across the curriculum in a format similar to the Faculty of Engineering and the School of Business with assistance and direction from the MacPherson Institute	Michelle MacDonald, Associate Chair, Undergraduate Studies Undergraduate Curriculum Committee Vivian Leong, Undergraduate Instructional Assistant	General overview and plan of curriculum changes to be completed by September 2018 for implementation. PLOs and CLOs to be integrated in course outlines by September 2018.
2.Expand course offerings	As above, in Recommendation #1, in light of discussions at the educational retreat in November 2016, and the feedback from the IQAP review, we propose to develop suites of courses that are of interest to students and in the areas of expertise of our faculty members	Michelle MacDonald, Associate Chair, Undergraduate Studies Undergraduate Curriculum Committee	Mount 1-2 additional courses on dean's permission for 2018-19 Propose 2-3 additional courses for 2019-20 during the next calendar cycle
3.Define how the older Biochemistry program fits in with the new BCD undergraduate program and work towards improving harmonization	We will continue to work closely with the BDC program administration to ensure consistency and equality to the extent that it is possible. We will ensure that there are unique and distinct aspects to each program through the re-introduction of annual focus groups with the Biochemistry program students. Student representation on the Undergraduate Curriculum Committee was introduced this year. These student impressions are no doubt growing pains and we have always been mindful of the divergence. These will likely	Michelle MacDonald, Associate Chair, Undergraduate Studies	Ongoing Next student focus group will occur in January to optimize student turn out vs the end of the year.

	be resolved over time and with careful handling.		
4.Support teaching staff	Our complement of teaching faculty are dedicated to optimizing the student learning experience and creating an environment which supports teaching and research. Onboarding of new faculty members to the teaching roster in 2018-19 will alleviate some of the pressures on the teaching faculty.	Michelle MacDonald, Associate Chair, Undergraduate Studies	Ongoing
5.Improve the TA experience	The process for hiring TAs is transparent and involves a matching process which takes into consideration the optimal arrangement for students, while trying to meet the requests of the TAs and the instructors. Discussions have already taken place between the associate chair of undergraduate education and the associate chair of graduate education to create a mentoring program for graduate students and post-docs with an interest in teaching. The process will be piloted beginning in 2018-19.	Michelle MacDonald, Associate Chair, Undergraduate Studies	Implementation for 2018-19
6.Move carefully toward establishing the program under a single administrative Faculty	Discussions have been ongoing for the past year between both faculties. Transition to the faculty of health sciences is dependent on an agreement between both faculties.	Karen Mossman, Chair	Ongoing. Possible transition to be initiated in 2018-19.

Dean's Response, Faculty of Science:

The Dean would like to thank the members of the review team for their report, including the recommendations and suggestions. Due to some turnover in the Office of the Dean of Science, the response of the Dean has been considerably delayed. The Dean would like to also thank Michelle MacDonald, Associate Chair of Undergraduate Studies, Department of Biochemistry and Biomedical Sciences for the thoughtful and comprehensive Program Response. The reviewers report highlighted several areas of strength in the undergraduate programs in Biochemistry. In particular, the structure of the curriculum with an innovative and team based second year lab course, feeding into a suite of upper year courses based on the Program learning objectives was highlighted, along with the strength and dedication of the teaching faculty and staff. The review team recommendations have provided areas for continued improvement and consideration and have all been incorporated into a plan for moving forward.

Due to the considerable delay between the development of the Program response and the submission of the Dean's response, the Dean was now able to provide more context for some of the specific recommendations.

Recommendation: "Move carefully toward establishing the program under a single administrative Faculty. This recommendation stimulated a series of conversations related to the administrative structure of the Biochemistry Program and any potential negative consequences of this administrative structure." The review team noted that the main concerns were the fact that "This means that the Chair is burdened with the task of evaluating and reporting on the activity of the

teaching personnel to two different Deans. Students also complained about hidden inter-faculty barriers that occur that block them from taking many classes they are interested in.”

The Dean agrees with the stated concern that any move would have to be very carefully planned and as such we have not moved beyond the initial discussion stage. Biochemistry students enter their program at Level 2 after successful completion of Level 1 Science. If the Biochemistry program was to move to the Faculty of Health Sciences, this would require students to switch Faculties or to enter into the Faculty of Science at level 1, thereby resulting in a very complex series of changes and potentially limiting student flexibility for program choice. Additionally, all of the student support services including Program advising and career and co-op services are provided through the Faculty of Science and would have to be developed from within the Faculty of Health Sciences should any change be advanced. As such, the Faculty has taken some steps to address the specific concerns of the review committee. While the Chair of Biochemistry and Biomedical Sciences still reports to governing bodies in both Faculties, changes have been forwarded to the tenure and promotion practices such that the cases for tenure, promotion (and permanence) will now only flow through the Faculty of Health Sciences, reducing one area of dual report. With respect to expansion of student offerings, one way this concern has been addressed is through the offering of 2 additional elective courses on "Dean's Permission" in 2018/2019 with more on-going curriculum changes to be approved in due course.

While not a specific recommendation, it was stated in the review team report that there was "A desire from students for more career mentorship. Some students stated that they chose the Biochemistry program because it kept their options open, but felt they were not truly aware of what options are available outside of graduate research or professional schools." This desire for additional career supports was also expressed by students in other programs in the Faculty of Science, and as such the Faculty is moving forward with plans to hire a "career integration officer", to assist with the development and implementation of career mentorship programming and supports for all undergraduate and graduate students in the Faculty of Science.

As the Faculty of Science moves forward with its commitment to excellence in undergraduate education, progress will be monitored with respect to the individual recommendations of the review team and engage in the highly valued partnership with the Faculty of Science in refining and delivering these outstanding undergraduate programs in Biochemistry.

Quality Assurance Committee Recommendation

McMaster's Quality Assurance Committee (QAC) reviewed the above documentation and the committee recommends that the program should follow the regular course of action with a progress report and subsequent full external cyclical review to be conducted no later than 8 years after the start of the last review.

FINAL ASSESSMENT REPORT

Institutional Quality Assurance Program (IQAP) Review

Biology Undergraduate Programs

Date of Review: March 27 - 28, 2017

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

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

Executive Summary of the Cyclical Program Review of the Undergraduate

Biology Program

In accordance with the Institutional Quality Assurance Process (IQAP), the Biology program submitted a self-study in February 2017 to the Associate Vice-President, Faculty to initiate the cyclical program review of its undergraduate programs. The approved self-study presented program descriptions, learning outcomes, and analyses of data provided by the Office of Institutional Research and Analysis. Appendices to the self-study contained all course outlines associated with the program and the CVs for each full-time member in the department.

Two arm's length external reviewers, both from Ontario and one internal reviewer were endorsed by the Dean, Faculty of Science, and selected by the Associate Vice-President, Faculty. The review team reviewed the self-study documentation and then conducted a site visit to McMaster University on March 27 - 28, 2017. The visit included interviews with the Provost and Vice-President (Academic); Vice-Provost, Faculty, Dean of Science and Chair of the department and meetings with groups of current undergraduate students, full-time faculty and support staff.

The Chair of the department and the Dean of the Faculty of Science submitted responses to the Reviewers' Report (June 2018). Specific recommendations were discussed, and clarifications and corrections were presented. Follow-up actions and timelines were included.

Strengths

In their report (May 2017), the Review team noted that The Department of Biology delivers a top-quality, lab-based undergraduate program on a minimal budget. The Department has done an impressive job with their recent innovative redesign of Bio1A03 (including the lab component), which incorporates many facets of evidence-based teaching that have been shown to improve learning in STEM courses. Indeed, the department utilizes multiple approaches to teaching in their Biology and Molecular Biology courses. While all courses except the research and co-op courses use lectures, the majority also incorporate innovative and creative approaches that include: clickers, class-based discussions, case studies, group work, collaborative learning, PBL, labs, field work, tutorials, and podcasts, just to name a few. In addition, these multiple approaches to student learning are key to developing student proficiency in many of the Biology department's PLOs that are aimed at higher levels of learning (e.g. PLOs 14 & 23), meeting undergraduate degree level expectations (e.g. PLOs 22-24 & 40) and prioritizes accessibility and removal of barriers to learning. Students are assessed through a variety of methods, including tests, exams, term papers, oral presentations, group projects, case studies, critical reviews, and experiential learning. All of these assessments are effective ways of measuring student learning and the wide variety of types of assessments used represent best pedagogical practice. These methods of assessment of student achievement of PLOs are thorough, appropriate and effective.

The Biology programs are doing an excellent job of meeting or exceeding departmental PLOs and helping the university meet its undergraduate degree learning expectations and overall mission. As part of the self-study, the department has performed a thorough critical analysis of PLO achievement in its programs, and has already identified areas for improvement along with strategies for doing so. The reviewers agree with the department's self-study and areas targeted for improvement include: encouraging more students to enroll in existing laboratory and field courses thereby increasing proficiency in PLOs 25-28 and 33-35, increasing the number of opportunities for students to work with statistics in biology, as well as opportunities for increased exposure to programming as it relates to the modern study of biology. All of these target areas came up in our discussions with students and faculty. The department has already been extremely proactive in implementing new cell biology labs in several key courses as well as securing funding for equipment for a new course in Experimental Approaches in Cell Biology (3D03). These laboratory and equipment improvements will certainly help to increase proficiency in microscopy and cell biology-related PLOs as well as experimental design and lab skill PLOs for the next cohort of biology graduates. A final area of improvement identified involves ethics (PLO 41). Ethical thinking is embedded within several program courses, but it may be that it needs to be made more explicit to students.

Further highlights identified in the report include:

- top-quality, lab-based undergraduate programs on a minimal budget
- courses incorporate many facets of evidence-based teaching that improve learning in STEM courses
- many courses use innovative approaches including blended learning (Bio1A03, Bio2B03) clicker, case-studies, in-class discussions, group work, PBL, labs, field work, podcasts, etc
- Biology is doing an excellent job at meeting or exceeding departmental PLOs that align with Ontario's Undergraduate Degree Level Expectations
- Biology has been very successful in obtaining FWI, ASF and other funding to improve undergraduate education

Areas of Improvement

In their report, the Review Team identified some recommendations for areas of improvement. As in many Departments across the University system, there is an aging faculty and an uneven demographic across sub-disciplines. There has been considerable reduction in Plant Biology, Microbiology and Physiology faculty in recent years, to the point where these major areas of Biology are only poorly represented. This erosion of expertise in some core areas of Biology is a concern that cannot be left unaddressed for long before it will impact program quality.

A recurring theme amongst nearly all our discussions was the Life Sciences undergraduate program. A common perception is that this program, which currently does not reside within an academic unit (department), is a “pre-med” program. However, the LSP did not see itself as a pre-med program, but rather as a program with emphasis on basic science application to human health and Community Engagement Learning. In other words, the LSP wants to differentiate itself as an applied human biology program, while the Department of Biology has a strong emphasis on traditional Biology sub disciplines. The delineation of the roles of these two programs needs to be clearer.

The Department does not appear to have a clear plan regarding faculty complement renewal (beyond replacement in areas required to cover undergraduate courses), and this may hinder developing cogent arguments for faculty replacement/renewal when resources allow. Faculty do not receive credit for teaching intensive field courses. Field courses are a substantial amount of work to organize and operate and require adequate support to ensure safety of all participants, including appropriate TA resource allocation. Other recommendations are outlined below.

- develop a plan for faculty renewal, especially in areas with poor representation (plant biology, microbiology, physiology)
- delineate and differentiate the roles of Biology programs from Life Science programs
- provide teaching credit to faculty teaching field courses
- improved TA resources to maintain high quality of lab and tutorials in biology courses

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

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

Recommendation	Proposed Follow-Up	Responsibility for Leading Follow-Up	Timeline for Addressing Recommendation
R1.1. Continue to strive to provide enriching, experiential learning throughout their	Continue to provide a lab-based biology experience to our students by advocating for the resources to maintain 13 lab/field courses, and	Associate Chair (undergrad), Chair	Ongoing

undergraduate program	experiential/independent research courses (Bio3EP3,3IR3, MolBio3I03, Bio4F06, 4C12, MolBio4G12). TA support is currently a limiting variable for this.		
R2.1 Maintain dual-entry to Honours Biology program and continue to strive to make the differences between Discovery Subplan and regular Honours Biology program more visible to students earlier in their studies.	Agreed, maintain Biology core and Biology + Discovery subplan Look into additional ways to advertise our program options to Level I students (more info on Bio web site & Bio1A03, Bio1M03 Avenue pages), use social media (twitter, snapchat), engage the BioSociety to help with this.	Associate Chair and Biology Undergraduate Committee (BUGs), Biology Undergraduate Society (BioSociety)	2017-18
R2.2. Consider including a Level 2 course or extra-curricular activities aimed at Discovery Subplan students that would build a student learning community or more closely-linked cohort.	Level 2 is full with courses, cannot introduce another. Instead consider recommending or requiring that Bio+Discovery students take Bio2L06 (Experimental Biology). Already considering how to provide a better cohort experience for all programs, perhaps by following our Welcome to Biology Night with additional get-to-know your faculty & fellow student events	Associate Chair and BUGs, BioSociety	2017-18
R2.3. Adopt recruitment activities to maximize the visibility and enrolment in the Honours Biology Discovery Subplan.	See proposed follow-up above	Associate Chair, BUGs, BioSociety	2017-18
R3.1. Faculty be made more aware of	The Associate Chair participated in a workshop that introduced Forward with Flexibility, the new	Associate Chair and Chair,	2017-18

(or be given more access to) institutionally-supported close-captioning video services so that individual faculty do not perceive this accessibility requirement as a barrier to producing learning materials for all types of learning styles.	<p>teaching and learning resource on accessibility and inclusion. This resource will be available sometime this summer to aid faculty in making their teaching more accessible to all. All faculty will be expected to do the online modules and take a quiz as part of our obligation to the Accessibility for Ontarians with Disabilities Act. Representatives from the Forward with Flexibility resource will visit the department to explain use and benefits of the resource.</p> <p>During the workshop the Associate Chair learned that close-captioning and other resources are available for courses that have students with these needs.</p>	Forward with Flexibility team	
R3.2. Faculty be encouraged to continue to develop and adopt innovative and creative approaches to their teaching.	Work with the MacPherson Institute to encourage continued innovative ways to improve teaching in Biology. Invite MacPherson to provide a 1 hour information session to the faculty. Ask Biology Teaching Profs to provide 1 hour information sessions on different ways to enhance student engagement during lectures	Associate Chair, MacPherson Inst, Biology Teaching Profs, Biology faculty	Ongoing
R4.1. Continue to articulate value of laboratory and field courses to students and explore mechanisms to encourage more students to choose these courses in Levels 3 or 4.	<p>Continue to do this at various Biology information events for our students.</p> <p>More promotion of our lab/field courses in all level 2 Biology courses and if possible on social media (see R9.1)</p>	Associate Chair, Level 2 Biology faculty	Ongoing
R4.2. Depending on availability of adequate resources,	Can't add a new lab/field course due to resource issues & already have many lab/field options.	Associate Chair and BUGs	Put this curriculum change through APPC this fall for the 2018-19 calendar.

consider introducing a required Level 3 laboratory or field course for program students not doing co-op or not intending to do a thesis project course. Perhaps Honours Biology Discovery Subplan might be a good place to introduce this.	Instead, considering adding a requirement that all Biology program students take at least 3 units from: 3 rd year lab/field courses, 3 rd year experiential or research courses (Bio3EP3, Bio3IR3, MolBio3I03), 4 th year project (Bio4F06) or thesis (Bio4C12, MolBio4G12)		
R4.3. Continue with its plans to offer a new Level 3 course developed by the computational and quantitative biologists.	Bio3SA3 (Biological Statistics) was approved in fall 2016 and will be offered in winter of 2018		Done
R4.4. Consider where more biostatistical analysis and critical analysis of published biostatistics could be reinforced in existing courses.	<p>This was discussed at a departmental meeting in in 2017 after examining the 2015 IQAP survey of graduating students. A number of faculty have added statistical analysis of biological data to their courses (Bio2L06-Experimental Bio, Bio3SS3-Pop Eco, Bio3JJ3-Field Eco, MolBio3D03-Experimental Cell Bio, MolBio3Y03-Plant responses to the environment.</p> <p>Monthly Data Lunch run by Bolker & Dushoff to help 4th year students, grad students & faculty with statistical analysis of their data.</p>	Associate Chair will survey faculty and then if necessary encourage more faculty to add biostats analysis to their courses.	2017-18
R5.1. Establish clear guidelines to outline reasonable expectations for newly defined technical roles.	Chair, Associate Chair, Dept. Administrator and staff will work together to outline guidelines and roles. A comprehensive review is scheduled for the spring of 2018.	Chair	2017

R5.2. Consider distributing technical support staff responsibilities according to expertise, rather than course level, to more fully utilize expertise of incumbent staff.	We realize that the new model of one Undergrad Coordinator (UC) + 1 tech for each level, may not be the best way to run our undergrad labs and tutorials. We will work together to find the best way to deliver our labs & tutorials with 3 UCs and 3 techs.	Chair, Associate Chair, Dept. Manager, Staff,	1 st formal meeting – Aug, 2017 to prepare for upcoming 2017-18 academic year 2 nd formal meeting – May 2018 to discuss how the first year went, brainstorm to improve for subsequent years
R5.3. Insofar as resources allow, the allocation of TA resource to Biology be adjusted to meet the demand on programs to deliver high quality, experiential learning opportunities.	We will work with the Dean to maintain the high quality of our undergraduate courses.	Chair, Associate Chair, Manager, staff	Ongoing
R5.4. Faculty of Science consider allowing select appointment of sessional instructors in areas of Biology with limited capacity to deliver necessary curriculum.	Hiring sessionals will not serve the long-term need for subject expertise that is not being met by current faculty complement. We will work with the Dean to explore solutions.	Chair, Dean	Ongoing
R5.5. Field courses be recognized as bona fide courses, and faculty who teach them be afforded teaching credit and TA resources to operate them.	Faculty spend 160-180 hours for each field course, this is often higher than for a regular already developed course offered during the academic year. Biology faculty currently teach 2 to 3 field courses per year, along with a full regular course load in most years. We need to maintain this level of field course teaching to remain in OUPFB (Ontario Universities Program in Field Biology) & provide McMaster students access to these field opportunities. We will work with the Dean to explore solutions to	Chair, Dean	2017-18

	continue to offer field courses while maintaining our regular curriculum.		
R5.6. Department should prepare an updated Strategic Plan, with emphasis on growing strengths and identifying core faculty complement required to continue to deliver their strong undergraduate programs.	Agreed. Chair will organize a retreat to discuss this in spring 2018.	Chair, faculty	2018
R5.7. Renovation of greenhouse space be made a priority.	We agree that the greenhouse is a priority, but renovations are not the answer. A new modern energy-efficient greenhouse is required. The importance of the Biodiversity collection was recently recognized by a Sustainable Design in Heritage Award from the Hamilton Municipal Heritage Committee. It is not generally appreciated that the Biodiversity collection is a core component of our undergraduate teaching and community outreach. The biodiversity collection receives 500 student visits yearly as part of lecture, lab, outreach, as well as loaning plants for lab study almost weekly. We will work with the Dean and Advancement to fundraise for a new greenhouse.	Chair, plant biology faculty, Advancement	2017-18
R7.1 Ensure that faculty, TA, and laboratory resources in Level 2 Bio courses required by both LSP and Bio students are provided at the level required to maintain the pedagogical	Agreed, will advocate for the TA and lab resources to maintain these courses.	Chair, Associate Chair	Ongoing

excellence developed by Biology.			
R7.2 To enable better communication among stakeholders in Life Sciences Programs, an ongoing Life Sciences Program curriculum committee be struck to allow consultation with cognate units prior to decanal approval of new LS courses and programs. Care should be taken to ensure that representation by Biology faculty with 100% appointments is provided.	Agreed. Biology's Associate Chair has suggested this on a number of occasions at APPC.	SIS Director, Associate Dean, Associate Chair	2017
R9.1. Biology make a concerted effort to reach out to undergraduate students through a variety of means, including social media (Twitter, Facebook, etc.).	Agreed. We have been thinking about this as discussed in our Self-Study, as our Information Events, website and emails are not informing enough of our students. We will look into using Twitter, snapchat, TVs outside first year labs in BSB, announcements on Course Avenue sites. We will also consider providing small group mentorship to Biology students, perhaps with the help of the BioSociety. A retreat to discuss these issues will be organized, and funding sought.	Associate Chair, Academic Administrator, BUGs, BioSociety, faculty, staff	IQAP implementation Retreat in Midterm Break in October 2017.

Dean's Response, Faculty of Science:

Due to some turnover in the Office of the Dean of Science, the response of the Dean has been delayed. The Dean noted that the reviewers report highlighted several areas of strength in the undergraduate programs in Biology. In particular, the report highlighted the commitment to comprehensive Biology

undergraduate programs that reflect the breadth of the Discipline, while also providing capacity for students to specialize in areas of interest. It is clear that the program learning objectives are well defined and integrated into the curriculum with many points of evidence indicating that graduating students in all programs should meet or exceed the degree requirements. The recent changes to Biology 1A03 were highlighted as an example of innovation in curriculum design that reflects the excellence of the programs, the staff and the faculty. The review team recommendations have provided areas for continued improvement and consideration and have all been incorporated into a plan for moving forward. The Dean supports all of the proposed actions highlighted in the program response but feel that some of the interpretations and recommendations and subsequent program responses do require some explanation and refinement with the broader lens available at the Decanal level. In addition, due to the considerable delay between the development of the Program response and the submission of the Dean's response, the Dean is now able to provide more context for some of the specific recommendations.

Recommendation R2.3: *"Adopt recruitment activities to maximize the visibility and enrolment in the Honors Biology Discovery Subplan."*

Recommendation R9.1 *"Biology make a concerted effort to reach out to undergraduate students through a variety of means including social media".*

The Dean grouped these recommendations together to highlight action on these items. The Office of the Dean of Science is taking a number of steps to address communication with undergraduate students in the Faculty of Science. We will be supporting enhancement of communication at several levels including the hiring of a communications officer for central facilitation of both internal and external communications. We are also initiating a variety of projects aimed at supporting and informing students with respect to academic, career and co-curricular opportunities and events.

Resource related recommendations (Section 5)

Overall, I believe that many of the resource related recommendations in section 5 could be addressed in a variety of ways in the near future, however a strong Departmental Strategic plan will be crucial to the ability of the Office of the Dean to support requests and initiatives from the Department of Biology.

Recommendation R5.1: *"Establish clear guidelines to outline reasonable expectations for newly defined technical roles."*

The review team correctly noted that a significant re-structuring of the instructional and technical roles had been undertaken just prior to the site review. It is expected that any significant change in organizational structure will result in a period of adjustment and accommodation. While that re-structuring was conducted with the oversight of the Office of the Dean, the actual structure was

developed and implemented from within the Department of Biology. During the 2017/2018 academic year the Dean met on a regular and frequent basis with the Chair of the Department and the staffing plans were a common focus of those meetings. Substantial information was gathered including detailed responsibility and task lists, and time estimates. Reporting structures were altered such that laboratory and technical staff now report to the Department Chair rather than the Department Administrator. A review of the new staffing structure revealed that some adjustments should be made and we have now moved one additional instructional staff to 12 month rather than 10 month and adjusted the activities and expectations of several positions.

Recommendation 5.3: *"Insofar as resources allow the allocation of TA resource to Biology be adjusted to meet the demand on programs to deliver high quality, experiential learning opportunities."*

The Department of Biology has had and will continue to have the capacity to request additional resources in all areas as part of comprehensive and justified planning. Efforts have been made to clarify the financial supports available to units for their graduate programs (TA and Scholarship) in an effort to assist them in both fiscal management and effective utilization of resources for their academic mission.

Recommendation 5.4: *"The Faculty of Science consider allowing selection appointment of sessional instructors in areas of Biology with limited capacity to delivery necessary curriculum."*

Similar to recommendation 5.3, the unit already had, and will continue to have, capacity to request sessional faculty, however those requests must be justified both in terms of rationale and resource allocation and be part of a comprehensive strategic plan for the unit. One specific area of concern identified in the report was the heavy reliance on sessional instructors for the Biology/ Pharmacology Program. For this reason and others, this program has now been administratively moved to the Faculty of Health Sciences.

Recommendation 5.5: *"The field courses be recognized as bona fide courses, and faculty who teach them be afforded teaching credit and TA resources to operate them."*

As this recommendation links specifically to the courses offered through the Ontario Field Biology program which has a separate administrative and enrollment system from McMaster, the dean recently requested and received a report from the Chair of Biology on how the program runs and how it is currently resourced by McMaster. It is clear that the teaching of field courses in this program have been resourced by both faculty and staff and that credit for teaching courses by faculty has been provided on an ad hoc basis in the past. This report will provide the foundation to establish a more stable mechanism of resourcing that also takes the funding of the program into consideration.

Recommendation 5.7 *"Renovation of the greenhouse space be made a priority."*

The Faculty of Science submitted a successful proposal to the McMaster University Strategic Alignment Fund to assist the Faculty of Science with the costs of building a new greenhouse addition to the Life Sciences Building, where the Department of Biology is housed.

Recommendation 7.2 "To enable better communication among stakeholders in Life Sciences Programs, an ongoing Life Sciences Program curriculum committee be struck to allow consultation with cognate units prior to decanal approval of new LS courses and programs. Care should be taken to ensure that representation by Biology faculty with 100% appointments is provided."

The Dean has substantial concerns with this recommendation as is not sure that the review team was provided with the full context of the information related to the development of the Life Sciences Program or the curriculum governance process that is already in place. In recognition of the issues of academic planning and resourcing, former Dean of Science, Rob Baker, formed an *ad hoc* committee in 2014 (The Life Sciences Working Group) and that group included representation from faculty, staff and students from many units in Science, including Biology. In their report of March 2015, the working group proposed a variety of revisions to the Life Sciences Curriculum to address a variety of concerns. Those revisions have now been adopted, and as noted by the reviewers have transformed the Honours Life Sciences Program into a distinct and excellent program. In January 2016, the School of Interdisciplinary Sciences was established and the Life Sciences program was moved to that new academic unit. The School of Interdisciplinary Sciences has its own curriculum committee for managing curriculum issues for all programs in the School, and as such, it would not be appropriate to layer on an additional curriculum committee with faculty representation from outside the unit. For this program, as with all other programs in the Faculty of Science, the mechanism for other units, such as Biology, to provide input on the curriculum proposals from another unit occurs at the Faculty of Science Academic Policy and Planning Committee. It will perhaps take some time for all members of the Faculty of Science to become aware of all of the recent changes, but in light of this information, the Dean does not support any action with respect to recommendation 7.2.

As the Faculty of Science moves forward with its commitment to excellence in undergraduate education, it will monitor its progress with respect to the individual recommendations of the review team and engage in its highly valued partnerships in refining and delivering these excellent undergraduate programs in Biology.

Quality Assurance Committee Recommendation

McMaster's Quality Assurance Committee (QAC) reviewed the above documentation and the committee recommends that the program should follow the regular course of action with a progress report and subsequent full external cyclical review to be conducted no later than 8 years after the start of the last review.

FINAL ASSESSMENT REPORT

Institutional Quality Assurance Program (IQAP) Review

Mathematics and Statistics Undergraduate Programs

Date of Review: February 12-13, 2018

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

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

Executive Summary of the Cyclical Program Review of the Undergraduate Programs in Mathematics and Statistics

In accordance with the Institutional Quality Assurance Process (IQAP), the Department of Mathematics and Statistics submitted a self-study for the undergraduate programs in Mathematics and Statistics in December 2017 to the Vice-Provost, Faculty to initiate the cyclical program review of its undergraduate programs. The approved self-study presented program descriptions, learning outcomes, and analyses of data provided by the Office of Institutional Research and Analysis. Appendices to the self-study contained all course outlines associated with the program and the CVs for each full-time member in the department.

Two arm's length external reviewers, both from Ontario and one internal reviewer were endorsed by the Dean, Faculty of Science, and selected by the Vice-Provost, Faculty. The review team reviewed the self-study documentation and then conducted a site visit to McMaster University on February 12 - 13, 2018. The visit included interviews with the Provost and Vice-President (Academic); Vice-Provost, Faculty, Dean of the Faculty of Science, Chair of the department and meetings with groups of current undergraduate students, full-time faculty and support staff.

The Chair of the program and the Dean of the Faculty of Science submitted responses to the Reviewers' Report (July 2018). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.

Strengths

In their report (March 2018), the Review team noted the following strengths of the Mathematics and Statistics undergraduate programs:

- Flexibility of the program
- First year courses in mathematical computation and reasoning
- Actuarial and Financial Management
- High quality of students and faculty

Areas of Improvement

In their report, the Review Team identified some recommendations for areas of improvement including:

- Enhanced versions of courses to give a richer experience to the best students
- Exposure to data science earlier in the program
- More guidance for students especially targeted at opportunities
- Improved support for the Math Help Centre
- More engagement with other faculties

The Dean of the Faculty of Science, in consultation with the Chair of the Mathematics and Statistics department shall be responsible for monitoring the recommendations implementation plan. The details of the progress made will be presented in the progress report and filed in the Vice-Provost, Faculty's office.

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

Implementation Plan

Recommendation	Proposed Follow-Up	Responsibility for Leading Follow-Up	Timeline for Addressing Recommendation
1a. Introduce aspects of data science early, perhaps even into Math 1MP3	Intensively pursue the idea of introducing data science into the curriculum, at some level. Note that both Math 1MP3 instructors have reservations about fitting this material into the existing course.	Undergraduate committee, under guidance of associate chair (undergraduate)	One year for discussion, two or more years for implementation.

1b. Offer enhanced versions of some of level I and II courses	We will explore the details of creating enriched sections of our 1st-year required courses in linear algebra and calculus, and consider repercussions for upper-year courses, including possibly enhanced or honors versions of the curriculum in second year	Undergraduate committee, under guidance of associate chair (undergraduate)	Strike a committee to start work in summer 2018.
1c. Expand teaching of communication skills	Create a list of courses that would be deemed to satisfy a "communications requirement", and create a requirement that students in honors programmes take at least one of the courses from the list. Syllabus (or the calendar copy) of each course would identify it as such. Examples of such courses are Math 4FM3, Math 3MB3, Math 3Z03, Math 4P06, Stats 4T06.	Undergraduate committee, under guidance of associate chair (undergraduate)	Summer 2018, for submission to AP&PC in Fall 2018, and addition to the calendar for 2019-20
1d. Increase emphasis on computing in upper level courses	Hold some workshops in department presenting practical ways to include computing element in upper-level courses. Then discuss whether to mandate this use and in what courses.	Undergraduate committee, under guidance of associate chair (undergraduate)	One year for information gathering, one year for further discussion
1e. Consider aligning AFM courses more with exams, using consultation with actuarial expert.	Work with our shortly-to-be-hired actuarial teaching professor to conduct this review.	Chair, associate chair (undergraduate), David Lozinski, new faculty member	One year
2a. Decrease tutorial sizes, at least in some classes	Consider whether TA budget would allow this, and what courses would benefit from a smaller tutorial. Also discuss how to improve attendance and TA training in order to make these more effective.	Chair, associate chair (undergraduate), Aaron Childs	One year
2b. Have instructional assistants	The chair expects to be able to hire Chris McLean and Erin Clements as instructional assistants, with responsibilities for Math Help Centre, assistant course coordinators, acting as liaison for TA training, etc.	Chair	September 2018

2c. Have more administrative support for undergraduate associate chair, especially for student advising}	Find out how this is done in other departments, decide on case to make to Faculty of Science	Chair	One year
2d. Make the organisational support for Math Help Centre more permanent via an instructional assistant position and commit to funding of Math Help Centre	See response to Recommendation 2b. Discuss ways in which the Faculty of Science could make a commitment to its continued funding.	Chair, associate chair (undergrad), associate chair (grad)	One year
2e. Hire more faculty, and also explore blended learning models to leverage technology to compensate for higher student/instructor ratio	Discuss using blended learning in some courses, make case to Faculty of Science for funding to do so	Undergraduate committee, under guidance of associate chair (undergraduate)	One year for initial discussions; two or more years to implement
3a. Communicate rotating schedule of courses more effectively to students	Changes currently being made to course list on departmental website to implement this recommendation. All courses will be listed with informal description. Courses not being taught in current year will be listed in separate section.	Summer 2018	Associate chair (undergraduate), staff of undergraduate team
3b. Increase communication/consultation/transparency in departmental decision-making, perhaps through more frequent meetings	This can be implemented by the chair.	On-going	Chair
3c. Explore opportunities to collaborate with other Faculties such as Business and Social Science	Did not discuss at retreat but open to creating and exploring further opportunities	On-going	Chair

Further Summary from the Department:

Item 1a. There is strong departmental support for developing a stream of data science courses, and several options were discussed. One would be to work in cooperation with other programs in Science (or more broadly) to develop an interdisciplinary minor in data science. Another would be to develop a data science sub-plan within Mathematics and Statistics. Both options will require additional resources.

Item 1b. Adam Van Tuyl gave a detailed presentation about options for introducing enhanced versions of the Level I and II curriculum. The basic dichotomy is whether to have a “hard” divide by developing new courses that run in parallel to our standard courses, or a “soft” divide by introducing enhanced sections of our standard courses. We have discussed the pros and cons and decided to pursue the latter approach for the level I curriculum, inspired by the example of a program currently being run at Simon Fraser University. There are a number of logistical issues that remain to be worked out, for example, how will students be separated between the enhanced and standard sections? We aim to give them freedom of choice while still retaining the flexibility and diversity (especially with respect to gender issues in the sectional divide) of our level one program.

Item 1c. David Lozinski gave a wide-ranging presentation about the many possible ways in which we could enhance the teaching of communication skills in our programs, with special reference to job training and experiential learning. There is recognition that all of these aspects require our attention, and it is also clear that we will need to attend to these issues over the next 3—5 years. For instance, depending on the outcome of the PASF recommendations, it is expected that all students in our programs may need to satisfy a substantial literacy requirement (e.g. 6 to 9 units). Given that, the question is what additional requirements would we like to adopt. At the very least, we plan to designate certain upper year courses as fulfilling the mathematical or statistical communication skills, and to require that all honours students complete at least one such course. We will work to revise the upper year curriculum to ensure that some of the courses include a significant communication component, and we also plan to continue discussing other ways to enhance the teaching of communication skills and to create opportunities for experiential learning for students in our programs.

Item 2a. Engineering has requested that the level 1 engineering math include a greater emphasis on the symbolic computation system MatLab, and this would require the development of new teaching materials in the form of online modules. Engineering has also requested smaller tutorial sizes in the level 1 engineering math classes. It is worth recalling, however, that we made a choice some years ago to put our TA resources into the MathHelp Centre at the expense of running large tutorials. To run both small tutorials and the MathHelp Centre will require increased TA funds. To meet the increased demand, we would propose to revise the undergraduate TA training course Math 2ET3 and hire undergraduate TAs. This change will require additional resources, but we feel the enhanced learning outcomes for the students justify the investment.

Item 3a. We did not discuss the possibility of further collaborations with Business and Social Science during the retreat. We note that we do already have the Actuarial and Financial Math program, which involves students taking many courses in Business, and a large selection of joint honours programs with Social Science and Humanities. We are very open to creating further such opportunities. For example, the Economics department is introducing a direct entry program, and we would be enthusiastic about using this to further the growth of the Economics and Math joint honours.

Dean's Response, Faculty of Science:

The Dean would like to thank the members of the review team for their willingness to participate in the site visit and for preparing the external reviewers report. The Dean would also like to thank the Department of Mathematics and Statistics for preparing the Program response to the review report and also highlight the benefits of the broad Departmental engagement that informed the Program response. The Dean noted that the insightful analysis of the undergraduate programs in mathematics and statistics and the recommendations stemming from that analysis provide a useful roadmap for the Program to follow in the coming years.

The Dean writes that the review report accurately highlights the strengths of the undergraduate programs in Mathematics and Statistics in the Faculty of Science, and in the broader University, as well as the challenges presented by the recent changes in enrollment and the fiscal restraints experienced in the Faculty of Science. The Dean agrees that the increasing student to faculty ratios and the demographics of the faculty complement in the Faculty of Science have presented difficult resourcing decisions for many units, including the Department of Mathematics and Statistics. The Dean notes that the course of action the program has proposed in response to the specific recommendations are appropriate and reasonable; however, there are several areas where she would like to highlight the impact of central Faculty and University initiatives and one area of concern.

Concern:

Recommendation 1b. Offer enhanced version of some level 1 and II courses. While the Dean understands the merits of the recommendation and the desire of the review team to address the concern of some of the students who were interviewed about their request to have a higher degree of difficulty in Level 1 courses, she has some concerns about the Program response to the recommendation. The Dean notes that at McMaster, if courses are considered to be substantially different either in the pre-requisites or in the content, then they must be identified as different courses. As such, any changes would have to be approved at the Departmental, Faculty and University level committees and adhere to the required timelines for those changes. Additionally, the Dean has a larger concern about the experiences of the large number of students who are taking courses that they perceive to be too difficult, rather than not sufficiently challenging, and she would encourage the Program to consider both sides of this recommendation in determining a path forward.

Additional information to supplement Program response:

Recommendation 1c. Expand teaching communication skills. The Dean writes that as identified in the report, this is an area of considerable interest University wide and she would encourage the Program level undergraduate committee to liaise with the central offices responsible for the implementation of the recommendations of the PASF report prior to moving forward with independent action. The Dean would also recommend coordination with the Life Sciences Program in the School of Interdisciplinary Science, who have developed a similar "communications requirement" and "communications course list" for assistance with this action item.

Recommendation 2e. Hire more faculty and also explore blended learning models to leverage technology to compensate for higher student/instructor ratio. The Dean states that in the last budget cycle, two additional appointments of tenure stream faculty members were approved for hire in the Department of Mathematics and Statistics for a July 1, 2019 start. These hires will assist with addressing some of the concerns related to student/instructor ratios.

The Dean noted that the undergraduate programs in mathematics and statistics are an excellent example of the benefits of the reflective process encouraged through the IQAP process. The Program has responded to previous reviews with concrete action and refinement of the programs, and with the additional resources now available due to fiscal changes in the Faculty of Science, will be able to address several additional recommendations.

Quality Assurance Committee Recommendations

McMaster's Quality Assurance Committee (QAC) reviewed the above documentation and the committee recommends that the program should follow the regular course of action with a progress report and subsequent full external cyclical review to be conducted no later than 8 years after the start of the last review.

FINAL ASSESSMENT REPORT

Institutional Quality Assurance Program (IQAP) Review

Medical Radiation Sciences

Date of Review: February 5 - 6, 2018

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

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

Executive Summary of the Cyclical Program Review of the Undergraduate

Medical Radiation Sciences Program

In accordance with the Institutional Quality Assurance Process (IQAP), the School of Interdisciplinary Science submitted a self-study in January 2018 to the Vice-Provost, Faculty to initiate the cyclical program review of its undergraduate programs. The approved self-study presented program descriptions, learning outcomes, and analyses of data provided by the Office of Institutional Research and Analysis. Appendices to the self-study contained all course outlines associated with the program and the CVs for each full-time member in the department.

Two arm's length external reviewers, one from New Brunswick and one from Halifax and one internal reviewer were endorsed by the Dean, Faculty of Science, and selected by the Vice-Provost, Faculty. The review team reviewed the self-study documentation and then conducted a site visit to McMaster University on February 5 - 6, 2018. The visit included interviews with the Provost and Vice-President (Academic); Vice-Provost, Faculty, Director of the School and meetings with groups of current undergraduate students, full-time faculty and support staff.

The Director of the School and the Dean of the Faculty of Science submitted responses to the Reviewers' Report (August 2018). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.

Strengths

In their report (February 2018), the Review team noted that all professors and management are very supportive of the students and the program. Together they provide a high-quality discipline specific curriculum. It was noted that the program effectively integrates elements of experiential learning, self-directed learning and interdisciplinarity throughout the student experience. There is effective monitoring of quality assurance through various processes. There is a high level of student satisfaction, excellent certification results and positive feedback from employers. The reviewers were impressed by the integrated nature of the IAHS building, the quality of the facilities and the simulation equipment. The existence of a capital equipment purchase plan for replacing older equipment was highlighted as a commendable initiative.

Areas of Improvement

In their report, the Review Team identified some recommendations for areas of improvement including:

- Improve selection process to identify student with more aptitude for MRSc
- Opportunities for additional interdisciplinary learning in levels 1 to 3 through collaboration with FHS
- Incorporate academic modules in P/F courses (skills assessment and clinical placement)
- Explore pathway opportunities such as dual certification
- Explore non-traditional sites (clinics) for clinical placements

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

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

Implementation Plan

Recommendation	Proposed Follow-Up	Responsibility for Leading Follow-Up	Timeline for Addressing Recommendation
"Investigate the possibility of an optional MRSc honours" Page 8	The School of Interdisciplinary Science (SIS) curriculum committee have initiated a review of the current curriculum in order to determine the scope of the changes required to open this option to the MRSc students	Prof Ana Campos (SIS Director) and Dr. Kim Dej (Associate Director of Curriculum)	Timeline will depend on the scope of the changes required. Minimally 2 years.
"Consider adjunct faculty appointment status for Mohawk faculty (especially	The MRSc Steering committee will be consulted and asked to arrive at a process at this level. Mohawk Associate Dean of	Prof Ana Campos, Director of SIS, will add this item to the agenda of the next	Applications should be collected during the 18-19 academic

those interested in conducting research)" Page 8	Allied Health should be in charge of forwarding the applications with their support to the Steering committee first. Any adjunct appointment in the School of Interdisciplinary Science (SIS) must be approved by the school executive council as the home academic unit that will host this appointment.	MRSc Steering committee for discussion.	year for consideration.
"Investigate developing partnerships with other MRSc programs to facilitate study abroad initiatives" Page 8	<p>The Medical Radiation Sciences program is exploring a number of international partnerships at this time. International connections and awareness of global health issues are areas of interest and growth opportunities.</p> <ol style="list-style-type: none"> 1. The program is expecting a visit in late July by Safora Johansen (Oslo Metropolitan University, Oslo Norway) to discuss the expansion of an academic partnership with Dalhousie University to include McMaster/Mohawk. (Research collaborations for RT/Rad). 2. The program is exploring a possible partnership/exchange with Cardiff University (Cardiff, Wales). Exchange for Rad. 3. Expansion of the institutions research in Point of Care Ultrasound training and applications has provided opportunities for students to engage in international research and training 	Wendy Lawson, AD Special Projects, Mohawk College will coordinate the initial information collection and contacts. Wendy will liaise with SIS as appropriate to arrange dialogue with each group.	First contacts have been made in all cases. Further exploration and meetings with SIS to be planned for the 18/19 academic year.

	<p>abroad. Current development of research collaboration with Latin America in Hemophilia management.</p> <p>Exploration of Collaborations with EduAfrica to provide abroad training opportunities/service learning for our students in Africa.</p>		
<p>"Explore the formation of a Rad-Aid chapter at the university" Page 8</p>	<p>RAD-AID international is an international aid organization focused on increasing and improving radiology for poor and developing countries.</p> <p>Imaging the World is sponsored by the WHO to build medical imaging capabilities where healthcare resources are scarce and has been recognized for outstanding social innovation in health.</p> <p>The Medical Radiation Sciences program is exploring the formation of a partnership/chapter with one/both of these organizations.</p>	<p>Wendy Lawson has reached out to both organizations for information.</p> <p>A proposal will be presented to SIS for consideration of next steps.</p>	<p>Presentation of opportunities with Rad-Aid and/or Imaging the World to be presented to Ana Campos and Kevin Diamond in Fall 2018.</p>
<p>"Align Mohawk and McMaster MRSc websites to ensure consistency of program description and information" Page 9</p>	<p>SIS website (McMaster side) is undergoing a complete redesign. It is due to go live sometime in mid to late Fall. The faculty of the Science IT team will be forwarding the first complete mock version of the new website very soon. At this point we will share and consult with our Mohawk colleagues such that modifications can be implemented to achieve consistent information in both websites.</p>	<p>SIS Director and SIS website team</p>	<p>Fall term 2018</p>

<p>"Continue to ensure students have various avenues to explore the three specializations in Level 1"</p> <p>Page 9</p>	<p>There are in place significant opportunities for the students to make informed choices embedded in the 1F03 course designed specifically to introduce the specializations. It includes guest lectures by practicing professionals, graduates and upper year students as well as a panel question and answer session. There are laboratory tours with faculty and student demonstrations and extensive online resources and assignments that focus on researching the scope, legislation, physical and mental demands of the professions. Additionally, the Mohawk faculty works with the MRSc student society to host additional information sessions during the evening of Term 1.</p> <p>We will continue to consult program faculty and students on ways to further highlight and engage students in these resources moving forward.</p>	<p>1F03 instructor, SIS Director, Mohawk Associate Dean</p>	<p>Immediate</p>
<p>"If the radiography and radiation therapy specialization students continue to complete the current CT course together, it will be important to provide more radiation therapy specific content and radiation therapy faculty involvement"</p> <p>Page 11</p>	<p>We have already made modifications to the core CT course MRSc 3K03 effective F2018 separating CT labs by specialization. While all students take the same lecture components for this course, new radiation therapy specific labs were created in 2017 and are taught by radiation therapy faculty. We have also started having regular team meetings weekly for the delivery team to ensure appropriate communication regarding outcomes to ensure alignment with assessments.</p>	<p>Mohawk Associate Dean</p>	<p>Immediate</p>

“Academic modules with assigned grades could be integrated into courses with a specialization skills assessment of clinical component. At present these courses are pass/fail and not included in the GPA calculation.”	This suggestion is currently being discussed at the level of various Mohawk-McMaster Joint Committees for feasibility and will be considered as part of a wider review of courses for an Honours BMRS.	Medical Radiation Sciences Program Coordinator (SIS)	Fall 2021
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Dean’s Response, Faculty of Science:

The Dean would like to thank the members of the review team for their engagement and enthusiasm during the site visit and for their thoughtful and encouraging report, including the recommendations and suggestions. The Dean would like to thank also the members of the School of Interdisciplinary Science and the representatives from the School of Health at Mohawk College for preparing the Program Response.

The Dean noted that the reviewers report highlighted several areas of strength in this undergraduate program in Medical Radiation Sciences. In particular, the report highlighted the unique and effective nature of the collaboration between McMaster University and Mohawk College in terms of the program structure and oversight, but also in terms of the joint commitment to reflection, assessment and adjustment of the program to meet the desired academic outcomes and provide high quality experiential opportunities. The review team recommendations have provided areas for continued improvement and consideration and have all be incorporated into a plan for moving forward. Importantly, the key individuals (and institutions) responsible for advancing the identified responses to the specific recommendations have been detailed in the Program Response. It is reflective of the program that these recommendations will be led by individuals both at McMaster and at Mohawk. The Dean confirmed that she supports all of the proposed actions highlighted in the program response and in particular supports the recommendation in the report to consider the development of an “honours stream” as an option in the existing program. The Dean agreed with the review team’s assessment that shifting the complete program to meet the degree level requirements for an Honours Science degree would be a comprehensive undertaking that might not meet the needs and aspirations of many of the stakeholders. In contrast, the option to provide an honours stream for some students might result in attainment of several of the recommendations outlined in the report through direct or indirect activities associated with the associated curriculum and resource changes.

The Dean further noted that while the Faculty of Science is incredibly committed to the continued success of this joint program, she would like to emphasizes that transparency and collaboration with respect to all levels of oversight and governance will continue to be crucial. The changing models for funding of Universities and Colleges and adjustments in fiscal management and governance by both

Mohawk and McMaster mean that all program level decisions must be reviewed and supported, at all levels, by both institutions. As the Faculty of Science moves forward with our commitment to excellence in undergraduate education, we will monitor our progress with respect to the individual recommendations of the review team and engage in our highly valued partnership with Mohawk College in refining and delivering this excellent undergraduate program in Medical Radiation Sciences.

Quality Assurance Committee Recommendations

McMaster's Quality Assurance Committee (QAC) reviewed the above documentation and the committee recommends that the program should follow the regular course of action with a progress report and subsequent full external cyclical review to be conducted no later than 8 years after the start of the last review.