

UNDERGRADUATE COUNCIL
Tuesday, February 28, 2023 at 2:30 p.m.
Gilmour Hall, Council Room (Room 111)

AGENDA

Page

- | | |
|---------|--|
| 3 - 10 | <p>1. MINUTES OF PREVIOUS MEETING – JANUARY 24, 2023 (<i>Approval</i>)</p> <p>Minutes - Undergraduate Council - January 24, 2023</p> |
| | <p>2. BUSINESS ARISING</p> |
| | <p>3. CHAIR'S REMARKS</p> |
| 11 | <p>4. REPORT FROM THE AWARDS COMMITTEE</p> <p>Report from the Awards Committee</p> <p>a. TERMS OF AWARD (<i>Approval</i>)</p> <ul style="list-style-type: none"> i. Proposed New Awards ii. Changes to Academic Grant Terms iii. Awards Removed from the Undergraduate Calendar |
| 12 | <p>Report from the Office of the Registrar, Aid & Awards</p> |
| 13 | <p>5. REPORT FROM THE CERTIFICATES AND DIPLOMAS COMMITTEE</p> <p>Report from the Certificates & Diplomas Committee</p> |
| 14 - 18 | <p>a. NEW CERTIFICATE OF COMPLETION PROGRAM (<i>Information</i>)</p> <p>Cyber Security Bootcamp</p> |
| 19 - 21 | <p>6. REPORT FROM THE CURRICULUM & ADMISSIONS COMMITTEE</p> <p>Report from the Curriculum & Admissions Committee</p> |
| 22 - 25 | <p>a. WILSON COLLEGE: MINOR IN LEADERSHIP AND CIVIC STUDIES (<i>Approval</i>)</p> <p>Memo: Proposal for a new Program in Wilson College: Minor in Leadership and Civic Studies</p> |

[Minor in Leadership and Civic Studies](#)

**b. ADDENDA TO CURRICULUM REVISIONS FOR INCLUSION IN
THE 2023-2024 UNDERGRADUATE CALENDAR (*Approval*)**

26 - 84

[i. Faculty of Engineering](#)

[ii. Faculty of Humanities](#)

[iii. Faculty of Health Sciences](#)

[Memo: Required calendar changes resulting from termination of
Memorandum of Understanding governing the Nursing Consortium](#)

[iv. Faculty of Social Sciences](#)

[v. Faculty of Science](#)

7. OTHER BUSINESS

REPORT TO UNDERGRADUATE COUNCIL
from the
AWARDS COMMITTEE

FOR APPROVAL

a. Terms of Award

At its meeting on February 14, 2023, the Undergraduate Council Awards Committee approved the following for recommendation to Undergraduate Council. Details of the proposed recommendations are contained within the circulated report.

- i. Proposed New Awards
The Ronald Logan Cooper Memorial Scholarship
- ii. Changes to Academic Grant Terms
The Dubeck Academic Grant
- iii. Awards Removed from the Undergraduate Calendar
The Chingcuanco Academic Grant
The David Feather Family Scholarship
The Hatch Entrance Scholarship
The Terrence James Kennett Academic Grant
The Austin Noronha Bursary
The Philip Scheiding Bursary
The Shoukri Engineering and Society Bursary
The Soroptimist Hamilton Bursary
The Stankovic Bursary
The Brent & Diane Thomson Bursary
The Walker Wood Foundation Academic Grant
The Marjorie & Briggs Williams Bursary

It is now recommended,

that the Undergraduate Council approve one new award, changes to one academic grant term, and twelve awards to be removed from the Undergraduate Calendar, as set out in the attached.

Undergraduate Council
FOR APPROVAL: February 28, 2023

PROPOSED NEW AWARDS FOR APPROVAL

In-Course Scholarships

The Ronald Logan Cooper Memorial Scholarship

Established in 2022 by the Estate of Mary Connery Cooper. To be awarded to undergraduate students enrolled in Level 2 in any of The School of Earth, Environment and Society programs who attain high averages.

Typically Available: 1 x \$2,500

CHANGES TO ACADEMIC GRANT TERMS FOR APPROVAL

The Dubeck Academic Grant

Established in 2006 by Dr. Michael Dubeck, B.Sc. (Class of '51) and M.Sc. (Class of '52). To be awarded to a student entering a full-time program of study in the Faculty of Science who has a high final admission average and demonstrates financial need. The grant is tenable for up to four (4) years provided the recipient remains in the Faculty of Science and maintains a minimum sessional average of 9.5. ~~(To be awarded every four years).~~

Awards Removed from the Undergraduate Calendar for Approval

The Chingcuanco Academic Grant
The David Feather Family Scholarship
The Hatch Entrance Scholarship
The Terrence James Kennett Academic Grant
The Austin Noronha Bursary
The Philip Scheiding Bursary
The Shoukri Engineering and Society Bursary
The Soroptimist Hamilton Bursary
The Stankovic Bursary
The Brent & Diane Thomson Bursary
The Walker Wood Foundation Academic Grant
The Marjorie & Briggs Williams Bursary



UNIVERSITY
SECRETARIAT
• Board of Governors
• Senate

Gilmour Hall, Room 210
1280 Main Street West
Hamilton, Ontario, Canada
L8S 4L8

Phone: 905.525.9140, Ext. 24337
Fax: 905.526.9884
E-mail: univsec@mcmaster.ca
<http://www.secretariat.mcmaster.ca>

**REPORT TO THE UNDERGRADUATE COUNCIL
from the
CERTIFICATES AND DIPLOMAS COMMITTEE**

FOR INFORMATION

a. NEW CERTIFICATE OF COMPLETION PROGRAM

At its meeting on February 14, 2023, the Undergraduate Council Certificates & Diplomas Committee received, for information, the **Cyber Security Bootcamp Certificate of Completion** program. Further details are contained in the circulated materials.

Undergraduate Council
FOR INFORMATION: February 28, 2023

Continuing Education – Certificate of Completion Program Proposal for Information Purposes

Department & Program Information	
Program/Plan Name:	Cyber Security Bootcamp
Credential:	Certificate of Completion
Name of Representative:	Lorraine Carter
Effective Date:	March 1, 2023
Date of Submission:	January 20, 2023
Program Information:	
Program Overview	<p>McMaster University Continuing Education has partnered with Lighthouse Labs to offer a Cyber Security Bootcamp. Lighthouse Labs was founded in 2013 by a team of software developers passionate about code, mentorship, and education. Lighthouse Labs' mission is to continuously find the best ways to train the next generation of developers and transform how tech education is delivered.</p> <p>The Cyber Security Bootcamp is an accelerated cybersecurity training program that prepares people with little or no IT background for cybersecurity careers. The program is offered over 12 weeks and is designed as a hands-on virtual training, interactive course to provide participants with the practical skills needed for employment in the booming cybersecurity industry. The Cyber Security Bootcamp provides a top-notch learning environment and industry-aligned curriculum as well as mentorship and job-search support for positions such as a Cybersecurity Specialist or Technician, a SOC Analyst Level 1, or a Cybersecurity Incident Analyst or Responder.</p> <p>Learners are supported with access to Cyber Security professionals/tutors and will receive guidance for resume writing and job search strategies. A career counsellor is available to graduates of the program. Postgrad supports include 1-year access to tools and resources in the learning management system, a connection to Alumni and a career network.</p>
Learning Objectives	<p>Upon completion of the program, learners will be able to:</p> <ul style="list-style-type: none"> • Comprehend how threat actors operate, their objectives and skills • Assist organizations with their cybersecurity defence strategy to ensure business continuity • Analyze, dissect, and respond to cybersecurity incidents to protect organizational assets

	<ul style="list-style-type: none"> Analyze the various security attack vectors and their mitigations to strengthen an organization's cybersecurity position Use digital forensic processes for analyzing threats in digital devices Identify, recover, investigate, and validate digital evidence in computers and other media devices Apply malware analysis techniques to dissect malware and understand its malicious objectives Apply offensive methodologies to your security operation role by learning the attack life cycle in cyber warfare Detect and respond to insider and outsider security threats by learning the incident response life cycle Perform trend analysis Assess security designs and uncover flaws Apply threat intelligence collection processes to improve detections and proactively prevent threats
Meeting Learning Objectives	The Cyber Security Bootcamp program is offered as one 12-week course in which each learning module is designed to achieve the stated program objectives. The delivery format and teaching methods are structured to have a maximum effect on achieving the learning objectives.
Program Admission Requirements	Prospective learners will apply to Lighthouse Labs' current application and program eligibility requirements. The application is based on education level, coding experience and technical skills.
Program Completion Requirements	To earn the Certificate of Completion, learners must complete all modules in the program, including all activities. A required grade of 60% or higher is required for the mid-point and final assessments.
Program Delivery Format	The program is delivered online using Lighthouse Labs learning management system.
Student Evaluations (Grading Process)	The final course grade will be a pass/fail.
Course Evaluation	A post-course evaluation for participants upon the conclusion of each course. The post-course evaluation will assess course content, delivery, materials, and facilitation.
Course Instruction	Lighthouse Lab instructors facilitate the program modules. The instructors are qualified professionals in the cyber security industry.
Listing of Modules	
I. BOOTCAMP INTRODUCTION The Bootcamp Introduction will provide students with the tools required to make the Bootcamp an enjoyable and efficient learning experience. During this module, students will learn how the Bootcamp will be structured and the basics of computers.	

Topics Covered:

- Overview of Bootcamp and Cybersecurity Industry
- Cybersecurity Career Paths
- Pework Content Review

II. NETWORK ADMIN

In the pre-work module, we covered the fundamental principles and concepts of networking. This module will dive even deeper and focus on designing, configuring, and troubleshooting networks. Students will be taught the necessary skills for running and monitoring a network in an insightful manner.

Topics Covered:

- Network Configuration – LAN, WAN
- Segmentations, VLANs and Subnetting
- Network Mapping Tools
- Troubleshooting and Monitoring Networks
- Network Devices – Switches, Routers
- Telecommunication
- System Administration

III. INTRODUCTION TO CYBERSECURITY

This module is designed to teach how organizations implement cybersecurity and introduce the different roles in the industry. Additionally, students will get to know the history of famous hackers from the 1950s until today. This module will then explore modern hackers and their motives, capabilities, and techniques, as well as the different types of malware they use to attack their victims.

Topics Covered:

- NIST Framework
- Malware Types
- Social Engineering
- Vulnerabilities, Risks, and Exploits
- Famous Cyber-Attacks

IV. NETWORK AND APPLICATION SECURITY

In this module, students will learn about network and application security defense methodologies. They will be able to identify which tools are required based on the network and the needs of the organization. It will also cover construction of secure network architectures. For each method, students will learn how to detect and eventually block malicious actors from carrying out cyber-attacks and crimes.

Topics Covered:

- Cryptography – Symmetry vs Asymmetric Keys
- Encryption/Decryption, Hash functions
- Security Architecture
- Security Tools – Firewalls, Antivirus, IDS/IPS, SIEM
- Access Control Methods, Multi-factor Authentication, Authentication Protocols
- Honeypots and Cyber Traps

V. INCIDENT HANDLING

In this module, students will learn about the most common types of cybersecurity attacks. They will practice detection and analysis of incidents as a Cybersecurity Analyst would in real life. Students will analyze different attack vectors and their attributes and identify false-positive cases.

Topics Covered:

- Detection and Analysis of Cyber-Attacks – DDos/Dos, Brute-Force
- OSWAP Top 10 Attacks – SQL Injection, Cross-Site Scripting
- Group and Individual Incident Report Writing

VI. FORENSICS

In this module, students will learn digital forensic processes for analyzing threats in digital devices. This includes identification, recovery, investigation, and validation of digital evidence in computers and other media devices.

Topics Covered:

- Computer Memory Forensics, Memory Dump Analysis
- FTK Imager, Autopsy, Redline and RAM capturing
- Digital Evidence Acquisition Methodologies
- Registry Forensics
- Windows Timeline Analysis and Data Recovery
- Network Forensics, Anti-Forensics and Steganography

VII. MALWARE ANALYSIS

Students will learn different techniques for analyzing malicious software and understanding its behaviour. This will be achieved using several malware analysis methods such as reverse engineering, binary analysis, and obfuscation detection, as well as by analyzing real-life malware samples.

Topics Covered:

- Dynamic Malware Analysis, Reverse Engineering and Malware Obfuscation
- Fileless Malware Analysis
- Containment, Eradication and Recovery Malware Stages
- Android APK Analysis

VIII. ETHICAL HACKING AND INCIDENT RESPONSE

As future Cybersecurity Analysts, it is essential to understand offensive methodologies in cyber warfare. In Ethical Hacking, students will learn how to perform cyber-attacks, providing them insights into cyber defense best practices, vulnerability assessments, forensics, and incident response processes. In Incident Response, students will learn the relevant response methodologies used once an attack has occurred. Students will overview identifying cybersecurity breaches, insider/ outsider threats, incident response life cycles, performing relevant assessments, and developing protection plans.

Topics Covered:

- Ethical Hacking Processes and Methodologies
- Network Hacking, Reconnaissance, Google Hacking and Locating Attack Vectors
- Exploitation Techniques

- Web Application Hacking, OWASP Top 10 – XSS, SQL Injection, Manual and Automated Attacks
- Post Incident Activity

IX. SECURE DESIGN PRINCIPALS

In this module, students will learn about trend analysis and how to perform it. They will become familiar with the newest cybersecurity trends, threats and more. Furthermore, students will learn cybersecurity design best practices, as well as how to assess and detect security design flaws.

Topics Covered:

- Trend Analysis
- Artificial Intelligence in Cybersecurity
- Zero-Trust Policy
- Best Detection Methodologies
- Incident Impact-Mitigation

X. RISK MANAGEMENT

In this module, students will learn about risk management and dive into the cybersecurity aspects involved. In today's world, every action we take can become a potential risk. Therefore, students will learn risk management methodologies and processes that will assist in effectively managing such risks – while understanding that not all risks can be eliminated immediately.

Topics Covered:

- Risk Management Processes
- Analyzing, Prioritizing, Evaluating and Monitoring Severity of Internal and External Risks
- Risk Management Policies, Procedures, Standards, and Guidelines
- Security models

REPORT TO UNDERGRADUATE COUNCIL
from the
CURRICULUM AND ADMISSIONS COMMITTEE

FOR APPROVAL

a. Wilson College: Minor in Leadership and Civic Studies

At the meeting held on February 14, 2023, the Undergraduate Council Curriculum and Admissions Committee approved, for recommendation to Undergraduate Council, the Minor in Leadership and Civic Studies.

It is now recommended,

Motion 1:

that the Undergraduate Council approve the Minor in Leadership and Civic Studies, as recommended by the Faculties of Humanities and Social Sciences, for inclusion in the 2023-2024 Undergraduate Calendar and as set out in the attached.

b. Addenda to Curriculum Revisions for Inclusion in the 2023-2024 Undergraduate Calendar

At the meeting held on February 14, 2023, the Undergraduate Council Curriculum and Admissions Committee approved, for recommendation to Undergraduate Council, addenda to the following curriculum revisions for inclusion in the 2023-2024 Undergraduate Calendar.

Faculty of Engineering
Faculty of Humanities
Faculty of Health Sciences
Faculty of Social Sciences
Faculty of Science

i. Faculty of Engineering

Addenda to curriculum revisions are included in the omnibus motion, Motion 9.

ii. Faculty of Humanities

Addenda to curriculum revisions are included in the omnibus motion, Motion 9.

iii. Faculty of Health Sciences

It is now recommended,

Motion 2:

that the Undergraduate Council approve, for recommendation to Senate, revisions to the Faculty of Health Sciences General Academic Regulations to introduce the Biochemistry Exit (B.H.Sc.) as an exit degree, as set out in the attached.

It is now recommended,

Motion 3:

that the Undergraduate Council approve, for recommendation to Senate, changes to admission procedures, as recommended by the Faculty of Health Sciences for inclusion in the 2023-2024 Undergraduate Calendar and as set out in the attached.

iv. Faculty of Social Sciences

Addenda to curriculum revisions are included in the omnibus motion, Motion 9.

v. Faculty of Science

Approval for the following items are contingent upon approval at the Faculty's General Meeting on February 23, 2023.

It is now recommended,

Motion 4:

that the Undergraduate Council approve, for recommendation to Senate, the replacement of the *Bachelor of Medical Radiation Sciences* program by the *Honours Bachelor of Medical Radiation Sciences* program, effective September 2023, as recommended by the Faculty of Science for inclusion in the 2023-2024 Undergraduate Calendar and set out in the attached.

Motion 5:

that the Undergraduate Council approve, for recommendation to Senate, the replacement of the *Bachelor of Medical Radiation Sciences - Radiography Specialization* program by the *Honours Bachelor of Medical Radiation Sciences - Radiography Specialization* program, effective September 2023, as recommended by the Faculty of Science for inclusion in the 2023-2024 Undergraduate Calendar and set out in the attached.

Motion 6:

that the Undergraduate Council approve, for recommendation to Senate, the replacement of the *Bachelor of Medical Radiation Sciences – Radiation Therapy Specialization* program by the *Honours Bachelor of Medical Radiation Sciences – Radiation Therapy Specialization* program, effective September 2023, as recommended by the Faculty of Science for inclusion in the 2023-2024 Undergraduate Calendar and set out in the attached.

Motion 7:

that the Undergraduate Council approve, for recommendation to Senate, the replacement of the *Bachelor of Medical Radiation Sciences – Ultrasonography* program by the *Honours Bachelor of Medical Radiation*

Sciences – Ultrasonography program, effective September 2023, as recommended by the Faculty of Science for inclusion in the 2023-2024 Undergraduate Calendar and set out in the attached.

Motion 8:

that the Undergraduate Council approve, for recommendation to Senate, the Integrated Science Equitable Admissions for Black Applicants (EABA) Process for inclusion in the 2023-2024 Undergraduate Calendar, as recommended by the Faculty of Science and as set out in the attached.

Motion 9:

that the Undergraduate Council approve updated application and admission requirements as well as addenda to curriculum revisions for inclusion in the 2023-2024 Undergraduate Calendar, as recommended by the Faculties of Engineering, Humanities, Health Sciences, Social Sciences, and Science, as set out in the attached.

Undergraduate Council
FOR APPROVAL: February 28, 2023



February 2, 2023

To: Undergraduate Council Curriculum and Admissions Committee

From: Tracy Prowse, Associate Dean Academic, Faculty of Social Sciences
Sean Corner, Associate Dean Academic, Faculty of Humanities

Re: Proposal for a new program in Wilson College: Minor in Leadership and Civic Studies

Following McMaster's approval of the Wilson College of Leadership and Civic Engagement in the Fall 2022, the proposal contained the recommendation that a new Minor be created in Leadership and Civic Studies for students and to be available for students in September 2023. Meetings occurred in each of the Faculty of Humanities and Social Sciences. We are pleased to provide the proposal for the Minor for approval and inclusion in the 2023-2024 Undergraduate Calendar as recommended by the Faculty of Humanities and Faculty of Social Sciences.

The Wilson College Minor in Leadership and Civic Studies is designed for students who are interested in the complex social challenges facing Canada, and how they can meaningfully engage with public and private institutions to help shape policies and enact social change for the public good.

Wilson College Minor in Leadership and Civic Studies

The Wilson College Minor in Leadership and Civic Studies is designed for students who are interested in the complex social challenges facing Canada, and how they can meaningfully engage with public and private institutions to help shape policies and enact social change for the public good.

Requirements - 24 units total

Notes - Students must complete a minimum of 6 units from each of the 3 Thematic Areas, plus 6 additional units from any of the areas. A minimum of 9 units must be taken from approved courses outside the student's home Faculty. To declare a Minor in Leadership and Civic Studies, at least 12 units above Level I must be elective to the degree.

No more than 6 units of Level I courses can be applied to the Minor. No more than 6 units of the student's Major program may be applied towards the completion of the Minor. It is the student's responsibility to check carefully for prerequisites, co-requisites, and enrolment restrictions of all courses in this list. Students are encouraged to speak to their Faculty's Academic Advisors about Faculty-specific rules on double-counting courses for the Minor.

Thematic Areas

1. Leadership in Action

INSPIRE 1PL3 – Personal Leadership through University Transition
SOCWORK 1AA3 – So You Think You Can Help? Introduction to Social Work 1

CMTYENGA 2A03 – Foundations of Community Engagement

ART 3EA3 – Social Practice and Community-engaged Art
HLTHAGE 3G03 – Community-Based Research
HUMAN 3LM3 – Foundations of Leadership
POLSCI 3FG3 – Public Service Leadership
SOCSCI 3EL3 – Leadership for Social Innovation
WORKLABR 3Q03 – Community-Engaged Research

CMTYENGA 4A06 – CityLAB Design and Dialogue Inquiry
CMTYENGA 4A09 – CityLAB Applied Project Experience
HUMAN 4LC3 – Major Leadership Project: Theory and Practice
HUMAN 4RM3 – Boundaries and Bridges: Relationship Skills for Effective Leaders
PEACJUST 4FC3 – Community-Engaged Experiential Learning

2. Institutions, Governance, and Civil Society

ENGLISH 1CS3 – Studying Culture: A Critical Introduction
HISTORY 1DD3 – The Making of the Modern World
INDIGST 1AA3 – Introduction to Contemporary Indigenous Studies
PHILOS 1B03 – Philosophy, Law and Society
GLOBALZN 1A03 – Global Citizenship
POLSCI 1AA3 – Government, Politics, and Power
SOCIOL 1C03 – Canadian Society: Social Problems, Social Policy, and the Law

CMST 2K03 – Political Economy of the Media
CMST 2LW3 – Communication Policy and Law
HISTORY 2TT3 – Survey of Canadian History, 1885 to the Present
PHILOS 2G03 – Social and Political Issues
PHILOS 2YY3 – Ethics
POLSCI 2D03 – Canadian Democracy
POLSCI 2F03 – Politics, Power, and Influence in Canada
POLSCI 2M03 – Governance, Representation, and Participation in Democracies
SOCIOL 2EE3 – Introduction to Indigenous-Settler Relations in Canada
SOCIOL 2VV3 – Law and Society

FRENCH 3HH3 – Francophone Voices in Canada
HISTORY 3CG3 – Canadians in a Global Age, 1914 to the Present
INDIG ST 3J03 – Government and Politics of Indigenous People
INDIG ST 3CC3 – Contemporary Indigenous Societies: Selected Topics
PHILOS 3N03 – Political Philosophy
PHILOS 3Q03 – Philosophy of Law
POLSCI 3VV3 – Democratic Theory
SCAR 3CC3 - Religion and Politics
SOCIOL 3MM3 - Political Sociology

3. Human Rights, Social Movements, and Civic Action

ANTHROP 1AB3 – Introduction to Anthropology: Race, Religion, and Social Justice
GENDRST 1AA3 – Gender, Feminism and Social Justice
GENDRST 1A03 – Gender, Race, Culture, Power
IARTS 1PA3 - Perspectives A: Arts in Society: Social Constructions of Class, Race, and Gender
INDIGST 1A03 – Introduction to Indigenous Studies
PEACJUST 1A03 – Peace, Justice, Human Rights
SOCPSY 1Z03 – An Introduction to Social Psychology

ANTHROP 2M03 – Art and Activism
ENGLISH 2CC3 – Settler Colonialism and Writing in Canada
ENGLISH 2CL3 – Canadian Literature of Dissent and Social Justice
ENGLISH 2Z03 – Reading Environmental Humanities

INDIG ST 2G03 – Indigenous Perspectives on Peace and Conflict
PEACJUST 2B03/WORKLABR 2W03/GENDRST 2A03 – Human Rights and Social Justice
PEACJUST 2CS3 – Decolonization and Activism: Creating Social Change
SCAR 2RD3 – Religion and Diversity
WORKLABR 2A03 – Unions in Action

ANTHROP 3HH3/ GLOBALZN 3A03– Globalization, Social Justice and Human Rights
ANTHROP 3PH3 – Dissent, Power and History
CMST 3DJ3 – Digital Justice
CMST 3PM3 – Public Memory, Media, and African Diaspora Studies
CMST 3RR3 – Race, Religion and Media
CMTYENGA 3A03 – The Art of Change
ENGLISH 3GG3/PEACJUST 3GG3: Theories of Decolonization and Resistance
HISTORY 3N03 – Poverty, Privilege, and Protest in Canadian History
HISTORY 3XX3/PEACJUST 3XX3: Human Rights in History
INDIG ST 3K03/POLSCI 3KA3 – Indigenous Human Rights
INDIG ST 3N03 – Indigenous Women: Land, Rights, Politics
PHILOS 3I03 – Philosophy and Feminism
PHILOS 3L03 – Environmental Philosophy
PHILOS 3T03 – Philosophy and Race
POLSCI 3PR3 – Practice of Politics
POLSCI 3RF3 – The Charter of Rights and Freedoms
POLSCI 3Y03 – Democratization and Human Rights
SCAR 3JJ3 – Social Justice
SCAR 3RL3 – Religion and Law
SOCPSY 3C03 – Regimes of Social Control
WORKLABR 3P03 – Workers’ Resistance – Past and Present

COMMERCE 4SI3/HUMAN 4SI3/SOCSCI 4SI3– Innovation for Social Impact
SOCIOL 4DD3 – Social Movements and Social Change
SOCWORK 4J03 – Social Change: Social Movements and Advocacy

FACULTY OF ENGINEERING

UNDERGRADUATE CURRICULUM ADDENDA

TO UNDERGRADUATE COUNCIL

FOR THE 2023 – 24 CALENDAR

Addenda Approved January 24, 2023 at Faculty Meeting

**FACULTY OF ENGINEERING
REPORT TO UNDERGRADUATE COUNCIL
SUMMARY OF CURRICULUM CHANGES FOR 2023-24**

This report highlights substantive changes being proposed. For a complete review of all changes, please refer to the Faculty of Engineering Curriculum Report for changes to the 2023-24 Undergraduate Calendar, found at:
<https://macdrive.mcmaster.ca/d/d633133466a247a68ebc/>

FACULTY OF ENGINEERING (General)

- Two course description changes

FACULTY OF ENGINEERING (GENERAL)

COURSE DESCRIPTION CHANGE(S):

ENGINEER 2PX3 – Integrated Engineering Design Project 2

ENGINEER 2PX3 – Engineering Design 2: Communications and Societal Impact

3 unit(s)

Multi-disciplinary integrated learning course that develops skills in engineering design and technical communication through a term-long project that addresses an industry or community relevant issue. Through the project, students are also exposed to the technical language used in other disciplines.

Multi-disciplinary integrated learning course that develops engineering design and technical communication skills through a group-based project addressing a current issue. Students communicate and critique their conceptual designs through technical, social, environmental, political, and regulatory lenses.

Two lectures, one tutorial (three hours); winter term

Prerequisite(s): Registration in Level II or above in any program leading to a B.Eng, B.Eng.Mgt, or a B.Eng.Soc degree

Antirequisite(s): CHEMENG 2G03; CIVENG 2I03; COMPENG 2DX4; ENGPYHS 3EC4; MECHENG 2A03; MATLS 2H04; SFWRENG 3I03

ENGINEER 3PX3 – Integrated Engineering Design Project 3

ENGINEER 3PX3 – Engineering Design 3: Engineering Economics

3 unit(s)

Multi-disciplinary integrated learning course that develops skills in engineering design, project management, and engineering economics through projects addressing current issues in society. ~~a term-long project that addresses current issues in society.~~ The engineering economics topics include ~~topics will include~~ time value of money, value engineering, and cash flow analysis; these along with project management skills are applied in the context of the proposed design solution.

Two lectures, one tutorial (three hours); winter term

Prerequisite(s): ENGINEER 2PX3; Registration in Level III or above in any program leading to a B.Eng, B.Eng.Mgt, or a B.Eng.Soc degree

Antirequisite(s): ENGINEER 2B03; CIVENG 3RR3; CHEMENG 4N04

FACULTY OF HUMANITIES

UNDERGRADUATE CURRICULUM REPORT

TO UNDERGRADUATE COUNCIL

FOR THE 2023-24 CALENDAR

FEBRUARY 2023

FACULTY OF HUMANITIES
CURRICULUM REVISIONS FOR 2023-24
Addendum

For a complete review of all changes, please refer to the November 2022 Faculty of Humanities Report to Undergraduate Council for changes to the 2023-2024 Undergraduate Calendar, found at <https://www.humanities.mcmaster.ca/about-the-faculty-of-humanities/faculty-meetings/>

1.0 ADDING BACK DELETED COURSE:

1.1 THTRFLM 30P6 A/B - Organizing the Performance Space

6 unit(s)

Students explore the contributions of design, production and stage management to theatrical production through studio exercises and work on department productions.

Two Studios plus practicum work (includes evenings and weekends as determined by production schedules); two terms

Prerequisite(s): THTRFLM 2BB3 or 2DP3, and registration in Level II or above

Not to be taken concurrently with THTRFLM 4A06 A/B.

Rationale for adding the course back: *As the Theatre & Film program is being phased out, the department has been slowly deleting courses and integrating the new iArts courses into the program. This course should not have been deleted this year but rather next year.*

2.0 REVISIONS TO EXISTING COURSES:

2.1 GKROMST 4F03 - Seminar in Ancient History

3 unit(s)

Consult the Department for the topic to be offered.

Seminar (two hours); one term

Prerequisite(s): Nine units from GKROMST 2HA3, 2HB3, 2HC3, 2HD3, 2K03, 2LA3, 2LB3, 2LC3, 2LD3, 3HH3, 3M03, 3X03 or registration in Level III or above of an Honours program in GKROMST or History

Antirequisite(s): HISTORY 4FA3

GKROMST 4F03 may be repeated, if on a different topic, to a total of six units.

Antirequisite(s): CLASSICS 4E03

Offered in alternate years.

Rationale: *Prerequisite change being made to reflect the addition of new courses that should have been added in a previous year when the course codes were changed.*

2.2 GKROMST 4L03 - Athenian Democracy

3 unit(s)

A study of the institutional, social and cultural dynamics of popular self-government in Athens, exploring how Athenian democracy compares and contrasts with democracy today.

Seminar (two hours); one term

Prerequisite(s): Nine units from GKROMST 2HA3, 2HB3, 2HC3, 2HD3, 2LA3, 2LB3, 2LC3, 2LD3, 3HH3, 3M03, 3X03, GKROMST 2LA3, 2LB3, 2LC3, 2LD3, 3HH3, 3M03, 3X03 or registration in Level III or above of an Honours program in GKROMST or History

Antirequisite(s): HISTORY 4LL3, CLASSICS 4L03

Rationale: Prerequisite change being made to reflect the addition of new courses that should have been added in a previous year when the course codes were changed.

2.3 LINGUIST 3AS3 - Language and Communication in Autism Spectrum Disorder

3 unit(s)

Students will learn about Autism Spectrum Disorder and theories put forth to explain it, with a focus on language and social impairments. Conflicting views on language deficits in ASD will be explored and current research into language abilities in ASD will be introduced.

Cross-list(s): INSPIRE 3AS3

Prerequisite(s): Registration in Level II or above

Antirequisite(s): HUMBEHV 2A06 A/B

Not open to students with credit in INSPIRE 3EL3 if the topic was Language and Communication in Autism Spectrum Disorder.

Rationale: Adding an Antirequisite as requested by Arts & Science program.

2.4 MUSIC 2MU3 - Introduction to Music Therapy Research

3 unit(s)

Current research papers will be explored in the fields of education, rehabilitation, neurology and mental health. Three hours (lecture, web module); one term

Prerequisite(s): Registration in Level II or above. Completion of MUSIC 2MT3 is strongly recommended, but not required.

Antirequisite(s): MUSIC ~~2MT3~~ 3MT3

Rationale: Housekeeping – correction to an Antirequisite.

3.0 REVISION TO EXISTING PROGRAMS:

3.1 Combined Honours in iArts (Integrated Arts) and Another Subject (B.A.)

Revised Course List A to include IARTS 2DE3 (Devised Performances Processes) and delete IARTS 2DE6

Rationale: Housekeeping. The course is 3 units, not 6 as listed.

3.2 Honours iArts (Integrated Arts) (B.A.)

Revised Course List A to include IARTS 2DE3 (Devised Performances Processes) and delete IARTS 2DE6

Rationale: Housekeeping. The course is 3 units, not 6 as listed.

3.3 Combined Honours in Media Arts and Another Subject (B.A.)

Reintroducing THTRFLM 3OP6A/B (Organizing the Performance Space) that was previously deleted.

Rationale: Housekeeping. With the phasing out of the Theatre and Film Studies program, this course will be phased out next year.

3.4 Honours Media Arts (B.A.)

Reintroducing THTRFLM 3OP6A/B (Organizing the Performance Space) that was previously deleted.

Rationale: Housekeeping. With the phasing out of the Theatre and Film Studies program, this course will be phased out next year.

3.5 Minor in Gender Studies

A Minor in Gender Studies consists of 24 units including the courses listed below. If students wish to propose that a course not cross-listed and not on the course list be considered as a credit toward the Minor in Gender Studies, they may contact (905) 525-9140 x 27734 or visit CNH 321.

Notes

1. Students must be aware that some courses in the Course Lists have their own disciplinary prerequisites. Given the multidisciplinary nature of the Gender Studies Minor, with its different approaches and expectations, it is the responsibility of the students in the Gender Studies Minor to meet other Faculties', departments' and programs' requirements.
2. Students who began their studies prior to September 2021 may declare this as the Women's Studies minor.

Requirements

24 units total

3 units

from

- GENDRST 1A03 - Gender, Race, Culture, Power
- GENDRST 1AA3 - Gender, Feminism and Social Justice
- PEACJUST 1A03 - Peace, Justice, Human Rights

3 units

- GENDRST 2AA3 - Feminist Thought

18 units

from

- GENDRST 1A03 - Gender, Race, Culture, Power (if not previously taken)
- GENDRST 1AA3 - Gender, Feminism and Social Justice (if not previously taken)
- PEACJUST 1A03 - Peace, Justice, Human Rights (if not previously taken)
- CMST 2H03 - Gender and Performance
- CMST 3RR3 - Race, Religion and Media
- ENGLISH 2KK3 - Studies in Women Writers
- ENGLISH 3A03 - Critical Race Studies
- ENGLISH 3AA3 - Theories of Gender and Sexuality
- ENGLISH 3GS3 - Reading the Embodied Past: Gender and Sexuality
- ENGLISH 4QA3 - Queerness in the Archives: Lesbian and Gay Writing, Art and Activism in Canada, 1969-1989
- GENDRST 2BB3 - Images of the Divine Feminine
- GENDRST 3BB3 - Gender and Visual Culture
- GENDRST 3BW3 - Gender in Ancient Eastern Mediterranean
- GENDRST 3FF3 - Gender and Religion
- GENDRST 3RR3 - 'Crippling' Performance: Deaf, Mad and Disabled Performance in Canada
- GENDRST 4A03
- HTHSCI 2T03 - Sex, Gender, & Health
- HISTORY 3W03 - Women in Canada and the U.S. to 1920
- HISTORY 3WW3 - Women in Canada and the U.S. from 1920
- INDIGST 3N03 - Indigenous Women: Land, Rights, and Politics
- LINGUIST 4G03 - Language, Sex and Gender
- PEACJUST 2B03 - Human Rights and Social Justice
- PEACJUST 2CS3 - Decolonization and Activism: Creating Social Change

- PEACJUST 3C03 - Researching Global Peace and Social Justice
- PHILOS 3I03 - Philosophy and Feminism
- PHILOS 3WP3 - Modern Women Philosophers
- RELIGST 2BN3
- WORKLABR 3E03 – Gender, Sexuality and Work
- WOMENST 2B03
- WOMENST 4D03

Rationale: Updating of minor course list to reflect subject name change.

FACULTY OF HEALTH SCIENCES

UNDERGRADUATE CURRICULUM REPORT

**TO UNDERGRADUATE COUNCIL
CURRICULUM AND ADMISSIONS COMMITTEE**

FOR THE 2023-2024 CALENDAR

Monday, February 13, 2023

HSEC approval pending

Faculty Executive Council pending

REPORT TO SENATE

FACULTY OF HEALTH SCIENCES SUMMARY OF CURRICULUM CHANGES FOR 2023- 2024

This report highlights substantive changes being proposed. For a complete review of all changes, please refer to the Faculty of Health Sciences Curriculum Report for changes to the 2023-2024 Undergraduate Calendar, found at: https://mcmasteru365-my.sharepoint.com/:b:/g/personal/mcarthj_mcmaster_ca/ESqclRRov8NJppUXB3fW8EsBs4GSZ_Ans4upF_424TlexWQ?e=UYGpNB

NEW PROGRAMS:

NONE

PROGRAM CLOSURES

NONE

MAJOR REVISIONS

Biochemistry Exit (B.H.Sc.)

Biochemistry Course List

- ANTHROP 2U03 - Plagues and People
- ANTHROP 3BD3 - The Black Death
- BIOCHEM 3AB3 – Antibiotics are the Cornerstone of Medicine
- BIOCHEM 3BP3 - Practical Bioinformatics in the Genomics Era
- BIOCHEM 3CB3 - Emerging Discovery in Cell Biology
- BIOCHEM 3H03 - Clinical Biochemistry
- BIOCHEM 3MI3 - Microbial Interactions
- BIOCHEM 3R03 - Clinical Research Project
- BIOCHEM 3Z03 - Structural Determination and Analysis of Macromolecules
- BIOCHEM 4E03 - Gene Regulation in Stem Cells and Development
- BIOCHEM 4H03 - Biotechnology and Drug Discovery
- BIOCHEM 4J03 - Immunological Principles in Practice
- BIOCHEM 4M03 - Cellular and Integrated Metabolism
- BIOCHEM 4N03 - Molecular Membrane Biology
- BIOCHEM 4Q03 - Biochemical Pharmacology
- BIOCHEM 4S03 - Introduction to Molecular Biophysics
- BIOLOGY 2B03 - Cell Biology
- BIOLOGY 2EE3 - Introduction to Microbiology and Biotechnology
- BIOMEDDC 2C03 - Exploring Careers in Biomedical Sciences
- BIOMEDDC 2W03 - Write Right for Your Science: Scientific Writing for the Biomedical Sciences
- CHEM 2A03 - Quantitative Chemical Analysis
- CHEM 2P03 - Applications of Physical Chemistry
- CHEMBIO 2A03 - Introduction to Bio-Analytical Chemistry
- CHEMBIO 2P03 - Physical Chemistry Tools for Chemical Biology

- CHEMBIO 3OA3 - Organic Mechanistic Tools for Chemical Biology
- HTHSCI 3I03 - Introductory Immunology
- HTHSCI 3K03 - Principles of Virology
- MOLBIOL 3O03 - Microbial Genetics

Requirements

90 units total (Levels I to III), of which no more than 42 units may be Level I

Maximum 9 units of project/thesis courses

6 units

- BIOLOGY 1A03 - Cellular and Molecular Biology
- BIOLOGY 1M03 - Biodiversity, Evolution and Humanity

6 units

- CHEM 1A03 - Introductory Chemistry I
- CHEM 1AA3 - Introductory Chemistry II

3 units from

- MATH 1A03 - Calculus For Science I
- MATH 1LS3 - Calculus for the Life Sciences I

3 units from

- PHYSICS 1A03 - Introductory Physics
- PHYSICS 1C03 - Physics for the Chemical and Physical Sciences

6 units from

- Science I Course List

12 units

- BIOCHEM 2B03 - Nucleic Acid Structure and Function
- BIOCHEM 2BB3 - Protein Structure and Enzyme Function
- BIOCHEM 2L06 A/B - Inquiry in Biochemical Techniques

3 units

- BIOLOGY 2C03 - Genetics

12 units from

- *Biochemistry Course List (See Program Note 2 above.)*

6 units

- CHEM 2OA3 - Organic Chemistry I
- CHEM 2OB3 - Organic Chemistry II

3 units

- BIOCHEM 3D03 - Metabolism and Regulation

3 units

- BIOMEDDC 3WR3 - Biochemistry and Biomedical Scientific Writing: Right your Write

3 units

- STATS 2B03 - Statistical Methods for Science

24 units

- Electives

RATIONALE: *Following the transition of Honours Biochemistry programs into the Faculty of Health Sciences, it became necessary to offer a 3-year non-honours exit option to students. The requirements above are in alignment with three full, completed years of Honours Biochemistry*

REPORT TO UNDERGRADUATE COUNCIL

FACULTY OF HEALTH SCIENCES SUMMARY OF CURRICULUM CHANGES FOR 2023-2024

This report highlights substantive changes being proposed. For a complete review of all changes, please refer to the Faculty of Health Sciences Curriculum Report for changes to the 2023-2024 Undergraduate Calendar, found at: https://mcmasteru365-my.sharepoint.com/:b:/g/personal/mcarthj_mcmaster_ca/ESqcIRRov8NJppUXB3fW8EsBs4GSZAns4upF_424TlexWQ?e=UYGpNB

BACHELOR OF SCIENCE NURSING PROGRAM1

- Admission Policy, Procedure, and Requirements
 - Admission Policy

HONOURS BACHELOR OF HEALTH SCIENCES IN BIOCHEMISTRY3

- Biochemistry Exit
 - Biochemistry Course List
 - Requirements

**FACULTY OF HEALTH SCIENCES
2023-2024 UNDERGRADUATE CURRICULUM REVISIONS**



BACHELOR OF SCIENCES NURSING PROGRAM

**Admission Policy, Procedure, and
Requirements Admission Policy**

Enrolment in all B.Sc.N. programs is limited. Possession of the minimum admission requirements does not guarantee an offer of admission.

The BScN Consortium including McMaster University, Mohawk College and Conestoga College will be undergoing a change. Fall 2023 will be the last intake of the Basic BScN and RPN to BScN streams at the Conestoga site. McMaster and Mohawk sites will continue to offer BScN streams as noted in the calendar.

Application to the B.Sc.N. Program in the Faculty of Health Sciences implies acceptance of admission policies, procedures and the methods by which applicants are chosen for the program. The selection method for all applicants is by academic qualifications and assessment of personal and professional characteristics.

There are three streams of study leading to the completion of the B.Sc.N. degree.

- **Basic (A) Stream** requires four years of full-time study and is available to those applying directly from an Ontario secondary school with Grade 12 U or M courses; to those who have qualifications equivalent to Grade 12 U or M courses; and to applicants with other qualifications who meet the admission requirements. **Note:** *Any differences in the application process or course of studies are noted in the appropriate section below.*
- **Post Diploma R.P.N. (E) Stream** is available to diploma prepared Registered Practical Nurses only. Graduates of an approved Diploma Practical Nurse Program who are admitted are granted 30 units of advanced credit. This program requires three years of full-time study. **Note:** *The Post Diploma R.P.N. (E) Stream is offered only at Mohawk and Conestoga sites.*
- **Accelerated (F) Stream** is open to applicants who have completed another university degree or have completed a minimum of 54 units (2 years) of university degree credits. Applicants with a nursing background will not be considered for this Stream. This program is available on a full-time basis and requires five consecutive terms of study. **Note:** *The Accelerated (F) Stream is offered only at McMaster University.*

~~**Note: Effective September 2021, all applicants for the three streams will apply to QUAC (Ontario University Application Centre), selecting McMaster University BScN and the specific site(s) of interest.**~~

~~The requirements and application deadlines vary depending on the applicant's background. An applicant supplying documentation or evidence which, at the time or subsequently, is found to be falsified will be withdrawn from consideration. Any student admitted to the program having submitted false documentation will be withdrawn.~~

The School of Nursing is committed to equality of opportunity. Disability is not grounds for

exclusion from the School. Every attempt will be made to remove barriers and create accommodation provided any accommodation maintains the same academic and professional practice standards for all students and does not require significant program change. Applicants should consult Student Accessibility Services at (905) 525-9140, ext. 28652 or TTY (905) 528-4307.

The College of Nurses of Ontario (CNO) has released a statement about Requisite Skills and Abilities for Nursing Practice in Ontario. This statement can be found at <https://www.cno.org/globalassets/docs/reg/41078-skillabilities-4pager-final.pdf>. The CNO states that "Individuals considering a career as a nurse in Ontario should review this document and assess their ability to meet the criteria. The requisite skills and abilities serve as a benchmark, outlining the requirements to meet the minimum standard necessary to ensure public safety." (CNO, pg 3)

RATIONALE: *Updating to reflect recent removal of Conestoga College from Nursing Consortium; housekeeping.*

HONOURS BACHELOR OF HEALTH SCIENCES IN BIOCHEMISTRY

Biochemistry Exit (B.H.Sc.)

Biochemistry Course List

- ANTHROP 2U03 - Plagues and People
- ANTHROP 3BD3 - The Black Death
- BIOCHEM 3AB3 – Antibiotics are the Cornerstone of Medicine
- BIOCHEM 3BP3 - Practical Bioinformatics in the Genomics Era
- BIOCHEM 3CB3 - Emerging Discovery in Cell Biology
- BIOCHEM 3H03 - Clinical Biochemistry
- BIOCHEM 3MI3 - Microbial Interactions
- BIOCHEM 3R03 - Clinical Research Project
- BIOCHEM 3Z03 - Structural Determination and Analysis of Macromolecules
- BIOCHEM 4E03 - Gene Regulation in Stem Cells and Development
- BIOCHEM 4H03 - Biotechnology and Drug Discovery
- BIOCHEM 4J03 - Immunological Principles in Practice
- BIOCHEM 4M03 - Cellular and Integrated Metabolism
- BIOCHEM 4N03 - Molecular Membrane Biology
- BIOCHEM 4Q03 - Biochemical Pharmacology
- BIOCHEM 4S03 - Introduction to Molecular Biophysics
- BIOLOGY 2B03 - Cell Biology
- BIOLOGY 2EE3 - Introduction to Microbiology and Biotechnology
- BIOMEDDC 2C03 - Exploring Careers in Biomedical Sciences
- BIOMEDDC 2W03 - Write Right for Your Science: Scientific Writing for the Biomedical Sciences
- CHEM 2A03 - Quantitative Chemical Analysis
- CHEM 2P03 - Applications of Physical Chemistry
- CHEMBIO 2A03 - Introduction to Bio-Analytical Chemistry
- CHEMBIO 2P03 - Physical Chemistry Tools for Chemical Biology
- CHEMBIO 3OA3 - Organic Mechanistic Tools for Chemical Biology
- HTHSCI 3I03 - Introductory Immunology
- HTHSCI 3K03 - Principles of Virology
- MOLBIOL 3O03 - Microbial Genetics

Requirements

90 units total (Levels I to III), of which no more than 42 units may be Level I

Maximum 9 units of project/thesis courses

6 units

- BIOLOGY 1A03 - Cellular and Molecular Biology
- BIOLOGY 1M03 - Biodiversity, Evolution and Humanity

6 units

- CHEM 1A03 - Introductory Chemistry I
- CHEM 1AA3 - Introductory Chemistry II 3

units from

- MATH 1A03 - Calculus For Science I
- MATH 1LS3 - Calculus for the Life Sciences I 3

units from

- PHYSICS 1A03 - Introductory Physics
- PHYSICS 1C03 - Physics for the Chemical and Physical Sciences 6

units from

- Science I Course List

12 units

- BIOCHEM 2B03 - Nucleic Acid Structure and Function
- BIOCHEM 2BB3 - Protein Structure and Enzyme Function
- BIOCHEM 2L06 A/B - Inquiry in Biochemical Techniques 3

units

- BIOLOGY 2C03 - Genetics

12 units from

- *Biochemistry Course List (See Program Note 2 above.)* 6

units

- CHEM 2OA3 - Organic Chemistry I
- CHEM 2OB3 - Organic Chemistry II 3

units

- BIOCHEM 3D03 - Metabolism and Regulation 3

units

- BIOMEDDC 3WR3 - Biochemistry and Biomedical Scientific Writing: Right your Write 3

units

- STATS 2B03 - Statistical Methods for Science

24 units

- Electives

RATIONALE: Following the transition of Honours Biochemistry programs into the Faculty of Health Sciences, it became necessary to offer a 3-year non-honours exit option to students. The requirements above are in alignment with three full, completed years of Honours Biochemistry

▲ ▲ ▲ ▲ ▲



Dr. Robert Whyte
Vice Dean, Education
Faculty of Health Sciences

1280 Main Street West
Health Sciences Centre – 2E18
Hamilton ON L8S 4K1
<https://healthsci.mcmaster.ca/>

Tel: 905.525.9140 Ext. 22506
Fax: 905.528.4727
Email: rwhyte@mcmaster.ca

MEMORANDUM

To: Secretariat, McMaster University
Members of the Curriculum & Admissions Sub-Committee of Undergraduate Council

From: Dr. Sandra Carroll, Vice Dean Faculty of Health Sciences & Executive Director School of Nursing
Dr. Rob Whyte, Vice Dean Education, Faculty of Health Sciences

Date: Monday, February 13, 2023

Re: Required calendar changes resulting from termination of Memorandum of Understanding governing the Nursing Consortium

McMaster's BScN degree is currently delivered in a partnership of three post-secondary institutions – McMaster University, Mohawk College, and Conestoga College – collectively known as the Nursing Consortium. The Consortium, established in 2001, is governed by a Memorandum of Understanding.

Recently, the Consortium partners determined that the current Consortium would be dissolved after this year's cohort is admitted. A new two partner Consortium between McMaster University and Mohawk College would replace the current Consortium, with Conestoga College proceeding with an independent program.

As this change has arisen since the calendar process began, and as the calendar contains specific language regarding admissions for the 2024 cohort, it is necessary to correct this language in the calendar.

Planning regarding this new arrangement included direction from and/or consultation with the President of McMaster University, the Provost, Vice-Provost Teaching & Learning, Registrar, Dean & Vice President Faculty of Health Sciences, Vice Dean FHS & Executive Director School of Nursing, and others. The process of moving forward is an institutional one between the partners of the Consortium, under the terms of the MOU.

We are requesting the members of the Curriculum & Admissions Sub-Committee of the Undergraduate Council accept the proposed language to be included in the 2023-24 Undergraduate Calendar. We are happy to respond to questions, clarifications, or concerns.

Sincerely yours,

A handwritten signature in blue ink, appearing to read "Rob Whyte".

Rob Whyte, MD, MEd, FRCP(C)
Vice-Dean, Education
Faculty of Health Sciences
McMaster University

Faculty of Social Sciences

Report to

Undergraduate Council

**SUMMARY OF CURRICULUM
CHANGES FOR THE 2023-2024
UNDERGRADUATE CALENDAR**

Addendum

February 14, 2023

The following is a requested housekeeping change to a new program that was approved at the Undergraduate Council Meeting on December 13th, 2022.

The required minor revision involves the deletion of a course from Course List 1 in the Honours Work and Labour Studies Co-op (B.A.) entry:

- 3.2** Introduction of a new Co-op Option for the Honours Work and Labour Studies (B.A.) by the Department of Labour Studies as follows:

Honours Work and Labour Studies Co-op (B.A.)

Admission

Enrollment in this program option is limited. Admission is by selection and possession of the published minimum requirements does not guarantee admission. Selection is based on academic achievement and an interview but requires, as a minimum, completion of any Level I program with a Grade Point Average of at least 5.0 including a grade of at least C in one of WORKLABR 1A03, 1D03, 1E03 (or LABRST 1D03, 1E03, 1A03 or 1C03; see *Note 2* below). For continuation in the program, see *Minimum Requirements for Entering and Continuing in a Program Beyond Level I* in the Faculty of Social Sciences Academic Regulations.

Notes

1. Students who intend to apply for this program option must follow the application instructions as found on the Social Sciences Co-op web site. Students who are unable to access this web site must consult the Social Sciences Co-op team in the Office of the Associate Dean Academic prior to the application deadline.
2. All applications for admission to the Co-op program option are considered annually and must be made directly to the Social Sciences Co-op team by March 1 for the Fall/Winter term.
3. Applications that are submitted after the March 1 deadline will not be considered.
4. Offers of acceptance cannot be deferred.
5. Students who have who have completed only 3 units of Level I Work and Labour Studies (or Labour Studies) will be required to complete 3 more units of Level I Work and Labour Studies during their Level II year.
6. Students may not transfer to another Work and Labour Studies program except by the normal application process.

Program Notes

1. The standard duration of this program option is five (5) years. For information, see the Social Sciences Co-op website.

2. Co-op program options in the Faculty of Social Sciences follow an alternating sequence of work terms and academic terms. Students are required to enroll in at least one full-time academic term consisting of at least 9 units between any two work terms. Each student's sequence of work and academic terms must end with a final academic term. For information on permitted and recommended work term sequences compatible with scheduled course offerings in this program option, see the Social Sciences Co-op website.
3. Co-op work terms are components of the program involving full-time, paid work-integrated learning opportunities, typically secured through a job search process. Students on work term are enrolled in a zero-unit course (i.e. SOCSCI 3WT0, 4WT0, 5WT0) and are considered enrolled at the university.
4. Students may take a maximum of 3 units during a work term, with the written permission of the work term supervisor.
5. Completion of SOCSCI 2EL0 in Fall Term of Level II or in Spring/Summer Term following Level I is strongly recommended in order for students to meet the requirements of Social Sciences 2JS1 and eligibility for job search access.
6. Students who complete a six-unit Research Methods/Statistics course will reduce their elective component by three units.
7. Students who have completed LABRST 4D03 need not complete WORKLABR 4C03 or LABRST 4E03.
8. Students are encouraged to consult the School of Labour Studies website at: <http://www.labourstudies.mcmaster.ca>.

Course List 1

- COMMERCE 1BA3 - Organizational Behaviour (or 2BA3)
- COMMERCE 4BC3 - Collective Bargaining
- LABRST 2H03
- LABRST 2M03
- LABRST 3A03
- LABRST 3B03
- LABRST 3C03
- LABRST 3D03
- LABRST 3E03
- LABRST 3K03
- LABRST 3L03
- LABRST 3P03
- LABRST 3T03
- LABRST 4J03
- SOCWORK 2BB3 - Anti-Oppressive Social Work or any 3rd or 4th level Social & Political Context of Social Work courses offered by the School of Social Work. Eligible to count for Level II or above.
- SOCWORK 2CC3 - Introduction to Community Practice

Note: While student can use this course to fulfill Work and Labour Studies requirements, and while the content is salient to Work and Labour Studies students, this course has a social work focus.

- ~~WOMENST 2A03~~
- WORKLABR 2A03 - Unions in Action
- WORKLABR 2G03 - Labour and Globalization
- WORKLABR 2H03 - Sports, Work and Labour
- WORKLABR 2J03 - Work and Racism
- WORKLABR 2M03 - Pop Culture, Media and Work
- WORKLABR 2W03 - Human Rights and Social Justice
- WORKLABR 3A03 - Economics of Labour Market Issues
- WORKLABR 3B03 - Economics of Trade Unionism and Labour
- WORKLABR 3C03 - Labour and Employment Law
- WORKLABR 3D03 - Work: Dangerous to your Health?
- WORKLABR 3E03 - Gender, Sexuality and Work
- WORKLABR 3K03 - On the Move: Workers in a Global World
- WORKLABR 3L03 - Labour Policy and Advocacy
- WORKLABR 3M03 - Theoretical Approaches to Work and Labour Studies
- WORKLABR 3P03 - Workers' Resistance - Past and Present
- WORKLABR 3Q03 - Community Engaged Research
- WORKLABR 4J03 - Independent Study

Course List 2

- COMMERCE 2BC3 - Human Resource Management and Labour Relations
- ECON 2F03
- ECON 2K03 - Economic History of Canada
- ECON 2N03 - Public Policy Toward Business
- HLTH AGE 3J03
- HISTORY 3W03 - Women in Canada and the U.S. to 1920
- HISTORY 3WW3 - Women in Canada and the U.S. from 1920
- POLSCI 3D03
- POLSCI 3E03
- POLSCI 3EE3 - International Relations: North-South
- POLSCI 3F03
- SOCIOLOG 2E06 A/B
- SOCIOLOG 2I03
- SOCIOLOG 2Q06 A/B
- SOCIOLOG 2R03 - Perspectives on Social Inequality
- SOCIOLOG 2RR3 - Case Studies of Social Inequality
- SOCIOLOG 2V06 A/B

Social and Political Context of Social Work Course List

- SOCWORK 3B03
- SOCWORK 3C03 - Social Aspects of Health and Illness
- SOCWORK 3H03
- SOCWORK 3I03 - Social Work and Indigenous Peoples
- SOCWORK 3O03 - Social Work and Sexualities

- SOCWORK 3Q03
- SOCWORK 3S03 - Social Work, Disability and Dis/Ableism
- SOCWORK 3T03 - Poverty and Homelessness
- SOCWORK 4B03
- SOCWORK 4C03 - Critical Perspectives on Race, Racialization, Racism and Colonialism in Canadian Society
- SOCWORK 4G03 - Selected Topics
- SOCWORK 4I03
- SOCWORK 4L03
- SOCWORK 4QQ3 - Indigenizing Social Work Practice Approaches
- SOCWORK 4R03 - Feminist Approaches to Social Work and Social Justice
- SOCWORK 4SA3 - Critical Child Welfare: From Theory to Practice*
- SOCWORK 4SB3*
- SOCWORK 4U03 - Immigration, Settlement and Social Work
- SOCWORK 4W03 - Child Welfare
- SOCWORK 4Y03 - Critical Issues in Mental Health & Addiction: Mad & Critical Disability Studies Perspectives for SW

**only open to those students in a Social Work program*

Requirements

120 units total (Levels I to IV), of which 48 units may be Level I

30 units
from

- the Level I program completed prior to admission to the program
(See *Admission* above.)

1 course

- SOCSCI 2EL0 - Career Preparation in the Social Sciences.

9 units
from

- LABRST 2A03
- LABRST 2G03
- LABRST 2J03
- LABRST 3M03
- LABRST 3Q03
- WORKLABR 2A03 - Unions in Action
- WORKLABR 2G03 - Labour and Globalization
- WORKLABR 2J03 - Work and Racism
- WORKLABR 3M03 - Theoretical Approaches to Work and Labour Studies
- WORKLABR 3Q03 - Community Engaged Research

21 units
from

- *Course List 1*, where at least nine units must be selected from Levels III or IV courses

3-6 units
from

- *Course List 2*

3 units
from

- SOCSCI 2J03 - Introduction to Statistics or
- an equivalent Research Methods/Statistics course as prescribed by the other Social Sciences Programs. (See *Note 4* above.)

3 units

- SOCSCI 2JS1 -Co-op Job Search I
- SOCSCI 3JS1 -Co-op Job Search II
- SOCSCI 4JS1 - Co-op Job Search III

Work Terms

- SOCSCI 2WT0 - Social Sciences Co-Op Work Term
- SOCSCI 3WT0 - Social Sciences Co-Op Work Term
- SOCSCI 4WT0 - Social Sciences Co-Op Work Term

9 units
from

- ENVSOCTY 4LE3 - Geographies of the North American Political Economy
- LABRST 4C03
- LABRST 4F03
- LABRST 4G03
- LABRST 4H03
- WORKLABR 4C03 - Public Sector Collective Bargaining
- WORKLABR 4F03 - Work and the Environment
- WORKLABR 4G03 - Advanced Topics in Work and Labour Studies
- WORKLABR 4H03 - Working Precariously: Labour Strategies, Labour
Renewal
(See *Note 5* above.)

0-3 units
from

- LABRST 1C03
- LABRST 1D03
- LABRST 1E03
- WORKLABR 1A03 - An Introduction to Work and Labour in Canada
- WORKLABR 1D03 - Technology and the Future of Work
- WORKLABR 1E03 - Navigating the World of Work
(See *Notes 2 & 6* above.)

39-42 units

- Electives, of which at least six units must be taken from outside of Work and Labour Studies

Justification: WOMENST 2A03 is on the course list for the standard Honours BA program in Work and Labour studies. The Department and Faculty of Social Sciences typically phases past courses out of course lists over 3 years because some students still in upper years may have taken the course. While in general the Co-op course list should match the course list for the standard Honours BA, the outgoing course should not be listed for the newly introduced program option.



SCIENCE

Undergraduate Curriculum Report to Undergraduate Council, for the
2023-2024 Undergraduate Calendar – ADDENDA

Pending approval by the General Faculty of the Faculty of
Science on February 23, 2023

February 2023

FACULTY OF SCIENCE REPORT TO SENATE

SUMMARY OF CURRICULUM CHANGES FOR 2023-24 - Addendum

Following, is the summary of substantive curriculum changes being proposed by the Faculty of Science. For a complete review of all changes, refer to the November 17, 2022, Report of the Academic Planning and Policy Committee for changes to the 2023-2024 Undergraduate Calendar, found at:

<https://macdrive.mcmaster.ca/f/c379238830c644a39a95/>

1.0 NEW PROGRAMS:

None applicable

2.0 PROGRAM CLOSURES/MERGERS:

None applicable

3.0 MAJOR CURRICULAR REVISIONS:

Medical Radiation Sciences

<https://science.mcmaster.ca/sis/undergraduate/medical-radiation-sciences.html>

Effective September 2023, the Bachelor of Medical Radiation Sciences (B.M.R.Sc.) degree will be replaced by an Honours Bachelor of Medical Radiation Sciences (B.M.R.Sc.) degree. All students currently registered in this program will be transfer to Honours Bachelor of Medical Radiation Sciences (B.M.R.Sc.) degree programs and will graduate with the new degree designation.

This program is offered jointly in partnership with Mohawk College of Applied Arts and Technology and McMaster University. Students pursue two qualifications simultaneously, and graduates receive the Ontario College Advanced Diploma in Medical Radiation Sciences from Mohawk College and the McMaster Honours Bachelor of Medical Radiation Sciences degree.

Students enrolled in the Medical Radiation Sciences programs, in addition to meeting the *General Academic Regulations* of the University, shall be subject to the following program regulations. Since the academic regulations are continually reviewed, the University reserves the right to change the regulations.

Registration in the Medical Radiation Sciences program implies acceptance on the part of the student of the objectives of the program and the methods by which progress toward the achievement of those objectives is evaluated.

2.2. Honours Medical Radiation Sciences - Radiation Therapy Specialization (B.M.R.Sc.)

Effective September 2023, the Bachelor of Medical Radiation Sciences – Radiation Therapy Specialization (B.M.R.Sc.) degree will be replaced by an Honours Bachelor of Medical Radiation Sciences – Radiation Therapy Specialization (B.M.R.Sc.) degree. All students currently registered in this program will be transfer to Honours Bachelor of Medical Radiation Sciences – Radiation Therapy Specialization (B.M.R.Sc.) degree programs and will graduate with the new degree designation.

Program Notes

1. Students in this program pursue two qualifications simultaneously, and graduates receive the Ontario College Advanced Diploma in Medical Radiation Sciences from Mohawk College and the McMaster **Honours** Bachelor of Medical Radiation Sciences degree.

2. The timing of the Spring/Summer and the Level III and IV Fall/Winter Terms may not adhere to the *Sessional Dates*, as published in this Calendar.

Admission

Enrolment in this program is limited and admission is by selection but requires, as a minimum, completion of Level I Medical Radiation Sciences with a Fall-Winter Average (on a minimum of 24 units) of at least 5.0 and a Grade Point Average of at least 5.0 including:

12 units

- LIFESCI 1D03 - Medical Imaging Physics
- MEDRADSC 1B03 - Introduction to Pathology
- MEDRADSC 1E03 - Inquiry in Medical Radiation Sciences
- MEDRADSC 1F03 - Professions in Medical Radiation Sciences

3 units

- BIOLOGY 1A03 - Cellular and Molecular Biology

6 units

- KINESIOL 1Y03 - Human Anatomy and Physiology I
- KINESIOL 1YY3 - Human Anatomy and Physiology II

3 units

from

- MATH 1A03 - Calculus For Science I
- MATH 1LS3 - Calculus for the Life Sciences I
- MATH 1MM3 - Applied Calculus

Requirements

150 units total (Levels I to IV), 45 units of clinical practicum are interspersed with 75 units of academic courses in Levels II to IV

Level I: 30 Units

30 units

(See *Admission* above.)

Level II

Fall and Winter Terms: 30 units:

27 units

from

- MEDRADSC 2A03 - Patient Care
- MEDRADSC 2AA3 - Imaging Procedures in Health Care
- MEDRADSC 2D03 - Relational Anatomy I
- MEDRADSC 2RA3 - Relational Anatomy II
- MEDRADSC 2S03 - Clinical Oncology I
- MEDRADSC 2T03 - Clinical Oncology II
- MEDRADSC 2U03 - Radiation Therapy Skills I
- MEDRADSC 2W03 - Physics and Instrumentation for Radiation Therapy
- MEDRADSC 2X03 - Radiobiology and Protection
- MEDRADSC 2Z03

3 units

- Electives

Spring/Summer Term: 15 units:

(See *Program Note 2* above.)

15 units

- MEDRADSC 2V15 - Radiation Therapy Clinical Practicum I

Level III

Fall and Winter Terms: 30 units:

21 units

from

- MEDRADSC 3DA3 - Advanced Studies in Computed Tomography
- MEDRADSC 3K03 - Computed Tomography
- MEDRADSC 3LA3 - Radiation Therapy Skills II
- MEDRADSC 3S03 - Treatment Planning I
- MEDRADSC 3V03 - Treatment Planning II
- MEDRADSC 3W03
- MEDRADSC 3X03 - Research Methods in Medical Radiation Sciences
- MEDRADSC 3Y03 - Ethics for Medical Radiation Sciences

3 units

- STATS 2B03 - Statistical Methods for Science

3 units

from

- PSYCH 1F03 - Survey of Psychology
- PSYCH 1X03 - Introduction to Psychology, Neuroscience & Behaviour

3 units

- Electives

Spring/Summer Term: 15 units:

(See *Program Note 2* above.)

9 units

from

- MEDRADSC 3AA3 - Interdisciplinary Health Care
- MEDRADSC 3B03 - Quality Management in Medical Radiation Sciences
- MEDRADSC 3BB3
- MEDRADSC 3LB3 - Radiation Therapy Skills III

6 units

- Electives

which may include

- MEDRADSC 3DE3 - Introduction to Magnetic Resonance Imaging
- MEDRADSC 3Z06 - Research Project

Level IV

Fall and Winter Terms: 30 units:

30 units

- MEDRADSC 4E15 - Radiation Therapy Clinical Practicum II
- MEDRADSC 4F15 - Radiation Therapy Clinical Practicum III

Program Chart

	FALL TERM (September to December)	WINTER TERM (January to April)	SPRING/SUMMER TERM (May to August)
Level II	30 units from Academic Level II		Clinical Practicum I
Level III	45 units from Academic Level III		
Level IV	Clinical Practicum II	Clinical Practicum III	

2.3. Honours Medical Radiation Sciences - Radiography Specialization (B.M.R.Sc.)

Effective September 2023, the Bachelor of Medical Radiation Sciences –
Radiography Specialization (B.M.R.Sc.) degree will be replaced by an Honours

Bachelor of Medical Radiation Sciences – Radiography Specialization (B.M.R.Sc.) degree. All students currently registered in this program will be transfer to Honours Bachelor of Medical Radiation Sciences – Radiography Specialization (B.M.R.Sc.) degree programs and will graduate with the new degree designation.

Program Notes

1. Students in this program pursue two qualifications simultaneously, and graduates receive the Ontario College Advanced Diploma in Medical Radiation Sciences from Mohawk College and the McMaster Bachelor of Medical Radiation Sciences degree.
2. The timing of the Spring/Summer and the Level III and IV Fall/Winter Terms may not adhere to the *Sessional Dates*, as published in this Calendar.

Admission

Enrolment in this program is limited and admission is by selection but requires, as a minimum, completion of Level I Medical Radiation Sciences with a Fall-Winter Average (on a minimum of 24 units) of at least 5.0 and a Grade Point Average of at least 5.0 including:

12 units

- LIFESCI 1D03 - Medical Imaging Physics
- MEDRADSC 1B03 - Introduction to Pathology
- MEDRADSC 1E03 - Inquiry in Medical Radiation Sciences
- MEDRADSC 1F03 - Professions in Medical Radiation Sciences

3 units

- BIOLOGY 1A03 - Cellular and Molecular Biology

6 units

- KINESIOL 1Y03 - Human Anatomy and Physiology I
- KINESIOL 1YY3 - Human Anatomy and Physiology II

3 units

from

- MATH 1A03 - Calculus For Science I
- MATH 1LS3 - Calculus for the Life Sciences I
- MATH 1MM3 - Applied Calculus

Requirements

150 units total (Levels I to IV), 45 units of clinical practicum are interspersed with 75 units of academic courses in Levels II to IV

Level I: 30 Units

30 units

(See *Admission* above.)

Level II

Fall and Winter Terms: 30 units:

27 units

from

- MEDRADSC 2A03 - Patient Care
- MEDRADSC 2AA3 - Imaging Procedures in Health Care
- MEDRADSC 2BB3
- MEDRADSC 2D03 - Relational Anatomy I
- MEDRADSC 2G03 - Radiographic Skills I
- MEDRADSC 2H03 - Radiographic Skills II
- MEDRADSC 2I03 - Pathology and Procedures I
- MEDRADSC 2RA3 - Relational Anatomy II
- MEDRADSC 2X03 - Radiobiology and Protection
- MEDRADSC 2Y03 - Radiographic Imaging and Instrumentation I

3 units

- Electives

Spring/Summer Term: 15 units:

(See *Program Note 2* above.)

15 units

- MEDRADSC 2J15 - Radiography Clinical Practicum I

Level III

Fall and Winter Terms: 30 units:

21 units

- MEDRADSC 3DA3 - Advanced Studies in Computed Tomography
- MEDRADSC 3G03 - Radiographic Imaging and Instrumentation II
- MEDRADSC 3H03 - Quality Control in Radiography
- MEDRADSC 3J03 - Pathology and Procedures II
- MEDRADSC 3K03 - Computed Tomography
- MEDRADSC 3X03 - Research Methods in Medical Radiation Sciences
- MEDRADSC 3Y03 - Ethics for Medical Radiation Sciences

3 units

- STATS 2B03 - Statistical Methods for Science

3 units

from

- PSYCH 1F03 - Survey of Psychology
- PSYCH 1X03 - Introduction to Psychology, Neuroscience & Behaviour

3 units

- Electives

Spring/Summer Term: 15 units:

(See *Program Note 2* above.)

9 units

- MEDRADSC 3AA3 - Interdisciplinary Health Care
- MEDRADSC 3B03 - Quality Management in Medical Radiation Sciences
- MEDRADSC 3L03 - Radiographic Skills III

6 units

- Electives

which may include

- MEDRADSC 3DE3 - Introduction to Magnetic Resonance Imaging
- MEDRADSC 3Z06 - Research Project

Level IV

Fall and Winter Terms: 30 units:

30 units

- MEDRADSC 4A15 - Radiography Clinical Practicum II
- MEDRADSC 4B15 - Radiography Clinical Practicum III

Program Chart

	FALL TERM (September to December)	WINTER TERM (January to April)	SPRING/SUMMER TERM (May to August)
Level II	30 units from Academic Level II		Clinical Practicum I
Level III	45 units from Academic Level III		
Level IV	Clinical Practicum II	Clinical Practicum III	

2.4. **Honours Medical Radiation Sciences - Ultrasonography Specialization (B.M.R.Sc.)**

Effective September 2023, the Bachelor of Medical Radiation Sciences – Ultrasonography Specialization (B.M.R.Sc.) degree will be replaced by an Honours Bachelor of Medical Radiation Sciences – Ultrasonography Specialization (B.M.R.Sc.) degree. All students currently registered in this program will be transfer to Honours Bachelor of Medical Radiation Sciences – Ultrasonography Specialization (B.M.R.Sc.) degree programs and will graduate with the new degree designation.

Program Notes

1. Students in this program pursue two qualifications simultaneously, and graduates receive the Ontario College Advanced Diploma in Medical Radiation Sciences from Mohawk College and the McMaster Bachelor of Medical Radiation Sciences degree.
2. The timing of the Spring/Summer and the Level III and IV Fall/Winter Terms may not adhere to the *Sessional Dates*, as published in this Calendar.

Admission

Enrolment in this program is limited and admission is by selection but requires, as a minimum, completion of Level I Medical Radiation Sciences with a Fall-Winter Average (on a minimum of 24 units) of at least 5.0 and a Grade Point Average of at least 5.0 including:

12 units

- LIFESCI 1D03 - Medical Imaging Physics
- MEDRADSC 1B03 - Introduction to Pathology
- MEDRADSC 1E03 - Inquiry in Medical Radiation Sciences
- MEDRADSC 1F03 - Professions in Medical Radiation Sciences

3 units

- BIOLOGY 1A03 - Cellular and Molecular Biology

6 units

- KINESIOL 1Y03 - Human Anatomy and Physiology I
- KINESIOL 1YY3 - Human Anatomy and Physiology II

3 units

from

- MATH 1A03 - Calculus For Science I
- MATH 1LS3 - Calculus for the Life Sciences I
- MATH 1MM3 - Applied Calculus

Requirements

150 units total (Levels I to IV), 45 units of clinical practicum are interspersed with 75 units of academic courses in Levels II to IV

Level I: 30 Units

30 units

(See *Admission* above.)

Level II

Fall and Winter Terms: 30 units:

27 units

from

- MEDRADSC 2A03 - Patient Care
- MEDRADSC 2AA3 - Imaging Procedures in Health Care
- MEDRADSC 2BB3
- MEDRADSC 2K03 - Applied Sonographic Physics and Instrumentation I
- MEDRADSC 2L03 - Abdominal Ultrasonography I
- MEDRADSC 2M03 - Obstetrical and Gynecologic Ultrasonography I
- MEDRADSC 2N03 - Sonographic Skills I
- MEDRADSC 2O03 - Abdominal Ultrasonography II
- MEDRADSC 2P03 - Obstetrical and Gynecological Ultrasonography II

- MEDRADSC 2Q03 - Sonographic Skills II

3 units

- Electives

Spring/Summer Term: 15 units:

(See *Program Note 2* above.)

15 units

- MEDRADSC 2R15 - Ultrasonography Clinical Practicum I

Level III

Fall and Winter Terms: 30 units:

21 units

- MEDRADSC 3N03 - Vascular Ultrasonography
- MEDRADSC 3O03 - Sonographic Skills III
- MEDRADSC 3P03 - Obstetrical and Gynecologic Ultrasonography III
- MEDRADSC 3Q03 - Applied Sonographic Physics and Instrumentation II
- MEDRADSC 3R03 - Musculoskeletal Ultrasonography
- MEDRADSC 3X03 - Research Methods in Medical Radiation Sciences
- MEDRADSC 3Y03 - Ethics for Medical Radiation Sciences

3 units

- STATS 2B03 - Statistical Methods for Science

3 units

from

- PSYCH 1F03 - Survey of Psychology
- PSYCH 1X03 - Introduction to Psychology, Neuroscience & Behaviour

3 units

- Electives

Spring/Summer Term: 15 units:

(See *Program Note 2* above.)

9 units

from

- MEDRADSC 3AA3 - Interdisciplinary Health Care
- MEDRADSC 3DJ3 - Pediatric Sonography
- MEDRADSC 3M03 - Abdominal Ultrasonography III

6 units

- Electives

which may include

- MEDRADSC 3B03 - Quality Management in Medical Radiation Sciences
- MEDRADSC 3DE3 - Introduction to Magnetic Resonance Imaging
- MEDRADSC 3Z06 - Research Project

Level IV

Fall and Winter Terms: 30 units:

30 units

- MEDRADSC 4C15 - Ultrasonography Clinical Practicum II
- MEDRADSC 4D15 - Ultrasonography Clinical Practicum III

Program Chart

	FALL TERM (September to December)	WINTER TERM (January to April)	SPRING/SUMMER TERM (May to August)
Level II	30 units from Academic Level II		Clinical Practicum I
Level III	45 units from Academic Level III		
Level IV	Clinical Practicum II	Clinical Practicum III	

Justification 2.1 – 2.4

Mohawk/McMaster's collaborative Medical Radiation Sciences undergraduate degree is a comprehensive 10 semester program of studies. This program offers exposure to one of the following specializations; radiography, sonography or radiation therapy as well as exposure to research, ethics and patient care. Students participate in structured clinical placements through their education where skills learned are applied and critical thinking skills are enhanced. The Program Learning Outcomes map directly to the Degree Level (DLE)– Honours Expectations meeting all the DLEs required to contribute to the success of the program.

The employment rate for graduates from the Medical Radiation Sciences program is excellent. Most students go on to careers as Medical Technologists. However, there are some students that, during their study, develop a keen interest in research and would like to go on to further graduate studies. The current non-honours status of the program can put barriers in the way for some of these students. Graduate programs at most universities require an Honours program as an entry requirement. The addition of the Honours distinction will increase capacity for scholarly practice and enhance the student experience and potentially present additional opportunities for MRS graduates.

4.0 REVISIONS TO GENERAL ACADEMIC REGULATIONS, FACULTY-LEVEL REGULATIONS, AND ACADEMIC POLICY:

4.1 Academic Regulations

Student Academic Responsibility

You are responsible for adhering to the statement on student academic responsibility found in the *General Academic Regulations* of this calendar.

Access to Courses

All undergraduate courses at McMaster have an enrolment capacity. The University is committed to making every effort to accommodate students in required courses so that their program of study is not extended. Unless otherwise specified, registration is on a first-come basis and in some cases, priority is given to students from particular programs or Faculties. Students will be informed of their enrolment periods and are encouraged to enrol as soon as online enrolment is available to them in the Student Centre in Mosaic. In addition, in the Faculty of Science, there are two types of courses for which permission must be obtained prior to registration. For these courses, students will be given seat authorizations rather than being admitted on a first-come basis.

Student Communication Responsibility

It is the student's responsibility to:

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

Students enrolled in Science programs, in addition to meeting the *General Academic Regulations* of the University, shall be subject to additional Faculty Regulations.

Admission to Level I Programs

The Faculty of Science offers the following Level I gateway programs leading to the

Honours Bachelor of Science, Honours Bachelor of Applied Science and Bachelor of Science programs at Level II:

- Chemical and Physical Sciences Gateway
- Environmental and Earth Sciences Gateway
- Life Sciences Gateway
- Mathematics and Statistics Gateway

Review of the Admission Requirements of Level II programs and successful completion of recommended courses in Level I will allow students a range of Level II program options including those from within their chosen Gateway as well as the others.

Additionally, the Faculty offers the following direct-entry Level I programs (and degrees):

- Honours Integrated Science (Leading to the Honours Bachelor of Science degree)
- Honours Kinesiology (Leading to the Honours Bachelor of Science Kinesiology degree)
- Medical Radiation Sciences (Leading to the Honours Bachelor of Medical Radiation Sciences degree)

Integrated Science Equitable Admissions for Black Applicants (EABA) Process

The EABA process aims to reduce barriers that may discourage Black-identifying applicants from applying to the Honours Integrated Science I Program, and to enhance accessibility and inclusiveness for Black-identified learners. Applicants who elect to use the EABA process need to apply for admission through normal processes. Applicants will have the opportunity to self-identify for the EABA as they submit their mandatory supplementary application. Applicants must meet the same minimum academic criteria for admission as for the general pool of candidates.

More details about the EABA process are available on the program website:

<https://science.mcmaster.ca/sis/undergraduate/isci/isci-admission-requirements.html>

Transfer/Application to Level I Honours Kinesiology

In-course, McMaster students seeking transfer/admission to Level I Honours Kinesiology for the following Fall or Winter Term must submit an Application for Admission through Mosaic by the stated deadline (normally April). Additionally, transfer students must submit the mandatory Supplemental Application to the Department of Kinesiology by the stated deadline. Students will be notified of their eligibility for transfer to Level I Honours Kinesiology through their Student Centre on MOSAIC in June. McMaster students interested in transferring should contact the Academic Program Advisor in the Department of Kinesiology or the Office of the Associate Dean of Science (Academic). Students transferring from another university should see the Admission Requirements and *Application Procedures* sections of this Calendar. A limited number of exceptionally qualified students are admitted each year. To be considered, applicants must have an average of at least 9.0 (B+) in a minimum of 24 units of university work, taken during the Fall and Winter Terms. Given the number of required units and prerequisites of Kinesiology courses, transfer students may not be able to complete the requirements in three additional years of study.

Admission to Level II Programs

All Level I students who wish to be reviewed for admission to a Level II program in the Faculty of Science for the following Fall/Winter Term must submit an Application for Admission to Level II through MOSAIC by the University stated deadline (normally in April). Students may rank up to four program choices. Rank ordering must be done very carefully because once admitted to a program, no further consideration is given to lower ranked choices.

Level I students must meet the admission criteria for a Level II program according to the Calendar in effect when they registered for Level I. Students must follow the program requirements of the Calendar in effect when they enter Level II, except when a later Calendar explicitly modifies such requirements.

Students who are in good academic standing, but who do not achieve the admission requirements for any Level II program may continue in the Faculty of Science in the undeclared 'Science' program, or may seek transfer to another Faculty.

Open Enrolment Programs

Admission at Level II (and above) is open for the following:

- [Honours Applied Psychology in Human Behaviour \(B.A.Sc.\)](#)
- [Honours Sustainable Chemistry \(B.A.Sc.\)](#)

- [Honours Astrophysics \(B.Sc.\)](#)
- [Honours Biodiversity and Environmental Sciences \(B.Sc.\)](#)
- [Honours Biology Core \(B.Sc.\)](#)
- [Honours Chemistry \(B.Sc.\)](#)
- [Honours Earth and Environmental Sciences \(B.Sc.\)](#)
- [Honours Environmental Sciences \(B.Sc.\)](#)
- [Honours Life Sciences \(B.Sc.\)](#)
- [Honours Mathematics and Physics \(B.Sc.\)](#)
- [Honours Mathematics and Statistics \(B.Sc.\)](#)
- [Honours Medical and Biological Physics \(B.Sc.\)](#)
- [Honours Physics \(B.Sc.\)](#)

- [Chemical and Physical Sciences \(B.Sc.\)](#)
- [Environmental Sciences \(B.Sc.\)](#)
- [Life Sciences \(B.Sc.\)](#)
- [Mathematical Science \(B.Sc.\)](#)

Limited Enrolment Programs

Admission at Level I (and above) is limited for the following programs:

- Honours Integrated Science
- Honours Kinesiology
- All Medical Radiation Sciences programs

Admission at Level II (and above) is limited for the following:

- Honours Actuarial and Financial Mathematics
- ~~Honours Astrophysics~~
- ~~All Honours Biochemistry programs (Last available September 2022)~~
- Honours Biology Research Specialization
- Honours Biology - Physiology Core ~~(First available September 2023)~~
- Honours Biology - Physiology Research Specialization
- Honours Biology and Mathematics
- Honours Biology and Psychology, Neuroscience & Behaviour
- Honours Chemical Biology
- Honours Applied Psychology in Human Behaviour - Autism and Behavioural Science Specialization
- Honours Applied Psychology in Human Behaviour - Early Childhood Studies Specialization
- Honours Life Sciences - Origins of Disease Specialization
- Honours Life Sciences - Sensory Motor Systems Specialization

- Honours Mathematics and Computer Science
 - Honours Molecular Biology and Genetics Core (~~First Available September 2023~~)
 - Honours Molecular Biology and Genetics Research Specialization
 - Honours Neuroscience
 - All Honours Psychology, Neuroscience & Behaviour programs
- All Co-op programs, beginning at Level III, are limited enrolment.

Transfers

Science students may be permitted to transfer between programs or students in other Faculties may apply to transfer to a program in the Faculty of Science provided they have obtained a Grade Point Average of at least 3.5 and have completed the necessary admission requirements. Such students must consult with an Academic Advisor in the Office of the Associate Dean of Science (Academic) to discuss process and the assessment of transfer credit.

Students transferring from a Bachelor of Technology program are only eligible to transfer to a Level I Gateway program and must meet all admission requirements to that program including the required entrance average. Such students must consult with an Academic Advisor in the Office of the Associate Dean of Science (Academic) to discuss process and the assessment of transfer credit. Given the number of required units and prerequisites of some Science courses, transfer students may not be able to complete the requirements in three additional years of study.

Minimum Requirements to Continue in the Faculty of Science

Further to the information found in the *General Academic Regulations* section of this Calendar:

Reinstatement

Students with an Academic Standing of *May Not Continue at the University* who wish to be considered for undergraduate studies must apply for reinstatement. Application for reinstatement must be made to the Office of the Registrar using the Reinstatement Request Form by the stated deadline. The Faculty of Science does not consider Requests for Reinstatement for the Spring/Summer Term. See the *Application Procedures* section of this Calendar. Reinstatement forms will be carefully reviewed and the evidence considered will include the student's academic performance before and after admission to McMaster, a letter of explanation and other appropriate documentation. **Reinstatement is not automatic or guaranteed.** Decisions are normally made after June 30 for September entry.

Effective September 1997, the Grade Point Average (formerly Cumulative Average) for students who are reinstated is reset to 0.0 on zero units. Credit is retained for courses in which passing grades have been achieved. **Note: If at a review after reinstatement the Grade Point Average falls below 3.5, the student will be required to withdraw from the University for a period of at least 12 months.**

Former Kinesiology students will be considered for reinstatement to Kinesiology upon completion of a minimum of 24 units of university work taken on a full-time basis in a non-Kinesiology program with a minimum average of 7.0 (B-). Application forms are available from the Office of the Associate Dean of Science (Academic) or the Department of Kinesiology. The application deadline is April 30 for September entry.

Reinstatement is not guaranteed.

Former Medical Radiation Sciences students will be considered for reinstatement to their program upon completion of a minimum of 24 units of university work taken on a full-time basis in a non-Medical Radiation Sciences program with a minimum average of 7.0 (B-). Application forms are available from the Office of the Associate Dean of Science

(Academic) or the School of Interdisciplinary Science (SIS). The application deadline is April 30 for September entry. **Reinstatement is not guaranteed.**

Deadlines

The Faculty of Science will not consider applications for admission, admission to a second degree or continuing studies, registration, deleting, cancelling, or adding of courses after the deadlines stated in this Calendar under Sessional Dates and Application Procedures sections, unless documentation showing good cause is submitted to the Office of the Associate Dean of Science (Academic).

Limited Enrolment Courses Requiring Pre-Registration Balloting

The Life Sciences program pre-registration ballot will include all Level IV Life Sciences research seminar courses. Students entering Level IV Honours Life Sciences (excluding those enrolled in a Specialization) must complete and submit a ballot, rank ordering their preference for enrolment in Level IV seminar offerings by **the end of March**. Students will be informed of their ballot result by the end of May. Failure to submit a ballot by the stated deadline may compromise enrolment in a preferred seminar. Ballots will be sent directly to students in Honours Life Sciences in the Winter Term.

The Department of Psychology, Neuroscience & Behaviour pre-registration ballot will include the thesis courses (PNB 4D06 A/B, 4D09 A/B, 4DD6 A/B) and the Independent Library Study and Independent Research courses (PNB 3Q03 A/B S, 3QM3 A/B S, 3QQ3 A/B S, 4Q03 A/B S, 4QQ3 A/B S, 4QQ6 A/B). Students wishing to take these courses must complete and submit a ballot by **mid February**. Students will be informed of the outcome by **mid March**. Specific dates will be announced during the Fall Term. Ballots can be obtained from the Department of Psychology, Neuroscience & Behaviour's web site at <http://www.science.mcmaster.ca/pnb/>.

Workload

All programs in the Faculty of Science may be taken by full-time and part-time students, with the exception of all Honours Co-op programs. Students enrolled in Co-op programs must maintain a full academic load during the study terms of their program.

Students must maintain a full academic load during the Fall/Winter Term to be eligible for scholarships available to full-time students.

Students are expected to avoid timetable conflicts among their courses, and students on a full academic load should ensure the number of courses is balanced in each term.

Students who wish to take more courses than recommended for a single level of their program may do so if their Grade Point Average on completion of the previous Fall/Winter Term is at least 7.0. Students registered in the final level of their program are permitted to overload by up to six additional units in order to become eligible to graduate.

Courses Requiring an Additional Fee

The Faculty offers courses that may require a payment of a fee, above the regular associated tuition. Examples include: field courses and experiential offerings. Some of these courses may be taken outside of the University's Sessional Dates.

Students who enrol in these types of offerings must pay **both**:

- a fee to the Department to cover travel expenses, room and board and
- the associated tuition fee to McMaster at time of registration.

Although students initially register for field courses through the appropriate departmental offices, it is their responsibility to include field courses on their registration forms for the appropriate session.

Detailed information regarding field courses and deadlines for registration may be obtained from the individual departmental offices.

Letter of Permission

All students in good academic standing, with the exception of students registered in second degree programs, may apply to the Office of the Associate Dean of Science (Academic) to take courses at another university on Letter of Permission. Students must achieve a grade of at least C- for transfer of credit. The transcript designation reads 'T', indicating *transfer*, when a grade of C- or better is attained, or *NC*, indicating *not complete*, when a grade of less than C- is attained.

Required courses given by the department offering the program may not be taken elsewhere unless departmental approval is given. Electives may be taken elsewhere. Courses taken at another university cannot be used to satisfy the University's minimum residence requirements, will not be included in the calculation of the Grade Point or Term Averages, and therefore cannot be used to raise standing. Students may take up to six units of courses towards a Minor on Letter of Permission.

Student Exchanges

McMaster University has agreements with institutions in Canada and abroad including Australia, Denmark, France and the United Kingdom to provide students with the opportunity to participate in an exchange program for one year or term. Exchanges allow students to gain a varied perspective on their course of study and enhance their professional and personal goals. In addition, exchange programs offer students the most inexpensive means of studying abroad as students participating in these exchanges avoid the foreign fees by paying fees to McMaster.

All students must have completed at least one year of continuous study and be in good standing to be eligible to participate in an exchange. In most cases, students who participate in exchange programs go abroad for the third level of an Honours program. Students interested should begin discussions with the Office of the Associate Dean of Science (Academic) about one year before they plan to enrol elsewhere. Students must propose and submit an academic program to their Department for approval. Academic approval must be completed by the end of February for registration in the following Fall/Winter Term. In certain cases, students may be recommended for the Deans' Honour List on the basis of work undertaken while on exchange.

For further information please see *International Study* in the *General Academic Regulations* section in this Calendar. Information concerning exchanges can also be found from International Student Services. Acceptance to the Ontario and University-wide Exchange Programs is by recommendation. Application forms can be obtained from:

International Student Services / MacAbroad

Gilmour Hall, Room 110

Telephone: (905) 525-9140, extension 24748

Transfers

~~Science students may be permitted to transfer between programs or students in other Faculties may apply to transfer to a program in the Faculty of Science provided they have obtained a Grade Point Average of at least 3.5 and have completed the necessary admission requirements. Such students must consult with an Academic Advisor in the Office of the Associate Dean of Science (Academic) to discuss process and the assessment of transfer credit.~~

~~Students transferring from a Bachelor of Technology program are only eligible to transfer to a Level I Gateway program and must meet all admission requirements to that program including the required entrance average. Such students must consult with an Academic Advisor in the Office of the Associate Dean of Science (Academic) to discuss~~

process and the assessment of transfer credit. Given the number of required units and prerequisites of some Science courses, transfer students may not be able to complete the requirements in three additional years of study.

~~Transfer/Application to Level I Honours Kinesiology~~

~~In-course, McMaster students seeking transfer/admission to Level I Honours Kinesiology for the following Fall or Winter Term must submit an Application for Admission through Mosaic by the stated deadline (normally April). Additionally, transfer students must submit the mandatory Supplemental Application to the Department of Kinesiology by the stated deadline. Students will be notified of their eligibility for transfer to Level I Honours Kinesiology through their Student Centre on MOSAIC in June. McMaster students interested in transferring should contact the Academic Program Advisor in the Department of Kinesiology or the Office of the Associate Dean of Science (Academic). Students transferring from another university should see the Admission Requirements and Application Procedures sections of this Calendar. A limited number of exceptionally qualified students are admitted each year. To be considered, applicants must have an average of at least 9.0 (B+) in a minimum of 24 units of university work, taken during the Fall and Winter Terms. Given the number of required units and prerequisites of Kinesiology courses, transfer students may not be able to complete the requirements in three additional years of study.~~

Justification 2.4: Inclusion of Level 1 Admission information for all students and inclusion of the Integrated Science Equitable Admission for Black Applicants (EABA) process. The process is being piloted in 2023. Black applicants self-identify for participation in the EABA process that will have their submitted supplementary application for the program reviewed by a 1) panel of Black faculty, staff, students, community partners; and 2) the regular review committee.

The goal of the EABA process is to reduce bias in the evaluation of applications and allow the applicant's submission to be reviewed by a committee with cultural familiarity and experience. This process will give confidence to applicants that they can speak freely when answering questions about their lived academic and personal experiences, without fears of having to tailor or modify answers to subvert bias.

An existing EABA process is currently administered for the Honours Bachelor of Health Sciences Program:

- <https://bhsc.mcmaster.ca/equitable-admissions-for-black-applicants-2/>
- https://www.macvideo.ca/media/Equitable+Admissions+for+Black+Applicants/1_hx97v1ok

Making this process available to prospective iSci applicants will help reduce barriers of consideration for students unsure about participating in and submitting a written application. It is an important step in recognizing that we must modify our administrative functions to realize a diverse student population.

Other changes to this section are administrative/housekeeping in nature. We are listing both open and limited-enrolment programs for our students so that the information is easily accessible in a contextually-relevant section of calendar.

FACULTY OF SCIENCE

REPORT TO UNDERGRADUATE COUNCIL CURRICULUM & ADMISSIONS – FEBRUARY ADDENDA

Following, is the summary of substantive curriculum changes being proposed by the Faculty of Science. For a complete review of all changes, refer to the November 17, 2022, Report of the Academic Planning and Policy Committee for changes to the 2023-2024 Undergraduate Calendar, found at:

<https://macdrive.mcmaster.ca/f/c379238830c644a39a95/>

School of Interdisciplinary Science

1.0 NEW PROGRAMS:

2.0 CHANGES TO EXISTING PROGRAMS:

2.1 Medical Radiation Sciences

<https://science.mcmaster.ca/sis/undergraduate/medical-radiation-sciences.html>

Effective September 2023, the Bachelor of Medical Radiation Sciences (B.M.R.Sc.) degree will be replaced by an Honours Bachelor of Medical Radiation Sciences (B.M.R.Sc.) degree. All students currently registered in this program will be transfer to Honours Bachelor of Medical Radiation Sciences (B.M.R.Sc.) degree programs and will graduate with the new degree designation.

This program is offered jointly in partnership with Mohawk College of Applied Arts and Technology and McMaster University. Students pursue two qualifications simultaneously, and graduates receive the Ontario College Advanced Diploma in Medical Radiation Sciences from Mohawk College and the McMaster **Honours Bachelor of Medical Radiation Sciences degree.**

Students enrolled in the Medical Radiation Sciences programs, in addition to meeting the *General Academic Regulations* of the University, shall be subject to the following program regulations. Since the academic regulations are continually reviewed, the University reserves the right to change the regulations.

Registration in the Medical Radiation Sciences program implies acceptance on the part of the student of the objectives of the program and the methods by which progress toward the achievement of those objectives is evaluated.

2.2. **Honours** Medical Radiation Sciences - Radiation Therapy Specialization (B.M.R.Sc.)

Effective September 2023, the Bachelor of Medical Radiation Sciences – Radiation Therapy Specialization (B.M.R.Sc.) degree will be replaced by an Honours Bachelor of Medical Radiation Sciences – Radiation Therapy Specialization (B.M.R.Sc.) degree. All students currently registered in this program will be transfer to Honours Bachelor of Medical Radiation Sciences – Radiation Therapy Specialization (B.M.R.Sc.) degree programs and will graduate with the new degree designation.

Program Notes

3. Students in this program pursue two qualifications simultaneously, and graduates receive the Ontario College Advanced Diploma in Medical Radiation Sciences from Mohawk College and the McMaster **Honours** Bachelor of Medical Radiation Sciences degree.

4. The timing of the Spring/Summer and the Level III and IV Fall/Winter Terms may not adhere to the *Sessional Dates*, as published in this Calendar.

Admission

Enrolment in this program is limited and admission is by selection but requires, as a minimum, completion of Level I Medical Radiation Sciences with a Fall-Winter Average (on a minimum of 24 units) of at least 5.0 and a Grade Point Average of at least 5.0 including:

12 units

- LIFESCI 1D03 - Medical Imaging Physics
- MEDRADSC 1B03 - Introduction to Pathology
- MEDRADSC 1E03 - Inquiry in Medical Radiation Sciences
- MEDRADSC 1F03 - Professions in Medical Radiation Sciences

3 units

- BIOLOGY 1A03 - Cellular and Molecular Biology

6 units

- KINESIOL 1Y03 - Human Anatomy and Physiology I
- KINESIOL 1YY3 - Human Anatomy and Physiology II

3 units

from

- MATH 1A03 - Calculus For Science I
- MATH 1LS3 - Calculus for the Life Sciences I
- MATH 1MM3 - Applied Calculus

Requirements

150 units total (Levels I to IV), 45 units of clinical practicum are interspersed with 75 units of academic courses in Levels II to IV

Level I: 30 Units

30 units

(See *Admission* above.)

Level II

Fall and Winter Terms: 30 units:

27 units

from

- MEDRADSC 2A03 - Patient Care
- MEDRADSC 2AA3 - Imaging Procedures in Health Care
- MEDRADSC 2D03 - Relational Anatomy I
- MEDRADSC 2RA3 - Relational Anatomy II
- MEDRADSC 2S03 - Clinical Oncology I
- MEDRADSC 2T03 - Clinical Oncology II
- MEDRADSC 2U03 - Radiation Therapy Skills I
- MEDRADSC 2W03 - Physics and Instrumentation for Radiation Therapy
- MEDRADSC 2X03 - Radiobiology and Protection
- MEDRADSC 2Z03

3 units

- Electives

Spring/Summer Term: 15 units:

(See *Program Note 2* above.)

15 units

- MEDRADSC 2V15 - Radiation Therapy Clinical Practicum I

Level III

Fall and Winter Terms: 30 units:

21 units
from

- MEDRADSC 3DA3 - Advanced Studies in Computed Tomography
- MEDRADSC 3K03 - Computed Tomography
- MEDRADSC 3LA3 - Radiation Therapy Skills II
- MEDRADSC 3S03 - Treatment Planning I
- MEDRADSC 3V03 - Treatment Planning II
- MEDRADSC 3W03
- MEDRADSC 3X03 - Research Methods in Medical Radiation Sciences
- MEDRADSC 3Y03 - Ethics for Medical Radiation Sciences

3 units

- STATS 2B03 - Statistical Methods for Science

3 units

from

- PSYCH 1F03 - Survey of Psychology
- PSYCH 1X03 - Introduction to Psychology, Neuroscience & Behaviour

3 units

- Electives

Spring/Summer Term: 15 units:

(See *Program Note 2* above.)

9 units

from

- MEDRADSC 3AA3 - Interdisciplinary Health Care
- MEDRADSC 3B03 - Quality Management in Medical Radiation Sciences
- MEDRADSC 3BB3
- MEDRADSC 3LB3 - Radiation Therapy Skills III

6 units

- Electives

which may include

- MEDRADSC 3DE3 - Introduction to Magnetic Resonance Imaging
- MEDRADSC 3Z06 - Research Project

Level IV

Fall and Winter Terms: 30 units:

30 units

- MEDRADSC 4E15 - Radiation Therapy Clinical Practicum II
- MEDRADSC 4F15 - Radiation Therapy Clinical Practicum III

Program Chart

	FALL TERM (September to December)	WINTER TERM (January to April)	SPRING/SUMMER TERM (May to August)
Level II	30 units from Academic Level II		Clinical Practicum I
Level III	45 units from Academic Level III		
Level IV	Clinical Practicum II	Clinical Practicum III	

2.3. Honours Medical Radiation Sciences - Radiography Specialization (B.M.R.Sc.)
Effective September 2023, the Bachelor of Medical Radiation Sciences – Radiography Specialization (B.M.R.Sc.) degree will be replaced by an Honours Bachelor of Medical Radiation Sciences – Radiography Specialization (B.M.R.Sc.) degree. All students currently registered in this program will be transfer to Honours Bachelor of Medical Radiation Sciences – Radiography Specialization (B.M.R.Sc.) degree programs and will graduate with the new degree designation.

Program Notes

3. Students in this program pursue two qualifications simultaneously, and graduates receive the Ontario College Advanced Diploma in Medical Radiation Sciences from Mohawk College and the McMaster Bachelor of Medical Radiation Sciences degree.

4. The timing of the Spring/Summer and the Level III and IV Fall/Winter Terms may not adhere to the *Sessional Dates*, as published in this Calendar.

Admission

Enrolment in this program is limited and admission is by selection but requires, as a minimum, completion of Level I Medical Radiation Sciences with a Fall-Winter Average (on a minimum of 24 units) of at least 5.0 and a Grade Point Average of at least 5.0 including:

12 units

- LIFESCI 1D03 - Medical Imaging Physics
- MEDRADSC 1B03 - Introduction to Pathology
- MEDRADSC 1E03 - Inquiry in Medical Radiation Sciences
- MEDRADSC 1F03 - Professions in Medical Radiation Sciences

3 units

- BIOLOGY 1A03 - Cellular and Molecular Biology

6 units

- KINESIOL 1Y03 - Human Anatomy and Physiology I
- KINESIOL 1YY3 - Human Anatomy and Physiology II

3 units

from

- MATH 1A03 - Calculus For Science I
- MATH 1LS3 - Calculus for the Life Sciences I
- MATH 1MM3 - Applied Calculus

Requirements

150 units total (Levels I to IV), 45 units of clinical practicum are interspersed with 75 units of academic courses in Levels II to IV

Level I: 30 Units

30 units

(See *Admission* above.)

Level II

Fall and Winter Terms: 30 units:

27 units

from

- MEDRADSC 2A03 - Patient Care
- MEDRADSC 2AA3 - Imaging Procedures in Health Care
- MEDRADSC 2BB3
- MEDRADSC 2D03 - Relational Anatomy I
- MEDRADSC 2G03 - Radiographic Skills I
- MEDRADSC 2H03 - Radiographic Skills II
- MEDRADSC 2I03 - Pathology and Procedures I
- MEDRADSC 2RA3 - Relational Anatomy II
- MEDRADSC 2X03 - Radiobiology and Protection
- MEDRADSC 2Y03 - Radiographic Imaging and Instrumentation I

3 units

- Electives

Spring/Summer Term: 15 units:

(See *Program Note 2* above.)

15 units

- MEDRADSC 2J15 - Radiography Clinical Practicum I

Level III

Fall and Winter Terms: 30 units:

21 units

- MEDRADSC 3DA3 - Advanced Studies in Computed Tomography
- MEDRADSC 3G03 - Radiographic Imaging and Instrumentation II
- MEDRADSC 3H03 - Quality Control in Radiography
- MEDRADSC 3J03 - Pathology and Procedures II
- MEDRADSC 3K03 - Computed Tomography
- MEDRADSC 3X03 - Research Methods in Medical Radiation Sciences
- MEDRADSC 3Y03 - Ethics for Medical Radiation Sciences

3 units

- STATS 2B03 - Statistical Methods for Science

3 units

from

- PSYCH 1F03 - Survey of Psychology
- PSYCH 1X03 - Introduction to Psychology, Neuroscience & Behaviour

3 units

- Electives

Spring/Summer Term: 15 units:

(See *Program Note 2* above.)

9 units

- MEDRADSC 3AA3 - Interdisciplinary Health Care
- MEDRADSC 3B03 - Quality Management in Medical Radiation Sciences
- MEDRADSC 3L03 - Radiographic Skills III

6 units

- Electives

which may include

- MEDRADSC 3DE3 - Introduction to Magnetic Resonance Imaging
- MEDRADSC 3Z06 - Research Project

Level IV

Fall and Winter Terms: 30 units:

30 units

- MEDRADSC 4A15 - Radiography Clinical Practicum II
- MEDRADSC 4B15 - Radiography Clinical Practicum III

Program Chart

	FALL TERM (September to December)	WINTER TERM (January to April)	SPRING/SUMMER TERM (May to August)
Level II	30 units from Academic Level II		Clinical Practicum I
Level III	45 units from Academic Level III		
Level IV	Clinical Practicum II	Clinical Practicum III	

2.4. Honours Medical Radiation Sciences - Ultrasonography Specialization (B.M.R.Sc.)

Effective September 2023, the Bachelor of Medical Radiation Sciences –

Ultrasonography Specialization (B.M.R.Sc.) degree will be replaced by an Honours Bachelor of Medical Radiation Sciences – Ultrasonography Specialization (B.M.R.Sc.)

degree. All students currently registered in this program will be transfer to Honours Bachelor of Medical Radiation Sciences – Ultrasonography Specialization (B.M.R.Sc.) degree programs and will graduate with the new degree designation.

Program Notes

3. Students in this program pursue two qualifications simultaneously, and graduates receive the Ontario College Advanced Diploma in Medical Radiation Sciences from Mohawk College and the McMaster Bachelor of Medical Radiation Sciences degree.

4. The timing of the Spring/Summer and the Level III and IV Fall/Winter Terms may not adhere to the *Sessional Dates*, as published in this Calendar.

Admission

Enrolment in this program is limited and admission is by selection but requires, as a minimum, completion of Level I Medical Radiation Sciences with a Fall-Winter Average (on a minimum of 24 units) of at least 5.0 and a Grade Point Average of at least 5.0 including:

12 units

- LIFESCI 1D03 - Medical Imaging Physics
- MEDRADSC 1B03 - Introduction to Pathology
- MEDRADSC 1E03 - Inquiry in Medical Radiation Sciences
- MEDRADSC 1F03 - Professions in Medical Radiation Sciences

3 units

- BIOLOGY 1A03 - Cellular and Molecular Biology

6 units

- KINESIOL 1Y03 - Human Anatomy and Physiology I
- KINESIOL 1YY3 - Human Anatomy and Physiology II

3 units

from

- MATH 1A03 - Calculus For Science I
- MATH 1LS3 - Calculus for the Life Sciences I
- MATH 1MM3 - Applied Calculus

Requirements

150 units total (Levels I to IV), 45 units of clinical practicum are interspersed with 75 units of academic courses in Levels II to IV

Level I: 30 Units

30 units

(See *Admission* above.)

Level II

Fall and Winter Terms: 30 units:

27 units

from

- MEDRADSC 2A03 - Patient Care
- MEDRADSC 2AA3 - Imaging Procedures in Health Care
- MEDRADSC 2BB3
- MEDRADSC 2K03 - Applied Sonographic Physics and Instrumentation I
- MEDRADSC 2L03 - Abdominal Ultrasonography I
- MEDRADSC 2M03 - Obstetrical and Gynecologic Ultrasonography I
- MEDRADSC 2N03 - Sonographic Skills I
- MEDRADSC 2O03 - Abdominal Ultrasonography II
- MEDRADSC 2P03 - Obstetrical and Gynecological Ultrasonography II
- MEDRADSC 2Q03 - Sonographic Skills II

3 units

- Electives

Spring/Summer Term: 15 units:

(See *Program Note 2* above.)

15 units

- MEDRADSC 2R15 - Ultrasonography Clinical Practicum I

Level III

Fall and Winter Terms: 30 units:

21 units

- MEDRADSC 3N03 - Vascular Ultrasonography
- MEDRADSC 3O03 - Sonographic Skills III
- MEDRADSC 3P03 - Obstetrical and Gynecologic Ultrasonography III
- MEDRADSC 3Q03 - Applied Sonographic Physics and Instrumentation II
- MEDRADSC 3R03 - Musculoskeletal Ultrasonography
- MEDRADSC 3X03 - Research Methods in Medical Radiation Sciences
- MEDRADSC 3Y03 - Ethics for Medical Radiation Sciences

3 units

- STATS 2B03 - Statistical Methods for Science

3 units

from

- PSYCH 1F03 - Survey of Psychology
- PSYCH 1X03 - Introduction to Psychology, Neuroscience & Behaviour

3 units

- Electives

Spring/Summer Term: 15 units:

(See *Program Note 2* above.)

9 units

from

- MEDRADSC 3AA3 - Interdisciplinary Health Care
- MEDRADSC 3DJ3 - Pediatric Sonography
- MEDRADSC 3M03 - Abdominal Ultrasonography III

6 units

- Electives

which may include

- MEDRADSC 3B03 - Quality Management in Medical Radiation Sciences
- MEDRADSC 3DE3 - Introduction to Magnetic Resonance Imaging
- MEDRADSC 3Z06 - Research Project

Level IV

Fall and Winter Terms: 30 units:

30 units

- MEDRADSC 4C15 - Ultrasonography Clinical Practicum II
- MEDRADSC 4D15 - Ultrasonography Clinical Practicum III

Program Chart

	FALL TERM (September to December)	WINTER TERM (January to April)	SPRING/SUMMER TERM (May to August)
Level II	30 units from Academic Level II		Clinical Practicum I
Level III	45 units from Academic Level III		
Level IV	Clinical Practicum II	Clinical Practicum III	

Justification 2.1 – 2.4

Mohawk/McMaster's collaborative Medical Radiation Sciences undergraduate degree is a comprehensive 10 semester program of studies. This program offers exposure to one of the following specializations; radiography, sonography or radiation therapy as well as exposure to research, ethics and patient care. Students participate in structured clinical placements through

their education where skills learned are applied and critical thinking skills are enhanced. The Program Learning Outcomes map directly to the Degree Level (DLE)– Honours Expectations meeting all the DLEs required to contribute to the success of the program.

The employment rate for graduates from the Medical Radiation Sciences program is excellent. Most students go on to careers as Medical Technologists. However, there are some students that, during their study, develop a keen interest in research and would like to go on to further graduate studies. The current non-honours status of the program can put barriers in the way for some of these students. Graduate programs at most universities require an Honours program as an entry requirement. The addition of the Honours distinction will increase capacity for scholarly practice and enhance the student experience and potentially present additional opportunities for MRS graduates.

3.0 NEW COURSES:
No new courses

4.0 CHANGES TO EXISTING COURSES:
No changes

Department of Kinesiology

1. NEW PROGRAMS:

2. PROGRAM CLOSURES:

3. CHANGES TO EXISTING PROGRAMS:

4. NEW COURSES:

5. CHANGES TO EXISTING COURSES:

5.1. KINESIOL 4C03 - Integrative ~~Exercise~~ Physiology of ~~Human Performance~~

3 unit(s)

A detailed analysis of the physiological factors that regulate human performance. Emphasis is placed on the integrative response to exercise including the influence of physical training and altered environmental conditions.

Lectures (~~two~~ one hours), web module (one hour), lab (three hours); one term

Prerequisite(s): KINESIOL 2CC3 and registration in Level III or above of Honours Kinesiology; or BIOLOGY 2A03, KINESIOL 2CC3 and registration in an Honours Biology - Physiology program.

Justification:

This course was approved for blended in 2022-23, but the calendar change was not made. Performance removed from title as the focus of the course includes both performance and health.

Faculty of Science – General Sections – February addendum

1. NEW PROGRAMS:

No new programs.

2. CHANGES TO EXISTING PROGRAMS:

2.1. Degree Programs

Honours Bachelor of Medical Radiation Sciences Program

Effective September 2023, the Bachelor of Medical Radiation Sciences (B.M.R.Sc.) degree will be replaced by an Honours Bachelor of Medical Radiation Sciences (B.M.R.Sc.) degree. All students currently registered in this program will be transferred to Honours Bachelor of Medical Radiation Sciences (B.M.R.Sc.) degree programs and will graduate with the new degree designation.

The Honours Bachelor of Medical Radiation Sciences Program is offered jointly in partnership by McMaster University and Mohawk College of Applied Arts and Technology. Students pursue two qualifications simultaneously, and graduates receive the McMaster Honours Bachelor of Medical Radiation Sciences degree and the Ontario College Advanced Diploma in Medical Radiation Sciences from Mohawk. The program requires 150 units. Levels II through IV of the program run consecutively from September of Level II to completion of the program at the end of April in Level IV.

Justification 2.1: Mohawk/McMaster's collaborative Medical Radiation Sciences undergraduate degree is a comprehensive 10 semester program of studies. This program offers exposure to one of the following specializations; radiography, sonography or radiation therapy as well as exposure to research, ethics and patient care. Students participate in structured clinical placements through their education where skills learned are applied and critical thinking skills are enhanced. The Program Learning Outcomes map directly to the Degree Level (DLE)– Honours Expectations meeting all the DLEs required to contribute to the success of the program.

The employment rate for graduates from the Medical Radiation Sciences program is excellent. Most students go on to careers as Medical Technologists. However, there are some students that, during their study, develop a keen interest in research and would like to go on to further graduate studies. The current non-honours status of the program can put barriers in the way for some of these students. Graduate programs at most universities require an Honours program as an entry requirement. The addition of the Honours distinction will increase capacity for scholarly practice and enhance the student experience and potentially present additional opportunities for MRS graduates.

2.2. Concurrent Certificates

A credential is a body or collection of academic work that stands on its own. McMaster credentials include certificates, diplomas and degrees. A single course is permitted to be counted toward a maximum of two credentials. Concurrent certificates are a recognized credential and open to undergraduate students. Additional restrictions regarding completion and/or overlap with a student's enrolled program (major) may apply. All courses have an enrolment capacity and the Faculty cannot guarantee enrolment, even when all requisites have been met. Therefore, the completion of a Concurrent Certificate may not be guaranteed. Students apply for recognition of the Concurrent Certificate, at the time of graduation.

Concurrent Certificates offered by the Faculty of Science:

- Geographic Information Science (GIS)
- Science Communication
- Urban Studies and Planning

For a complete list of Concurrent Certificates available, students should see the 'Concurrent

Certificates' section of this Calendar.

Justification 2.2: Introduction of Science Communication certificate. This certificate provides a pathway for students within and outside the Faculty of Science to gain credentials in science communication through interdisciplinary coursework and experiential learning. McMaster is unique in its science communication offerings, and job opportunities in science communication are growing. This certificate curates courses from across campus in bioethics, outreach and education, marketing and persuasion, policy and advocacy, media studies and the sociology of science to provide students with a strong theoretical base and practical experience in science communication. Students will leave with a portfolio of work they can share with potential employers or research supervisors. Certificate was approved the Certificates & Diplomas meeting in their January 2023 meeting.

2.3. **Bachelor of Medical Radiation Sciences Program**

Effective September 2023, the Bachelor of Medical Radiation Sciences (B.M.R.Sc.) degree will be replaced by an Honours Bachelor of Medical Radiation Sciences (B.M.R.Sc.) degree. All students currently registered in this program will be transferred to Honours Bachelor of Medical Radiation Sciences (B.M.R.Sc.) degree programs and will graduate with the new degree designation.

~~The Bachelor of Medical Radiation Sciences Program is offered jointly in partnership by McMaster University and Mohawk College of Applied Arts and Technology. Students pursue two qualifications simultaneously, and graduates receive the McMaster Bachelor of Medical Radiation Sciences degree and the Ontario College Advanced Diploma in Medical Radiation Sciences from Mohawk. The program requires 150 units. Levels II through IV of the program run consecutively from September of Level II to completion of the program at the end of April in Level IV.~~

Justification 2.3: Appropriate notation for students that Bachelor of Medical Radiation Sciences program is changing to Honours program.

2.4. **Academic Regulations**

Student Academic Responsibility

You are responsible for adhering to the statement on student academic responsibility found in the *General Academic Regulations* of this calendar.

Access to Courses

All undergraduate courses at McMaster have an enrolment capacity. The University is committed to making every effort to accommodate students in required courses so that their program of study is not extended. Unless otherwise specified, registration is on a first-come basis and in some cases, priority is given to students from particular programs or Faculties. Students will be informed of their enrolment periods and are encouraged to enrol as soon as online enrolment is available to them in the Student Centre in Mosaic. In addition, in the Faculty of Science, there are two types of courses for which permission must be obtained prior to registration. For these courses, students will be given seat authorizations rather than being admitted on a first-come basis.

Student Communication Responsibility

It is the student's responsibility to:

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

Students enrolled in Science programs, in addition to meeting the *General Academic Regulations* of the University, shall be subject to additional Faculty Regulations.

Admission to Level I Programs

The Faculty of Science offers the following Level I gateway programs leading to the Honours Bachelor of Science, Honours Bachelor of Applied Science and Bachelor of Science programs at Level II:

- Chemical and Physical Sciences Gateway
- Environmental and Earth Sciences Gateway
- Life Sciences Gateway
- Mathematics and Statistics Gateway

Review of the Admission Requirements of Level II programs and successful completion of recommended courses in Level I will allow students a range of Level II program options including those from within their chosen Gateway as well as the others.

Additionally, the Faculty offers the following direct-entry Level I programs (and degrees):

- Honours Integrated Science (Leading to the Honours Bachelor of Science degree)
- Honours Kinesiology (Leading to the Honours Bachelor of Science Kinesiology degree)
- Medical Radiation Sciences (Leading to the Honours Bachelor of Medical Radiation Sciences degree)

Integrated Science Equitable Admissions for Black Applicants (EABA) Process

The EABA process aims to reduce barriers that may discourage Black-identifying applicants from applying to the Honours Integrated Science I Program, and to enhance accessibility and inclusiveness for Black-identified learners. Applicants who elect to use the EABA process need to apply for admission through standard processes. Applicants will have the opportunity to self-identify for the EABA as they submit their mandatory supplementary application. Applicants must meet the same minimum academic criteria for admission as for the general pool of candidates.

More details about the EABA process are available on the program website:

<https://science.mcmaster.ca/sis/undergraduate/isci/isci-admission-requirements.html>

Transfer/Application to Level I Honours Kinesiology

In-course, McMaster students seeking transfer/admission to Level I Honours Kinesiology for the following Fall or Winter Term must submit an Application for Admission through Mosaic by the stated deadline (normally April). Additionally, transfer students must submit the mandatory Supplemental Application to the Department of Kinesiology by the stated deadline. Students will be notified of their eligibility for transfer to Level I Honours Kinesiology through their Student Centre on MOSAIC in June. McMaster students interested in transferring should contact the Academic Program Advisor in the Department of Kinesiology or the Office of the Associate Dean of Science (Academic). Students transferring from another university should see the Admission Requirements and *Application Procedures* sections of this Calendar. A limited number of exceptionally qualified students are admitted each year. To be considered, applicants must have an average of at least 9.0 (B+) in a minimum of 24 units of university work, taken during the Fall and Winter Terms. Given the number of required units and prerequisites of Kinesiology courses, transfer students may not be able to complete the requirements in three additional years of study.

Admission to Level II Programs

All Level I students who wish to be reviewed for admission to a Level II program in the Faculty of Science for the following Fall/Winter Term must submit an Application for Admission to Level II through MOSAIC by the University stated deadline (normally in April). Students may rank up to four program choices. Rank ordering must be done very carefully because once admitted to

a program, no further consideration is given to lower ranked choices.

Level I students must meet the admission criteria for a Level II program according to the Calendar in effect when they registered for Level I. Students must follow the program requirements of the Calendar in effect when they enter Level II, except when a later Calendar explicitly modifies such requirements.

Students who are in good academic standing, but who do not achieve the admission requirements for any Level II program may continue in the Faculty of Science in the undeclared 'Science' program, or may seek transfer to another Faculty.

Open Enrolment Programs

Admission at Level II (and above) is open for the following:

- [Honours Applied Psychology in Human Behaviour \(B.A.Sc.\)](#)
- [Honours Sustainable Chemistry \(B.A.Sc.\)](#)

- [Honours Astrophysics \(B.Sc.\)](#)
- [Honours Biodiversity and Environmental Sciences \(B.Sc.\)](#)
- [Honours Biology Core \(B.Sc.\)](#)
- [Honours Chemistry \(B.Sc.\)](#)
- [Honours Earth and Environmental Sciences \(B.Sc.\)](#)
- [Honours Environmental Sciences \(B.Sc.\)](#)
- [Honours Life Sciences \(B.Sc.\)](#)
- [Honours Mathematics and Physics \(B.Sc.\)](#)
- [Honours Mathematics and Statistics \(B.Sc.\)](#)
- [Honours Medical and Biological Physics \(B.Sc.\)](#)
- [Honours Physics \(B.Sc.\)](#)

- [Chemical and Physical Sciences \(B.Sc.\)](#)
- [Environmental Sciences \(B.Sc.\)](#)
- [Life Sciences \(B.Sc.\)](#)
- [Mathematical Science \(B.Sc.\)](#)

Limited Enrolment Programs

Admission at Level I (and above) is limited for the following programs:

- Honours Integrated Science
- Honours Kinesiology
- All Medical Radiation Sciences programs

Admission at Level II (and above) is limited for the following:

- Honours Actuarial and Financial Mathematics
- ~~Honours Astrophysics~~
- ~~All Honours Biochemistry programs (Last available September 2022)~~
- Honours Biology Research Specialization
- Honours Biology - Physiology Core ~~(First available September 2023)~~
- Honours Biology - Physiology Research Specialization
- Honours Biology and Mathematics
- Honours Biology and Psychology, Neuroscience & Behaviour
- Honours Chemical Biology
- Honours Applied Psychology in Human Behaviour - Autism and Behavioural Science Specialization
- Honours Applied Psychology in Human Behaviour - Early Childhood Studies Specialization
- Honours Life Sciences - Origins of Disease Specialization

- Honours Life Sciences - Sensory Motor Systems Specialization
- Honours Mathematics and Computer Science
- Honours Molecular Biology and Genetics Core (~~First Available September 2023~~)
- Honours Molecular Biology and Genetics Research Specialization
- Honours Neuroscience
- All Honours Psychology, Neuroscience & Behaviour programs

All Co-op programs, beginning at Level III, are limited enrolment.

Transfers

Science students may be permitted to transfer between programs or students in other Faculties may apply to transfer to a program in the Faculty of Science provided they have obtained a Grade Point Average of at least 3.5 and have completed the necessary admission requirements. Such students must consult with an Academic Advisor in the Office of the Associate Dean of Science (Academic) to discuss process and the assessment of transfer credit.

Students transferring from a Bachelor of Technology program are only eligible to transfer to a Level I Gateway program and must meet all admission requirements to that program including the required entrance average. Such students must consult with an Academic Advisor in the Office of the Associate Dean of Science (Academic) to discuss process and the assessment of transfer credit. Given the number of required units and prerequisites of some Science courses, transfer students may not be able to complete the requirements in three additional years of study.

Minimum Requirements to Continue in the Faculty of Science

Further to the information found in the *General Academic Regulations* section of this Calendar: Reinstatement

Students with an Academic Standing of *May Not Continue at the University* who wish to be considered for undergraduate studies must apply for reinstatement. Application for reinstatement must be made to the Office of the Registrar using the Reinstatement Request Form by the stated deadline. The Faculty of Science does not consider Requests for Reinstatement for the Spring/Summer Term. See the *Application Procedures* section of this Calendar. Reinstatement forms will be carefully reviewed and the evidence considered will include the student's academic performance before and after admission to McMaster, a letter of explanation and other appropriate documentation. **Reinstatement is not automatic or guaranteed.** Decisions are normally made after June 30 for September entry.

Effective September 1997, the Grade Point Average (formerly Cumulative Average) for students who are reinstated is reset to 0.0 on zero units. Credit is retained for courses in which passing grades have been achieved. **Note: If at a review after reinstatement the Grade Point Average falls below 3.5, the student will be required to withdraw from the University for a period of at least 12 months.**

Former Kinesiology students will be considered for reinstatement to Kinesiology upon completion of a minimum of 24 units of university work taken on a full-time basis in a non-Kinesiology program with a minimum average of 7.0 (B-). Application forms are available from the Office of the Associate Dean of Science (Academic) or the Department of Kinesiology. The application deadline is April 30 for September entry. **Reinstatement is not guaranteed.**

Former Medical Radiation Sciences students will be considered for reinstatement to their program upon completion of a minimum of 24 units of university work taken on a full-time basis in a non-Medical Radiation Sciences program with a minimum average of 7.0 (B-). Application forms are available from the Office of the Associate Dean of Science (Academic) or the School of Interdisciplinary Science (SIS). The application deadline is April 30 for September entry.

Reinstatement is not guaranteed.

Deadlines

The Faculty of Science will not consider applications for admission, admission to a second degree or continuing studies, registration, deleting, cancelling, or adding of courses after the deadlines stated in this Calendar under Sessional Dates and Application Procedures sections, unless documentation showing good cause is submitted to the Office of the Associate Dean of Science (Academic).

Limited Enrolment Courses Requiring Pre-Registration Balloting

The Life Sciences program pre-registration ballot will include all Level IV Life Sciences research seminar courses. Students entering Level IV Honours Life Sciences (excluding those enrolled in a Specialization) must complete and submit a ballot, rank ordering their preference for enrolment in Level IV seminar offerings by **the end of March**. Students will be informed of their ballot result by the end of May. Failure to submit a ballot by the stated deadline may compromise enrolment in a preferred seminar. Ballots will be sent directly to students in Honours Life Sciences in the Winter Term.

The Department of Psychology, Neuroscience & Behaviour pre-registration ballot will include the thesis courses (PNB 4D06 A/B, 4D09 A/B, 4DD6 A/B) and the Independent Library Study and Independent Research courses (PNB 3Q03 A/B S, 3QM3 A/B S, 3QQ3 A/B S, 4Q03 A/B S, 4QQ3 A/B S, 4QQ6 A/B). Students wishing to take these courses must complete and submit a ballot by **mid February**. Students will be informed of the outcome by **mid March**. Specific dates will be announced during the Fall Term. Ballots can be obtained from the Department of Psychology, Neuroscience & Behaviour's web site at <http://www.science.mcmaster.ca/pnb/>.

Workload

All programs in the Faculty of Science may be taken by full-time and part-time students, with the exception of all Honours Co-op programs. Students enrolled in Co-op programs must maintain a full academic load during the study terms of their program.

Students must maintain a full academic load during the Fall/Winter Term to be eligible for scholarships available to full-time students.

Students are expected to avoid timetable conflicts among their courses, and students on a full academic load should ensure the number of courses is balanced in each term. Students who wish to take more courses than recommended for a single level of their program may do so if their Grade Point Average on completion of the previous Fall/Winter Term is at least 7.0.

Students registered in the final level of their program are permitted to overload by up to six additional units in order to become eligible to graduate.

Courses Requiring an Additional Fee

The Faculty offers courses that may require a payment of a fee, above the regular associated tuition. Examples include: field courses and experiential offerings. Some of these courses may be taken outside of the University's Sessional Dates.

Students who enrol in these types of offerings must pay **both**:

- a fee to the Department to cover travel expenses, room and board and
- the associated tuition fee to McMaster at time of registration.

Although students initially register for field courses through the appropriate departmental offices, it is their responsibility to include field courses on their registration forms for the appropriate session.

Detailed information regarding field courses and deadlines for registration may be obtained from the individual departmental offices.

Letter of Permission

All students in good academic standing, with the exception of students registered in second degree programs, may apply to the Office of the Associate Dean of Science (Academic) to take

courses at another university on Letter of Permission. Students must achieve a grade of at least C- for transfer of credit. The transcript designation reads 'T', indicating *transfer*, when a grade of C- or better is attained, or *NC*, indicating *not complete*, when a grade of less than C- is attained.

Required courses given by the department offering the program may not be taken elsewhere unless departmental approval is given. Electives may be taken elsewhere.

Courses taken at another university cannot be used to satisfy the University's minimum residence requirements, will not be included in the calculation of the Grade Point or Term Averages, and therefore cannot be used to raise standing. Students may take up to six units of courses towards a Minor on Letter of Permission.

Student Exchanges

McMaster University has agreements with institutions in Canada and abroad including Australia, Denmark, France and the United Kingdom to provide students with the opportunity to participate in an exchange program for one year or term. Exchanges allow students to gain a varied perspective on their course of study and enhance their professional and personal goals. In addition, exchange programs offer students the most inexpensive means of studying abroad as students participating in these exchanges avoid the foreign fees by paying fees to McMaster.

All students must have completed at least one year of continuous study and be in good standing to be eligible to participate in an exchange. In most cases, students who participate in exchange programs go abroad for the third level of an Honours program.

Students interested should begin discussions with the Office of the Associate Dean of Science (Academic) about one year before they plan to enrol elsewhere. Students must propose and submit an academic program to their Department for approval. Academic approval must be completed by the end of February for registration in the following Fall/Winter Term. In certain cases, students may be recommended for the Deans' Honour List on the basis of work undertaken while on exchange.

For further information please see *International Study* in the *General Academic Regulations* section in this Calendar. Information concerning exchanges can also be found from International Student Services. Acceptance to the Ontario and University-wide Exchange Programs is by recommendation. Application forms can be obtained from:

International Student Services / MacAbroad

Gilmour Hall, Room 110

Telephone: (905) 525-9140, extension 24748

Transfers

Science students may be permitted to transfer between programs or students in other Faculties may apply to transfer to a program in the Faculty of Science provided they have obtained a Grade Point Average of at least 3.5 and have completed the necessary admission requirements. Such students must consult with an Academic Advisor in the Office of the Associate Dean of Science (Academic) to discuss process and the assessment of transfer credit.

Students transferring from a Bachelor of Technology program are only eligible to transfer to a Level I Gateway program and must meet all admission requirements to that program including the required entrance average. Such students must consult with an Academic Advisor in the Office of the Associate Dean of Science (Academic) to discuss process and the assessment of transfer credit. Given the number of required units and prerequisites of some Science courses, transfer students may not be able to complete the requirements in three additional years of study.

Transfer/Application to Level I Honours Kinesiology

In-course, McMaster students seeking transfer/admission to Level I Honours Kinesiology for

~~the following Fall or Winter Term must submit an Application for Admission through Mosaic by the stated deadline (normally April). Additionally, transfer students must submit the mandatory Supplemental Application to the Department of Kinesiology by the stated deadline. Students will be notified of their eligibility for transfer to Level I Honours Kinesiology through their Student Centre on MOSAIC in June. McMaster students interested in transferring should contact the Academic Program Advisor in the Department of Kinesiology or the Office of the Associate Dean of Science (Academic). Students transferring from another university should see the Admission Requirements and Application Procedures sections of this Calendar. A limited number of exceptionally qualified students are admitted each year. To be considered, applicants must have an average of at least 9.0 (B+) in a minimum of 24 units of university work, taken during the Fall and Winter Terms. Given the number of required units and prerequisites of Kinesiology courses, transfer students may not be able to complete the requirements in three additional years of study.~~

Justification 2.4: Inclusion of Level 1 Admission information for all students and inclusion of the Integrated Science Equitable Admission for Black Applicants (EABA) process. The process is being piloted in 2023. Black applicants self-identify for participation in the EABA process that will have their submitted supplementary application for the program reviewed by a 1) panel of Black faculty, staff, students, community partners; and 2) the regular review committee.

The goal of the EABA process is to reduce bias in the evaluation of applications and allow the applicant's submission to be reviewed by a committee with cultural familiarity and experience. This process will give confidence to applicants that they can speak freely when answering questions about their lived academic and personal experiences, without fears of having to tailor or modify answers to subvert bias.

An existing EABA process is currently administered for the Honours Bachelor of Health Sciences Program:

- <https://bhsc.mcmaster.ca/equitable-admissions-for-black-applicants-2/>
- https://www.macvideo.ca/media/Equitable+Admissions+for+Black+Applicants/1_hx97v1ok

Making this process available to prospective iSci applicants will help reduce barriers of consideration for students unsure about participating in and submitting a written application.

It is an important step in recognizing that we must modify our administrative functions to realize a diverse student population.

Other changes to this section are administrative/housekeeping in nature. We are listing both open and limited-enrolment programs for our students so that the information is easily accessible in a contextually-relevant section of calendar.

3. NEW COURSES

3.1. SCIENCE 2AR3 – Foundations of Science: Equity, Justice and Anti-Racism in Science

3 unit(s)

In this course, students will be exposed to an interdisciplinary curriculum, which examines the intersections of equity, justice and anti-racism with science. Students will learn from case studies, literature and guest speakers about the following themes: current status of global science; demographics of scientists in North America and the world; historical trajectories of science disciplines; documented experiences and individual stories of racialized scientists, and scientists from other equity denied groups; progress, trends and issues of race and representation in science disciplines; equity and justice-centred language and terminology; and current initiatives and support systems available to students at McMaster.

Lectures (three hours); one term

Prerequisite(s): Registration in level II or above. ~~None~~

Capacity: 50 total; 40 from Faculty of Science and 10 from other Faculties

Justification 3.1: This course is part of the Anti-Racism, Inclusion and Equity in the Science Undergraduate Curriculum (ARIE) project that aims to integrate and build anti-racist, inclusive and equitable pedagogies in the Faculty of Science through a suite of new interdisciplinary elective undergraduate courses. This introductory course is intended to provide a foundation for students to examine their experiences as scientists through the lenses of equity, race, and issues of social justice. Co-developed with student partners, the curriculum aims to provide an authentic, student-centred and evidence-based perspective. This course will be supported and led by the Office of the Associate Dean (Equity, Diversity, Inclusion, Indigeneity). The course code SCIENCE signifies the cross-Faculty, interdisciplinary nature of the material.