McMaster University | Department of Biology

SCIENCE 2P03
IMPACTFUL INITIATIVES IN HEALTH
WINTER 2021 COURSE OUTLINE

Interdisciplinary | Mentorship | Practice
Applied | Community | Transformative

Course Details

Professor: Dr. Lovaye Kajiura
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(905) 525-9140, Extension 27043

Office Hours: Tuesdays 10:30-11:30am

Lectures: Lecture meetings have been scheduled to occur on Tuesdays 1:30-3:20pm (this is a 2hr lecture) in the Burke Science Building (BSB) Room 137

Tutorials : Tutorial meetings will be held on Thursdays 12:30 - 1:20 pm in the Burke Science Building (BSB) Room 137**.**

** note students will be contacted in advance of the Winter term should course scheduling need to be modified due to extreme circumstances*

Course Description

The IMPACT (Interdisciplinary, Mentorship, Practice, Applied, Community, Transformative) initiative collaboratively engages undergraduate and graduate students from various Faculties, McMaster alumni, healthcare partners, and real community clients to understand and address challenges experienced by people living with disabilities associated with the conditions of arthritis, cerebral palsy, dementia, expressive aphasia, dystonia, multiple sclerosis, amyotrophic lateral sclerosis, Parkinson's disease, retinopathic visual impairments, dystonia, cancer, ankylosing spondylitis, and chronic lymphedema. Students will learn and mobilize their applied and conceptual knowledge of science to collaboratively create customized devices that help real community clients with activities critical to their health to improve their quality of life.

Prerequisites: Grade 12 Biology U or BIOLOGY 1P03 and registration in Level II or above of any Arts & Science program, the Honours Bachelor of Health Sciences program, or any program in the Faculty of Science; or permission of the instructor.

Antirequisites: ENGINEER 1P13/1P03, ENGINEER 1P13, SCIENCE 1P03

SCIENCE 2P03 LECTURES

Refer to the McMaster University Fall/Winter 2020-2021 Session Undergraduate Timetable. Lecture meetings have been scheduled to occur on **Tuesdays 1:30-3:20pm (this is a 2hr lecture) in in the Burke Science Building (BSB) 137**
Science 2P03 is taught in a fusion of Problem Based Learning (PBL), Inquiry, Blended Learning, & In- Person teaching and learning approaches. Students will learn course content via several avenues of communication, including, in-person active learning lectures/tutorials, collaborative design reviews, guest presentations, workshops, online learning platforms The Science 2P03 lectures will be a synthesis of several resources (supplementary primary literature, including journal articles, current research resources, and guest presentations). Detailed lecture schedules will be announced in lectures and posted on the Science 2P03 Impactful Initiatives in Health Avenue course website. Students are expected to attend all lectures and supplement the posted Science 2P03 Avenue postings with their own written or typed "in-class" lecture notes.

SCIENCE 2P03 TUTORIALS

Refer to the McMaster University Fall/Winter 2020-2021 Session Undergraduate Timetable.
Tutorial meetings will be held on **Thursdays 12:30 - 1:20 pm in in Burke Science Building (BSB) Room 137**.
Completion of the course requires attendance at the tutorials. Detailed tutorial schedules will be announced in lectures and posted on the Science 2P03 Impactful Initiatives in Health Avenue website.

Course Learning Objectives

The Science 2P03 course has been designed to facilitate the development of both self-directed and collaborative problem-based and inquiry-based learning skills that explore the diverse application of science-related concepts of Impactful Initiatives in Health. By the end of this course, Science 2P03 students will be able:

- to effectively learn and discuss the fundamental concepts, underlying scientific processes, and science-related research for the diverse conditions, health and accessibility challenges, and treatments experienced by our current and previous IMPACT clients, and from other collaborative partnerships

- to synthesize information from multiple sources (quantitative and qualitative) to generate topics to research and knowledge mobilization tools to address and solve problems, and to implement the skills necessary for scientific studies working independently, in teams, and in mega interdisciplinary collaborations with other diverse fields of study, such as Engineering, Rehabilitation Sciences Occupational Therapy, Medicine, Social Sciences, Humanities, Business, and McMaster Alumni in science research and health care professions.

- to compile, analyze, interpret, and present findings in a professional manner using creative multimedia in diverse platforms in written, oral, and online formats

- to effectively approach open-ended problems in an iterative process and effectively provide and receive constructive feedback as a member of a mega interdisciplinary collaborative team

- to develop increased confidence in ability to critically apply knowledge to solve problems in order to increase awareness of science research and health-related issues to be motivated to contribute to mega interdisciplinary and community-engaged experiences and advocacy-related initiatives

This Science 2P03 Impactful Initiatives in Health course will help to prepare students academically for subsequent, specialized Science courses, and to ensure that students acquire skills essential for upper level science courses and science-related research and professions beyond the course.

SCIENCE 2P03 LEARNING OUTCOMES include:

Problem Solving Skills, Research Skills, Communication Skills, Collaborative Leadership Skills

- Apply problem solving skills, design thinking skills, and critical thinking skills to generate questions to probe, and compile information to share with other participants during collaborative activities.
- Perform comprehensive searches of science-related and health-related literature regarding the conditions of our clients.
- Develop science communication and science literacy skills by creating knowledge mobilization tools to facilitate mega-interdisciplinary collaborations (collaborative design review sessions, create online learning tools and resources to share with the diverse partners involved with the IMPACT Initiative).
- Organize and identify integrated skills sets of the students from diverse academic fields and our community healthcare partners and professionals.
- Provide and receive constructive feedback (critiquing) in a professional and collegial manner.
- Design and implement resources in collaborative teams to present at the annual Science 2P03 Impactful Initiatives in Health IMPACT Symposium.

Mega-Interdisciplinary Experiential & Community Engaged Learning

- Effectively and collegially collaborate with other undergraduate students, graduate students, health care partners, alumni, and faculty from diverse fields.
- Collaborate with real clients, understanding and caring about their specific conditions and their health-related challenges.
- Disseminate and acknowledge personal and team relate learning outcomes during the Science 2P03 IMPACT Symposium and during the IMPACT Initiative Final Showcase.

Professional Development Skills & Personal Reflections of Learning

- Reflect upon experiences related to partnering with real community client who are living with health-related challenges and identify the significance of emotional intelligence and empathy.
- Reflect upon experiences regarding the collaborations with Level 1 Engineering 1P13 undergraduate students & upper level/ Engineering graduate students in problem solving on multiple open-ended problems.
- Reflect upon collaborating with 1st & 2nd Year Occupational Therapy graduate students to create devices that address the needs of clients living with challenges.
- Reflect upon collaborating with McMaster faculty, medical students, residents, alumni, and community leaders.
- Reflect upon student's own current experiences (pre, during, post) and their impact on their future academic skills sets and their future careers based upon their interactions with other undergraduate, graduate, professional students, and alumni.

Course Schedule

The detailed Science 2P03 course schedule will be posted on the Avenue Science 2P03 course website prior to the start of the academic term.

Course Materials

There is no required textbook or course packs for the Science 2P03 course. The Science 2P03 lectures will be a synthesis of several sources (journal articles, books, online research resources, current research, guest speakers. Lecture presentation resources and supplementary information will be posted on the Science 2P03 Avenue course website and on the Microsoft Teams course website. In terms of digital learning resources, students will need a reliable internet, webcam, computer with a microphone, and speakers.

HOW TO LOG INTO THE SCIENCE 2P03 AVENUE SITE

1. Start your web browser and go to: http://avenue.mcmaster.ca
2. USER ID: Type in the first part (in lower case letters) of your McMaster e-mail address (Your MAC ID).

   For example: If your McMaster e-mail address is janedoe@mcmaster.ca, then your Avenue User ID is janedoe.

3. PASSWORD: Type in your McMaster password.
4. Then click on the Login button.

You will need Adobe Acrobat Reader (this is freeware) to read the *pdf* files.
Most computers have Adobe Acrobat Reader installed as standard software.

If your computer does not have it, you may download it from the Adobe website:
http://www.adobe.com/products/acrobat/readstep2.html

Note: In this course, we will be using Avenue (Online Learning Platform) and audio-visual recordings for some assessments. Students should be aware that when they access the electronic components of this course, private information, including first and last names, usernames for the McMaster University e-mail accounts, and program affiliations may become apparent to others participating in the course. Continuation in this Science 2P03 course will be deemed as consent to this disclosure. If you have any questions or concerns about such disclosure, please discuss them with the course's professor, Dr. Kajiura at the start of the course during the 1st week of lectures.

HOW TO USE MICROSOFT TEAMS

The Science 2P03 course will also be using Microsoft Teams for some lectures, tutorials, and collaborative discussions and presentations. Instructions regarding how to use Microsoft Teams and support are found on the McMaster University Technology Services website, here is the link: https://office365.mcmaster.ca/office-365/applications/ms-teams/.

Course Evaluation

Final Science 2P03 Grades will be determined by the following grading scheme:

Components	Value
Individual Lecture & Tutorial Participation Activities	**10%**
Test 1	**10%**
Test 2	**10%**
Team Knowledge Mobilization Resource Proposal	**10%**
Self & Team Peer Review Form for Team Knowledge Mobilization Resource Proposal	**5%**
Individual Constructive Feedback Assignment for IMPACT Design Review #1	**10%**
Individual Constructive Feedback Assignment for IMPACT Design Review #2	**10%**
Team Knowledge Mobilization Presentation for the Science 2P03 IMPACT Symposium	**15%**
Self & Team Self Peer Review Form for Team Knowledge Mobilization Presentation	**5%**
Final Culminating Individual Reflection Report	**15%**

Final marks for the course are based on a total assessment of each student's record. It is a student's responsibility to make sure that his/her marks are complete and correct. Grade adjustment techniques may be used. However, marks will not be bell-curved at any point in the term. The Professor reserves the right to change or revise information contained in this course outline. Note that both the lectures and tutorial components must be passed independently to pass the course.

IMPORTANT NOTE

The Science 2P03 professor and University reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, students will be given reasonable notice via the Science 2P03 Avenue online course website with an explanation and an opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites daily during the term and to note any changes. Changes will be communicated through regular McMaster communication channels, such as the McMaster Daily News, Avenue to Learn, and/or McMaster email. Marks will be calculated according to the above grading scheme. The Faculty does not approve of altering marks arbitrarily at a student's request.

Course Policies

For the Science 2P03 course, it is the responsibility of the student to attend in all lecture sections to which the student has been assigned. If a lecture is missed, students are responsible for the covered material. The professor and university reserve the right to modify elements of the course during the term. The university may change dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster e-mail inbox and the Science 2P03 Avenue course website daily during the term and to note changes or updates.

Science 2P03 Test 1 & Test 2

Each of the two SCIENCE 2P03 tests, Test 1 & Test 2 will be worth 10% each and consist of 15 multiple choice questions. Quizzes will assess factual, conceptual, and applied knowledge. For multiple choice questions, each question is worth 1 mark, no partial marks will be awarded. Tests include cumulative questions and will be 30 minutes in duration.

Academic Integrity

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity. **It is your responsibility to understand what constitutes academic dishonesty.**

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university. For information on the various types of academic dishonesty please refer to the *Academic Integrity Policy*, located at https://secretariat.mcmaster.ca/university-policies-procedures- guidelines/

The following illustrates only three forms of academic dishonesty:

- plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
- improper collaboration in group work.
- copying or using unauthorized aids in tests and examinations.

Authenticity/Plagiarism Detection

Some courses may use a web-based service (Turnitin.com) to reveal authenticity and ownership of student submitted work. For courses using such software, students will be expected to submit their work electronically either directly to Turnitin.com or via an online learning platform (e.g. Avenue to Learn, etc.) using plagiarism detection (a service supported by Turnitin.com) so it can be checked for academic dishonesty.

Students who do not wish their work to be submitted through the plagiarism detection software must inform the Instructor before the assignment is due. No penalty will be assigned to a student who does not submit work to the plagiarism detection software. **All submitted work is subject to normal verification that standards of academic integrity have been upheld** (e.g., on-line search, other software, etc.). For more details about McMaster's use of Turnitin.com please go to www.mcmaster.ca/academicintegrity.

Courses with an On-line Element

Some courses may use on-line elements (e.g. e-mail, Avenue to Learn, Microsoft Teams, LearnLink, web pages, capa, Moodle, Echo360, Microsoft Teams, ThinkingCap, etc.). Students should be aware that, when they access the electronic components of a course using these elements, private information such as first and last names, user names for the McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course. The available information is dependent on the technology used. Continuation in a course that uses on-line elements will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.

Online Proctoring

Some courses may use online proctoring software for tests and exams. This software may require students to turn on their video camera, present identification, monitor and record their computer activities, and/or lock/restrict their browser or other applications/software during tests or exams. This software may be required to be installed before the test/exam begins.

Conduct Expectations

As a McMaster student, you have the right to experience, and the responsibility to demonstrate, respectful and dignified interactions within all of our living, learning and working communities. These expectations are described in the *Code of Student Rights & Responsibilities* (the "Code"). All students share the responsibility of maintaining a positive environment for the academic and personal growth of all McMaster community members, **whether in person or online.** It is essential that students be mindful of their interactions online, as the Code remains in effect in virtual learning environments. The Code applies to any interactions that adversely affect, disrupt, or interfere with reasonable participation in University activities. Student disruptions or behaviours that interfere with university functions on online platforms (e.g. use of Avenue 2 Learn, WebEx, Echo360, Microsoft Teams or Zoom for delivery), will be taken very seriously and will be investigated. Outcomes may include restriction or removal of the involved students' access to these platforms.

Academic Accommodation of Students with Disabilities

Students with disabilities who require academic accommodation must contact Student Accessibility Services (SAS) at 905-525-9140 ext. 28652 or sas@mcmaster.ca to make arrangements with a Program Coordinator. For further information, consult McMaster University's *Academic Accommodation of Students with Disabilities* policy.

Requests for Relief for Missed Academic Term Work

McMaster Student Absence Form (MSAF): In the event of an absence for medical or other reasons, students should review and follow the Academic Regulation in the Undergraduate Calendar "Requests for Relief for Missed Academic Term Work".

View the McMaster Student Absence Form (MSAF) for more information.

Academic Accommodation for Religious, Indigenous or Spiritual Observances (RISO)

Students requiring academic accommodation based on religious, indigenous or spiritual observances should follow the procedures set out in the RISO policy. Students should submit their request to their Faculty Office ***normally within 10 working days*** of the beginning of term in which they anticipate a need for accommodation or to the Registrar's Office prior to their examinations. Students should also contact their instructors as soon as possible to make alternative arrangements for classes, assignments, and tests.

Copyright and Recording

Students are advised that lectures, demonstrations, performances, and any other course material provided by an instructor include copyright protected works. The Copyright Act and copyright law protect every original literary, dramatic, musical and artistic work, **including lectures** by University instructors

The recording of lectures, tutorials, or other methods of instruction may occur during a course. Recording may be done by either the instructor for the purpose of authorized distribution, or by a student for the purpose of personal study. Students should be aware that their voice and/or image may be recorded by others during the class. Please speak with the instructor if this is a concern for you. NO part of the Science 2P03 lectures, in-class discussions, course information and resources may be reproduced, in any form or by any means, without permission in writing from Dr. Lovaye Kajiura. No visual media, voice recordings, Powerpoint slides, pdfs, MP3/MP4 media, or course-related information may be reproduced or communicated by any means. Usage of cameras or video/camera capable cellphones, smartphones, or digital media are not permitted. Copying Science 2P03 course materials for distribution or posting (e.g. uploading materials to a commercial website) is strictly prohibited.

Extreme Circumstances

The University reserves the right to change the dates and deadlines for any or all courses in extreme circumstances (e.g., severe weather, labour disruptions, etc.). Changes will be communicated through regular McMaster communication channels, such as McMaster Daily News, Avenue to Learn and/or McMaster email.

McMaster University Grading Scheme

Grades obtained for Science 2P03 will be converted according to the following scheme, which is the one in general use at McMaster University.

90 - 100%	A+	12
85 - 89%	A	11
80 - 84%	A-	10
77 - 79%	B+	9
73 - 76%	B	8
70 - 72%	B-	7
67 - 69%	C+	6
63 - 66%	C	5
60 - 62%	C-	4
57 - 59%	D+	3
53 - 56%	D	2
50 - 52%	D-	1
0 - 49%	F	0

Email Etiquette

When contacting university faculty and staff, always send your email from your McMaster University email account. If you use another email address, such as Gmail your email will not be responded to, because you cannot be positively identified as a student at McMaster University. When contacting the Science 2P03 professor via email, always preface the subject of your email with Science 2P03. Always begin your email with a salutation. For example, “Dear Dr. Kajiura” and always end your email with your full name and your McMaster student number and your academic level (for example Level 1, 2, 3, 4, 5) and identify your academic program.

Academic Skills

There may be times during your university studies that can be challenging for undergraduate students. For many students. For students who wish to improve their academic skills, study habits, time management, or for students who require specialized services for learning challenged students and English as a second language ESL students, assistance is available at both the Student Success Centre located in Gilmour Hall 110 https://studentsuccess.mcmaster.ca/and the Student Accessibility Services located the lower level (basement) of the McMaster University Student Centre B107 https://sas.mcmaster.ca/