INSTRUCTORS: Dr. Kim Dej, Dr. Chad Harvey, Dr. Rosa da Silva, Dr. Sarah Symons, and Abeer Siddiqui

INSTRUCTIONAL ASSISTANT: Sajeni Mahalingam mahals4@mcmaster.ca

Course Development Team: Greg Atkinson, Jamie Kaushal, Jessica Knox, Ola Mobarak, Sameera Singh, Aleeza Sunderji, Queenie Zeng and all instructors.

Lectures: JHE 264, Monday and Wednesday 8:30am-9:20am

Prerequisites: This course is open to students in all faculties registered in level II or above; there are no prerequisite courses.

Course Materials: There is no required textbook for this course. Course materials will be provided through Avenue and the online platform Trello. Students will need access to a laptop with internet access that can be brought to each lecture and tutorial.

Course Description: In this course, we will examine the linkage between science and society. How science can address the key challenges in our society and how in turn society impacts how science is conducted. We will examine basic scientific theories and concepts, and highlight the application and interpretation of science in the context of popular media and policy. Since many policies on issues relevant to all aspects of society are informed by the work of scientists, we want to establish a common ground of understanding about how science is conducted, how knowledge changes, and how we can become better consumers of scientific information.

Learning Outcomes: This course will teach students skills in scientific literacy, numeracy, and scientific communication. Students will:
- Develop a familiarity with contemporary scientific issues, the concepts they are founded on, and the conceptual research behind them.
- Engage in constructive, evidence-based discourse on contemporary scientific topics.
- Gain comfort in interpreting scientific calculations and data used to support discussions.
- Develop and practice the skill of communicating science in different formats: oral, written, graphic, or other.

Course Topics: In this session we will be covering the following module topics:
Module 0 – What is Science for the Global Citizen?
Module 1 – Curiosity and Exploration: Oceans vs. Space
Module 2 – Progress and Innovation: Artificial Intelligence
Module 3 – Risk: Antibiotic Resistance
Module 4 – Choice: Diet
Module 5 – Students select module topic

Evaluation:
15% Group presentation (case study based on Module 1).
30% Three case study tests (based on Module 2-4, each worth 15%, best 2/3).
30% Participation in online discussion groups (20%) and in-class attendance (10%)
25% Final project (completed in groups) in which students communicate a scientific idea of their choosing in the format of their choosing, as selected from a menu of media types. Presentation of final product will occur at an end of year in-person or web-based Symposium.

Course Format:
- There are 1 or 2 lectures each week, attendance is required and will be evaluated as part of the participation grade for the course. Details are indicated on the course schedule below.
- There is 1 tutorial each week. Details are indicated on the course schedule below.
- Case Study Tests for each of Modules 2-4 are scheduled during tutorial times in the week following the culmination of the module, as detailed below.

Note on On-line Elements: In this course, we will be using Avenue to Learn and Trello. Students should be aware that, when they access the electronic components of this course, 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 this course will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.
## Course Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Lecture</th>
<th>Tutorial &amp; Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>January 4-5</td>
<td></td>
<td>No lectures</td>
<td>No tutorials</td>
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</tbody>
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| 1    | January 8-12 | **Module 0** What is Science for the Global Citizen?                   | **Monday January 8**<sup>th</sup>  
Wednesday January 10<sup>th</sup>  
**Instructors:** Dr. Kim Dej and Abeer Siddiqui | Trello introduction and demonstration                                      |
| 2    | January 15-19| **Module 1** Curiosity and Exploration: Oceans vs. Space              | **Monday January 15**<sup>th</sup>  
**Instructors:** Dr. Chad Harvey and Dr. Sarah Symons | - Intro to Case Studies and STEEPP analysis  
- Introduce Module 1 Group Presentation assignment |
| 3    | January 22-26|                                                                       | **Wednesday January 24**<sup>th</sup>  
**Guest speakers:** Dr. Gregory Slater and TBA | - Introduce Final Project assignment and timeline  
- Consultation time with TA on Module 1 presentations |
| 4    | January 29-February 2 | **Module 2** Progress and Innovation: Artificial Intelligence | **Monday January 29**<sup>th</sup>  
**Instructors:** Dr. Sarah Symons and Dr. Rosa da Silva | Module 1 Presentations and Discussion |
| 5    | February 5-9 |                                                                       | **Monday February 5**<sup>th</sup>  
**Guest speakers:** Dr. Andrew McArthur and Dr. David Harris Smith | Final Project – mini-presentation of top 3 ideas for peer and TA feedback |
| 6    | February 12-16| **Evaluating Resources and Data Representation**                      | **Monday February 12**<sup>th</sup>  
**Wednesday February 14**<sup>th</sup>  
**Instructors:** Abeer Siddiqui and Andrew Colgoni | Module 2 Case Study Test |
| 7    | Feb 26-March 2 | **Module 3** Risk: Antibiotic Resistance                             | **Monday February 26**<sup>th</sup>  
**Instructors:** Dr. Rosa da Silva and Dr. Kim Dej | - Final Project – Proposal and Production Schedule due in tutorial  
- Intro to reading and evaluating primary literature |
| 8    | March 5-9    |                                                                       | **Monday March 5**<sup>th</sup>  
**OR Wednesday March 7**<sup>th</sup>  
**Guest speakers:** TBA | Final Project – Consultation time with TA for feedback on Proposal |
| 9    | March 12-16  | **Module 4** Choice: Diet                                           | **Monday March 12**<sup>th</sup>  
**Instructors:** Abeer Siddiqui and Dr. Chad Harvey | Module 3 Case Study Test |
| 10   | March 19-23  | **Module 5** Students select topic                                    | **Monday March 19**<sup>th</sup>  
**OR Wednesday March 21**<sup>st</sup>  
**Guest speakers:** Courtney-Brooke Laurie, RD and TBA | Final Project – Progress meetings with TA |
| 11   | March 26-29  |                                                                       | **Monday March 26**<sup>th</sup>  
**Instructors:** TBA | Module 4 Case Study Test |
| 12   | April 2-6    |                                                                       | **Monday April 2**<sup>nd</sup> – Final Project Symposium | Final Project Due April 2<sup>nd</sup> |
Policy Statements

MSAF, Absences & Missed Work
If you are absent from the university for a minor medical reason, lasting up to 3 calendar days, you may report your absence, once per term, without documentation, using the McMaster Student Absence Form (MSAF). Absences for a longer duration or for other reasons must be reported to your Faculty office, with documentation, and relief from term work may not necessarily be granted. When using the MSAF, report your absence to course instructor or designate. You must then contact the instructional assistant immediately (normally within 2 working days) by email. Please refer to the contact list on the first page of this outline for appropriate email addresses. The instructor/instructional assistant will indicate what relief may be granted for the work you have missed, and relevant details such as revised deadlines, or time and location of a make-up exam/quiz/test. Please note that the MSAF may not be used for final deliverables, nor can it be used for a final examination or its equivalent.

When using MSAF for SCIENCE 2M03, you must first fill out the MSAF form on MOSAIC and identify the Instructional Sajeni Mahalingam (mahals4@mcmaster.ca) as the contact on the MSAF form. Immediately after using the online tool, you must contact Sajeni Mahalingam at mahals4@mcmaster.ca to notify her of the MSAF submission. Failure to do so may negate the opportunity for relief.

Note on using MSAF for Case Study Tests. The tests for each of Module 2-4 will take place during tutorial time in the week following the culmination of the module. You must write all three tests and the top 2 of 3 test grades will contribute to your final grade. If you submit an MSAF for a case study test, a zero will be recorded for that one test and the mark will be dropped. There are no make-up tests in SCIENCE 2M03.

Missed Deadlines
Students are expected to hand in all assigned work on the specified due dates. Any late submissions will result in a 10% penalty per day unless course instructors and instructional assistants are notified of any issues in advance and approve a late submission. It is at the discretion of the instructional staff to determine if accommodations will be made. These policies apply to both group and individual work.

Grades and Re-mark Policy
All grade concerns and discrepancies should be reported to the Instructional Assistant, Sajeni Mahalingam. All requests for re-evaluation must be made in writing to Sajeni Mahalingam within 1 week of return of the graded test or assignment, and should clearly indicate the rationale for re-marking. Only tests or assignments that are fully written in non-erasable pens or are typewritten will be considered for remarking. Please be aware that an approval for a remark can result in an increase, decrease or no change to the original mark.

Communication Between Students and Faculty
All email correspondence with the course instructors or instructional assistant must originate from your official McMaster University email account. It is the student’s responsibility to keep their McMaster email account active and check it on a regular basis. All emails from students must include your full name and the course code (SCIENCE 2M03).

Student Responsibilities:
To get the most out of the course, you must be prepared to:
- attend all sessions, make up all missed work, and provide documentation for authorized absences;
- interact frequently with faculty, students, TAs, and other support staff;
- plan and manage your own time;
- complete preparatory tasks (such as reading, writing assignments, and initial research) in advance of sessions;
- develop and use reflective learning skills (for example identifying learning objectives, planning and carrying out research tasks, acting on academic feedback);
- work as an effective, efficient, and responsive team member on group assignments;
- follow all the guidelines as outlined in the Introduction section of the Laboratory Manual;
- check the course Avenue site, and your McMaster and Avenue e-mail daily for updates; and,
- follow all university policies and guidelines, and in all ways be a responsible university member.

Copyright Policy
In this course, you will have access to material that is subject to copyright laws. This includes (but is not limited to) all resources developed by the instructors such as lab manuals, demonstration videos, quizzes, assignments, tests, class notes and class slides. Under no circumstance are you allowed to share or redistribute this material in any printed or electronic form without the explicit written consent of the copyright holder. This includes posting any course material on Internet bulletin boards, course repositories, social networks, etc.
Senate Student Policies


Senate Policy Statements are also available from the Senate Secretariat Office, Room 104, and Gilmour Hall.


  Academic dishonesty consists of misrepresentation by deception or by other fraudulent means and 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. It is your responsibility to understand what constitutes academic dishonesty.

  The following illustrate only four of many 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;
  - copying or using unauthorized aids in laboratory exercises
  - improper collaboration in group work; and
  - copying or using unauthorized aids in quizzes, tests and examinations

  All students are reminded of the importance of academic integrity, and the serious consequences of academic dishonesty.


  You acknowledge that your behavior in all aspects of this course should meet the standards of the McMaster University Student Code of Conduct. You understand that any inappropriate behavior directed against any of your colleagues, teaching assistants, or the instructional team will not be tolerated. Disruptive behavior during any session (e.g. lecture, seminar, lab, tutorial) such as talking, sleeping or non-class computing while an individual presents information, or constantly being late, will also not be tolerated. Abuse, ridicule, slander, inappropriate language, and discrimination towards instructors teaching staff, teaching assistants and other students will not be tolerated in any capacity. Shared spaces including e-spaces such as the Avenue to Learn course discussion board are to be considered inclusive and safe.

Academic Accommodations of Students with Disabilities: Students who require academic accommodation must contact Student Accessibility Services (SAS) to make arrangements with a Program Coordinator (Instructional Assistant). Academic accommodations must be arranged for each term of study. Student Accessibility Services can be contacted by phone 905-525-9140 ext. 28652 or e-mail sas@mcmaster.ca. For further information, consult McMaster University’s Policy for Academic Accommodation of Students with Disabilities.

Academic Accommodation for Religious, Indigenous and Spiritual Observances (RISO): McMaster University (the University) strives to be welcoming and inclusive of all its members and respectful of their differences. Students, staff, and instructors come from a range of backgrounds, traditions and beliefs. The University recognizes that, on occasion, the timing of a student’s religious, Indigenous, or spiritual observances and that of their academic obligations may conflict. In such cases, the University will provide reasonable academic accommodation for students that is consistent with the Ontario Human Rights Code, through respectful, accessible, and fair processes. When academic accommodations are necessary, students shall submit the RISO form to their Faculty, electronically or in person, normally within ten working days from the beginning of each term in which they are anticipating a need for accommodation.

The instructors and the university reserve the right to alter this outline if necessary. The instructors 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, 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 email and course websites weekly during the term and to note any changes.