

Course Outline

GEOG/ENVIR SC 4HH3

Environment and Health

School of Geography and Earth Sciences
McMaster University
Winter, 2016

Class times: Tuesday, Thursday, Friday 11:30 to 12:20
Class location: BSB 106
Instructor: Niko Yiannakoulis
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Email: yiannan@mcmaster.ca
Office hours: Thursday 12:30 to 1:30
Teaching assistants: Shelby Sturrock (sturrosl@mcmaster.ca) and Kevin McKay (mackaykp@mcmaster.ca)

1. Course objectives

In this class students will develop their ability to:

- Understand the history and impact of environment and human health
- Understand the methods used in environmental health research and practice
- Understand the nature of uncertainty in environmental health research and strategies for making decisions under conditions of uncertainty
- Apply concepts in environment and health to the preparation of a site-specific health risk assessment

2. Course readings

Readings can be found in the custom courseware package available from the bookstore. Readings offer important material that supplements lectures.

3. Course assessment

- Optional HHRA proposal (10%)
- Seminar debate (25%)
- Class participation (5%)
- HHRA final report (30%; 40% if HHRA proposal is not handed in)
- Final exam (30%)

3.1 Human health risk assessment (HHRA) proposal (10% due *February 9th*)

Students can write a brief (~750 word) proposal on the subject of their HHRA. They must briefly describe: 1) the setting of the proposed HHRA, 2) the hazard of potential concern 3) the levels of exposure to the hazard that are thought to be harmful and 4) the health outcome(s) of concern. Much of the information in the proposal can be used in the final HHRA submitted at the end of the term. Students should consider the proposal an important first step in the preparation of their final assignment.

Students can choose not to hand in an HHRA. Students who do not hand in the HHRA on the due date will have the 10% grade weight shifted to their HHRA final report. Late proposals will not be accepted or graded.

3.2 Seminar debate (25%)

Students will organize into seminar groups of roughly 3 and participate in a seminar debate. Debates are held on most Friday classes throughout the term. Groups will argue either in favour of or against a position. One TA will mentor each group to prepare for their debate. Grades will be assigned based on a combination of class and TA grading.

3.3 Class participation (5%)

Students are expected to attend all seminars, and contribute to class discussion. Class participation marks are assigned based on attendance at seminars, and participation in class and seminars.

3.4 Final human health risk assessment report (30% (or 40%) final project due *April 7th*)

The term project is an opportunity for students to produce a major report on an issue of environment and health. This assignment is not a research paper; it is a **health risk assessment**. Your objective is **not** to 'prove' a relationship between a hazard and health outcome, your objective is to **use evidence gathered from authoritative sources to assess risks posed by a potential hazard to a particular study area**.

To help frame the assignment, imagine that you are a consultant hired to write this report for a group of public and/or private stakeholders. Your job is to synthesize available research and provide information that will help make a policy decision. We expect a high quality, well researched and well-written report that shows evidence of effort and focus. ***Please do not put this project off until the week before it is due.***

Term project requirements must be presented in the following order:

1. Title page (include title, student name and word count)
2. Executive summary (250 words)
3. Table of contents
4. Introduction & objectives (250 words)
5. Brief description of the setting of the HHRA (250 words)
6. Description of the hazard and the route of exposure linking hazard to health outcome of concern in the study area (250 words)
7. Description of the health outcome of primary concern (250 words)
8. Description of the method for estimating exposure in the study region (250 words)
9. Description of the estimated exposure level in the study region (250 words)
10. Assessment of health site-specific risks based on the evidence from 6-9. This should include a **human health risk assessment** table (will be discussed in class). (250 words).
11. Limitations and uncertainties (250 words)
12. Conclusion and key recommendations (250 words)
13. Tables and figures
14. References

Other final report requirements

- 12 pt. black Times Roman font, 1.5 inch margins on the right side, 1 inch margins everywhere else
- Double spaced pages, include page numbers; please ensure good pagination.
- All graphics must be of high quality, and referenced appropriately.

- Students must send an electronic copy of their final report that is identical to the one submitted for marks to geographylectures@gmail.com.

Term project topics

Students may choose their own topic of study for the HHRA, however, the following areas/regions **cannot** be used in the term project: Sydney Nova Scotia (Sydney tar ponds), Love Canal New York, Fort Chipewyan Alberta, Sarnia Ontario ('Chemical Valley') or Minimata Japan.

3.5 Final exam (30%)

There is a final exam in this course. Details will be discussed in class prior to the end of term.

4. Avenue 2 Learn

In this course we will be using Avenue 2 Learn. Students should be aware that when they access the electronic components of this course, private information such as first and last names, user names associated with 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.

Questions related to course content (for example, about lectures and reading material) should be posted online. All students registered in this course should have access to the online system. Speak to the instructor if you have difficulties with access.

5. Classroom civics

1. Attendance in this course is considered mandatory. If you miss a lecture, it is your responsibility to get notes / details about missed material from your classmates.
2. Electronic submissions of assignments, papers, etc. are not accepted.
3. The instructor puts notes on Avenue to Learn at his discretion, and has the right to stop posting notes at any time throughout the term.

6. Policy on late/missed assignments

- **All late assignments receive a 15%/day late penalty.**
- **For absences lasting up to 5 days or assignments up to 5 days late that are worth less than 25% of mark:** (definition of days late includes Saturdays but not Sundays)
 - Use the McMaster student absence form (MSAF) on-line, self-reporting tool. Undergraduate students may report absences lasting up to 5 days and may also request relief for missed academic work provided the work is worth less than 25% of grade. The submission of medical or other types of supporting documentation is normally not required. Students may use this tool to submit a maximum of one request for relief of missed academic work per term. Students **must immediately (within 5 days) follow up with me via email** regarding the nature of the relief. Failure to do so will negate the opportunity for relief. Using the MSAF system does not guarantee relief for missed or late work.

- ***For absences from classes lasting more than five days or assignments/exams worth 25% or more of final mark:***
 - Students who are absent more than five days cannot use the on-line, self-reporting tool to request relief. Assignments or exams worth 25% or more of the final mark cannot use the self reporting tool to request relief. On these occasions, students **MUST** report to their Faculty Office to discuss their situation and will be required to provide ***appropriate*** supporting documentation.

7. Policy regarding academic dishonesty

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 (where 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. For information on the various kinds of academic dishonesty, please refer to the Academic Integrity Policy, specifically Appendix 3, located at: <http://www.mcmaster.ca/univsec/policy/AcademicIntegrity.pdf>

The following illustrates only three forms of academic dishonesty:

1. Plagiarism, e.g., the submission of work that is not one’s own or for which other credit has been obtained
2. Improper collaboration in group work.
3. Copying or using unauthorized aids in tests and examinations.

Instructors in this course will be using software designed to identify instances of plagiarism.

8. Appealing Marks

If you wish to appeal an assignment mark, the appeal must be issued to the instructor within ***seven*** days (inclusive) after the assignment was handed back in class. **Assignments may be re-marked in their entirety at the complete discretion of the instructor.** Students must submit their appeal in written form along with the original marked version of the assignment/exam into the course drop box. Marks may go up or down after re-grading.

9. Changes to the course outline

The instructor 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.

10. Term Calendar

Date	Lecture	Readings
January 5	Introduction	
January 7	History and Theory	Yassi, Kjellstrom, de Kok and Guidotti
January 8		
January 12		
January 14		
January 15		
January 19	Quantifying risk	Morgenstern and Buck and Aron
January 21	Seminar debate 1	
January 22	Quantifying risk	
January 26	Seminar debate 2	
January 28	Study design	
January 29	Seminar debate 3	
February 2	Study design	
February 4	HHRA PROPOSAL DUE FEB 9	
February 5	Seminar debate 4	
February 9	Pathology and toxicology	
February 11	Seminar debate 5	
February 12	Pathology and toxicology	
February 23	Seminar debate 6	
February 25	Pathology and toxicology	
February 26	Seminar debate 7	
March 1	Exposure	Sexton, Callahan and Bryan
March 3	Seminar debate 8	
March 4	Exposure	
March 8	Seminar debate 9	
March 10	Risk analysis and assessment	
March 11	Seminar debate 10	
March 15	Risk analysis and assessment	Wing 2003
March 17	HHRA FINAL REPORT DUE APRIL 7	
March 18	Seminar 11*	
March 22		
March 24		
March 25		
March 29		
March 31		
April 1		
April 5		
April 7		
April 8		