

ENV 4002H (ENV 430H): The Environment and Health of Vulnerable Populations

Time and Location: Thursdays, 1:00-3:00; Earth Sciences, Rm. 1042

Instructor: Clare Wiseman, PhD

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Course Description: The course will introduce students to a wide range of topics and issues as they relate to the environment and health of vulnerable populations. Through readings, course work and discussion, students will explore the potential health effects of exposures in children and other vulnerable populations to a variety of chemical and physical agents in both the indoor and outdoor environments. A number of case studies and topics will be examined to exemplify why certain populations may be especially vulnerable to various environmental hazards. Topics for examination will be chosen to demonstrate the wide range of potential human health effects due to chemical and other exposures. Issues related to equity and justice will be critically examined.

Course Goals and Objectives

The goal of the course will be to raise the level of student's knowledge of how certain populations, or segments thereof, may be especially vulnerable to environmental hazards. Upon course completion, students will:

- Understand concepts of vulnerability in biological, physiological, developmental and socioeconomic and cultural terms and how these may be interrelated,
- Understand the specific needs of various populations in terms of the necessity for population-specific regulatory/policy protective measures,
- Understand how populations may be differentially impacted by exposures based on various forms of 'vulnerability,'
- And, ultimately, understand how equity and justice issues are inherent to environmental health problems and how this may be dealt with.

Prerequisites: None but a background in a related topic area such as environmental science/studies, public health, biology, etc. would be helpful (Note: undergraduate students

require special permission from the Instructor and are expected to be in their third or fourth year).

Course Format: The course format will involve some topics being introduced and presented by the instructor but will primarily involve seminars with a focus on in-class discussions on selected case studies and student presentations. After some introduction to core concepts and ideas relating the field of environmental health and what constitutes “vulnerability,” the course will be split in terms of topic areas as they relate to the environment and health of identified vulnerable populations and will involve pre-selected, required readings. Each student will be expected to choose a case study relating to one of these topics and facilitate an in-class discussion.

Course Assignments and Evaluation

Grades will be based on the following:

1. Research Paper Proposal (10%)
 2. Research Paper (40%)
 3. Presentation of Research Paper (20%)
 4. Seminar Facilitation (20%)
 5. Seminar Participation (10%)
1. **Research paper proposal:** At the beginning of the course, students will choose a topic related to the course (and perhaps their research area). Students will be expected to develop a written proposal for their papers (maximum 3 pages) which will involve the following:
- a. A clearly stated topic of focus and related research question or purpose,
 - b. A brief description of topic,
 - c. A preliminary literature search detailing how this was done, what databases were used and an *initial* list of references intended for use (citing at least 8 sources for initial use)

The topic can be related to the case study chosen by the student for facilitation and discussion in the seminar.

Due: Oct. 6, 2011 (worth 10%)

2. **Research paper:** A research paper on the students’ chosen topic areas of 15 to 20 pages (double-spaced) will be due at the end of the term. It is expected that students display critical analytical thought and skills, going beyond a mere description of the literature on the topic

area, providing their own insights and developing ideas/concepts further. The papers must have a clearly stated hypothesis/research question/purpose and be based on peer-reviewed literature (with proper referencing) and written in accordance with the standards for a graduate term paper (please refer to “Writing at the University of Toronto” website at <http://www.utoronto.ca/writing/index.html> for guidance).

Due: Dec. 1, 2011 (worth 40%)

3. **Presentation of Research Paper (worth 20%)**: During the last two weeks of class, students will give an oral presentation of their research papers. The presentation should be done with PowerPoint and will last no more than 15 minutes, to be followed by 5 minutes of questions/discussion. Students will be graded on the clarity of their topics/arguments, quality of slides, presentation style and ability to respond to questions.
4. **Seminar Facilitation (worth 20%)**: At the beginning of the course, students will choose one of the case studies and present the topic based on the readings (students may have to pair up for this depending on enrolment). Students also have the option of introducing other identified articles for reading and discussion, as related to the case study. Students are encouraged to provide their own discipline-based perspectives and reflections on the topic and/or readings provided (including the quality of the readings, themselves). Presentations may be done with or without the aid of PowerPoint and should last an approximate 10 minutes. After, students will then be expected to lead and facilitate discussion with other seminar participants (each case study-based seminar should last no longer than a total of 50 minutes). Students will find it helpful to prepare a series of questions to pose to fellow classmates in advance.
5. **Participation (worth 10%)**: Students will also be expected to actively contribute to the seminars and discussions in a thoughtful and constructive manner. Students are reminded that everyone benefits when all participate and discuss their perspectives from a variety of backgrounds and disciplines.

Penalty for Lateness: Five percentage-points will be deducted per day beyond assignment due dates.

Sickness: Please contact instructor per email immediately if unable to attend class or fulfill course requirements due to illness.

Resources for Writing Tips and Support: UofT has a website called “Writing at the University of Toronto” (see: www.writing.utoronto.ca), which provides advice and tips on how to write an academic paper, as well as a listing of writing courses available to students.

Plagiarism: Please note that according to the University’s Code of Behaviour on Academic Matters, it is an offence for a student to:

1. “represent as one’s own any idea or expression of an idea or work of another in any academic examination or term test or in connection with any other form of academic work, i.e., to commit plagiarism.”
2. “submit, without the knowledge and approval of the instructor to whom it is submitted, any academic work for which credit has previously been obtained or is being sought in another course or program of study in the University or elsewhere.
3. “submit for credit any academic work containing a purported statement of fact or reference to a source which has been concocted.”

See “Code of Behaviour on Academic Matters” on the U. of T. Governing Council website at this address: <http://www.governingcouncil.utoronto.ca/policies/behaveac.htm>

See also the handout “How Not to Plagiarize,” Margaret Proctor, 2009, available online at <http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize>

Cases of suspected plagiarism will be addressed in accordance with the procedure established by the Code of Behaviour on Academic Matters.

Accessibility Needs: The University of Toronto is committed to accessibility. If you require accommodations for a disability, or have any accessibility concerns about the course, the classroom or course materials, please contact Accessibility Services as soon as possible: disability.services@utoronto.ca or <http://studentlife.utoronto.ca/accessibility> .

Schedule and Seminar Topics (*may be subject to change*):

Week 1 (Sept. 15): Introduction: Course Overview, Objectives and Expectations

Introduction to the course and the environment and health of vulnerable populations
What is “environment and health”?
How do we define and assess “vulnerability”?
Vulnerable populations of concern

Week 2 (Sept. 22): The Environment and Health of Children, Part I

The “new pediatric morbidity”
Why children are not little adults
Identifying critical windows of vulnerability
Case Study: *Lead Exposures & Neurodevelopment*

Week 3 (Sept. 29): The Environment and Health of Children, Part 2

Case Studies:
a. Environmental Exposures and Negative Birth Outcomes (e.g. atmospheric pollution & low birth weight/preterm birth)
b. Endocrine Disruptors (e.g. phthalates, BPA, PBDEs)
Alternate Topic: Environmental Exposures & Asthma

Week 4 (Oct. 6): The Environment and Health of Aboriginal Populations, Part I

Health issues facing Canada’s aboriginal peoples
“Health” from an aboriginal perspective
Case Study: *Contaminants in Traditional Foods*

Due date for proposals.

Week 5 (Oct. 13): The Environment and Health of Aboriginal Populations, Part II

Case Studies:
a. Climate Change in the North
b. Health Status and Life on Reserves

Week 6 (Oct. 20): The Environment and Health of the Elderly

Aging and patterns of disease and morbidity
Environment and health issues specific to the elderly
Case Study: *Heat Waves and the Elderly OR the Role of Environment in Parkinson’s Disease*

Week 7 (Oct. 27): Gender, Sex and Environmental Health (Part I)

Gender- and sex-based factors in determining health
What is sex? What is gender? What’s the difference?
Overview and current status of research linking environment to gender- and sex-based health issues
Environment and health of women
Gender- and sex-based factors contributing to vulnerability among women

Autoimmune disease among women and the role of sex-based factors

Case Study: *Environmental Exposures and Respiratory Health in Women*

Week 8 (Nov. 3): Gender, Sex and Environmental Health (Part II)

Case Studies:

- a. *Environmental Exposures and Fertility Outcomes in Men*
- b. *Breast Cancer and Environmental Exposures in Women*

Week 9 (Nov. 10): Poverty and Vulnerability

Primary health issues of concern in urban areas

Impact of poverty and place on health

Case study: *Urban Gardening: Confronting Food Security & Poverty*

Week 10 (Nov. 17): Environmental Health, Equity and Justice

Guest Lecturer: *Tara Zupancic, Associate Director, Centre for Environmental Health Equity, Department of Environment and Geography, University of Manitoba*

Week 11 (Nov. 24): Student presentations

Week 12 (Dec. 1): Student presentations (Due date for final papers)