



# POPM\*6540 Concepts in Environmental Public Health

Winter 2020

Section(s): C01

Department of Population Medicine

Credit Weight: 0.50

Version 1.00 - January 06, 2020

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## 1 Course Details

### 1.1 Calendar Description

This course covers the main concepts of environmental public health including basic elements of environmental toxicology, risk analysis, air and water quality, food safety, waste, occupational health and eco health.

### 1.2 Course Description

**Teaching/learning strategy:**

Learning materials and opportunities will be provided through a combination of lectures, assignments, case studies as well as student presentations. Readings from the required textbook will be assigned throughout the course. Students will be expected to be able to discuss the material in class. Cooperative and group discussion will be emphasized.

### 1.3 Timetable

Timetable is subject to change. Please see WebAdvisor for the latest information.

### 1.4 Final Exam

Exam time and location is subject to change. Please see WebAdvisor for the latest information.

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## 2 Instructional Support

### 2.1 Instructional Support Team

**Course Co-ordinator:** Scott Mcewen  
**Email:** smcewen@uoguelph.ca  
**Telephone:** +1-519-824-4120 x54751  
**Office:** CLRE 201  
**Office Hours:** Contact for appointment

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## 3 Learning Resources

### 3.1 Recommended Resources

**Friis, RH. Essentials of Environmental Health, 1st edition. Jones and Bartlett (publishers), 2007. (Textbook)**

Available online through the University Library.

### 3.2 Additional Resources

#### **Presentation Slides (Notes)**

Whenever possible, copies of presentation slides will be made available on CourseLink.

#### **Environmental health : from global to local (Textbook)**

HOWARD, F. (EDITOR). ENVIRONMENTAL HEALTH : FROM GLOBAL TO LOCAL, 3RD EDITION. JOSSEY-BASS (PUBLISHERS), 2016. (TEXTBOOK)

Available online through the University Library.

**Moeller, D. W. Environmental health. eBook, 3rd edition. Harvard University Press 2005. (Textbook)**

Available online through UofG Library AN 282159.

**Duncan, Kirsty. Environment and health: protecting our common future. WIT Press. Boston. (2008). (Textbook)**

RA566 .D86 2008.

**Lippmann, Morton. Environmental toxicants: human exposures and their health effects. 2nd ed. Wiley. New York. (2000). (Textbook)**

RA565 .E58 2000.

#### **Environmental Health (Other)**

<http://www.ehjournal.net/>

#### **Environmental Health Perspectives (Other)**

<http://www.ehponline.org/>

**Medline Plus - Environmental Health (Other)**

<http://www.nlm.nih.gov/medlineplus/environmentalhealth.html>

**Environmental Health News (Other)**

<http://www.ehn.org/>

**Health Canada – Environmental and Workplace Health (Website)**

<https://www.canada.ca/en/health-canada/corporate/contact-us/environmental-workplace-health.html>

**Public Health Agency of Canada (Website)**

<http://www.phac-aspc.gc.ca/index-eng.php>

**Environment and Climate Change Canada (Website)**

<https://www.canada.ca/en/environment-climate-change.html>

**Canadian Food Inspection Agency (Website)**

<http://www.inspection.gc.ca/eng/1297964599443/1297965645317>

**Impact Assessment Agency of Canada (Website)**

<https://www.canada.ca/en/impact-assessment-agency.html>

**National Collaborating Centre for Environmental Health (Website)**

<http://www.ncceh.ca/>

**How Environmental Health is Organized in Canada (Website)**

<http://www.ncceh.ca/content/how-environmental-health-organized-canada>

**Public Health Ontario - Environmental and Occupational Health (Website)**

<https://www.publichealthontario.ca/en/health-topics/environmental-occupational-health>

**Government of Ontario - Environment (Website)**

<https://www.ontario.ca/page/ministry-environment-conservation-parks>

Drinking water - <https://www.ontario.ca/page/drinking-water>

Air - <http://www.airqualityontario.com/>

**Ontario Ministry of Agriculture Food and Rural Affairs (Website)**

<http://www.omafra.gov.on.ca/english/index.html>

**Emergency Management / Preparedness (Website)**

<https://www.emergencymanagementontario.ca/english/home.html>

Also:

Public Health Ontario: <https://www.publichealthontario.ca/en/health-topics/emergency-preparedness>

Public Health Canada: <https://www.canada.ca/en/health-canada/services/health-concerns/emergencies-disasters/emergency-preparedness.html>

**Other provincial environmental public health agencies: (Website)**

Alberta - <http://www.health.alberta.ca/newsroom/pub-environmental-health.html>

British Columbia - <http://www.bccdc.ca/our-services/service-areas/environmental-health>

Manitoba - <http://www.gov.mb.ca/health/publichealth/environmentalhealth/index.html>

Newfoundland -

<http://www.health.gov.nl.ca/health/publichealth/envhealth/environmental.html>

Nova Scotia - <http://novascotia.ca/dhw/environmental/>

New Brunswick -

[http://www2.gnb.ca/content/gnb/en/departments/ocmoh/healthy\\_environments.html](http://www2.gnb.ca/content/gnb/en/departments/ocmoh/healthy_environments.html)

Quebec - <http://sante.gouv.qc.ca/en/dossiers/sante-et-environnement/?source=accueil>

Saskatchewan - <http://www.saskatchewan.ca/residents/environment-public-health-and-safety/environmental-health>

**US Environmental Protection Agency (Website)**

<http://www.epa.gov/>

**Integrated Risk Information System (USEPA) (Website)**

<http://www.epa.gov/iris/index.html>

**National Center for Environmental Assessment (Website)**

<https://www.epa.gov/aboutepa/aboutnational-center-environmental-assessment-ncea>

**National Toxicology Program (Website)**

<https://ntp.niehs.nih.gov/>

**Agency for Toxic Substances and Disease Registry (Website)**

<http://www.atsdr.cdc.gov/>

**CDC – National Center for Environmental Health (Website)**

<http://www.cdc.gov/NCEH/>

**National Institute of Environmental Health Sciences (Website)**

<http://www.niehs.nih.gov/>

**WHO Environmental Health (Website)**

[http://www.who.int/topics/environmental\\_health/en/](http://www.who.int/topics/environmental_health/en/)

## 4 Learning Outcomes

### 4.1 Course Learning Outcomes

By the end of this course, you should be able to:

1. Identify potential environmental hazards.

2. Describe how chemical and microbiological contaminants in air, water and food affect public health and approaches that can be used to reduce negative impact on health.
  3. Distinguish between hazards and risks; understand and apply the basic principles of environmental risk analysis; evaluate basic exposure data and characterize risk.
  4. Describe national and provincial regulatory programs, guidelines and authorities that control environmental health.
  5. Discuss the impact of global climate change on human health and approaches to mitigation of these effects.
  6. Participate in group discussion and case studies to develop skills in environmental public health.
  7. Write a grammatically correct, well-written paper on a specific topic in environmental public health.
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## 5 Teaching and Learning Activities

### General Topics

Introduction to environmental health, environmental epidemiology, policy, regulation, water, pesticides and other environmental toxins, food, water & air quality, ionizing and non-ionizing radiation, solid and liquid wastes, climate change and public health.

These will be addressed through a combination of lectures, guest lectures, case studies, group work and student presentations.

### 5.1 Lecture

#### Tue, Jan 7, 8:30 AM

**Topics:** Introduction to EPH

Room: TBA

Text Readings: Chapter 1

#### Thu, Jan 9, 8:30 AM

**Topics:** EH epidemiology

Room: TBA

Text Readings: Chapter 2

#### Tue, Jan 14, 8:30 AM

**Topics:** EH epi / case study

Room: TBA

Text Readings: Chapter 2

**Thu, Jan 16, 8:30 AM**

**Topics:** EH toxicology

Room: TBA

Text Readings: Chapter 3

**Tue, Jan 21**

**Topics:** Possible class switch (trade with Public Health Policy) - TBA

**Thu, Jan 23, 8:30 AM**

**Topics:** EH policy and regulation in Canada

EH policy and regulation - cases

Room: TBA

Text Readings: Chapter 4

**Tue, Jan 28, 8:30 AM**

**Topics:** Food safety

Room: TBA

Chapter 11

**Thu, Jan 30, 8:30 AM**

**Topics:** Case study – food safety

Room: TBA

**Tue, Feb 4, 8:30 AM**

**Topics:** Zoonotic and vector-borne diseases

Room: TBA

Text Readings: Chapter 5

**Thu, Feb 6, 8:30 AM**

**Topics:** Toxic metals and elements

Double class - 08:30-11:20, with POPM\*6550

Room: TBA

Text Readings: Chapter 6

**Tue, Feb 11, 8:30 AM**

**Topics:** Guest, Dr. Ray Copes, risk assessment, management and communication (double class) (tentative)

Room: TBA

Text Readings: Review risk assessment and related policy in Chapters 3&4

**Thu, Feb 13, 8:30 AM**

**Topics:** Pesticides and other organic chemicals

Room: TBA

Text Readings: Chapter 7

**Week 7**

**Topics:** MIDWINTER BREAK

week of February 18

**Tue, Feb 25, 8:30 AM**

**Topics:** Radiation

Room: TBA

Text Readings: Chapter 8

**Thu, Feb 27, 8:30 AM**

**Topics:** Water quality

Room: TBA

Chapter 9

**Tue, Mar 3, 8:30 AM**

**Topics:** Case study - water

Room: TBA

**Thu, Mar 5, 8:30 AM**

**Topics:** Air quality

Room: TBA

Text Readings: Chapter 10

**Tue, Mar 10, 8:30 AM**

**Topics:** Solid and liquid wastes; Injuries

Room: TBA

Chapters 12 & 14

**Thu, Mar 12, 8:30 AM**

**Topics:** Guest: Public health emergency management (double class)  
(tentative)

Room: TBA

**Tue, Mar 17, 8:30 AM**

**Topics:** Emerging EH issues: health effects of climate change

Room TBA

**Thu, Mar 19, 8:30 AM**

**Topics:** Emerging EH issues: built environment

Room TBA

**Tue, Mar 24, 8:30 AM**



**Topics:** Student presentations

Room: TBA

**Thu, Mar 26, 8:30 AM**

**Topics:** Student presentations

Room: TBA

**Tue, Mar 31, 8:30 AM**

**Topics:** Student presentations

Room: TBA

**Thu, Apr 2, 8:30 AM**

**Topics:** Student presentations

Room: TBA

## 6 Assessments

### 6.1 Assessment Details

#### **Individual assignment (15%)**

**Date:** Sun, Jan 26, 12:00 AM

Each student will complete an individual assignment on environmental epidemiology. Instructions for assignment will be provided.

#### **Group assignment/presentation (15%)**

**Date:** Various dates during semester

Small groups of students will each make one presentation to the class and prepare a written report on an environmental health hazard and associated public health intervention. Instructions for assignment will be provided.

#### **Food safety take-home Assignment (small group or individual) (20%)**

**Date:** Sun, Mar 1, 12:00 AM

Students individually or in small groups (up to 3) will complete a take-home food safety / foodborne outbreak investigation assignment. Instructions for assignments will be provided.

#### **Essay (35%)**

**Date:** Sun, Mar 15, 12:00 AM

Each individual student will submit a paper and make a presentation on a topic in environmental public health. Instructions for the essay will be provided in the

second week of classes. The paper will be no more than 12 pages (12 point, double spaced, 1 inch margins), not including references, tables and figures. Any refereed reference style is acceptable.

### **Essay Presentation (15%)**

**Date:** Various dates March / April

Each individual student will submit a paper and make a presentation on a topic in environmental public health. The presentations will take place in the latter part of the course.

## **7 University Statements**

### **7.1 Email Communication**

As per university regulations, all students are required to check their e-mail account regularly: e-mail is the official route of communication between the University and its students.

### **7.2 When You Cannot Meet a Course Requirement**

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Academic Consideration and Appeals

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Graduate Calendar - Grounds for Academic Consideration

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

Associate Diploma Calendar - Academic Consideration, Appeals and Petitions

<https://www.uoguelph.ca/registrar/calendars/diploma/current/index.shtml>

### **7.3 Drop Date**

Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester. This applies to all students (undergraduate, graduate and diploma) except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available in their respective Academic Calendars.

Undergraduate Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Graduate Calendar - Registration Changes

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-reg-regchg.shtml>

Associate Diploma Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/diploma/current/c08/c08-drop.shtml>

## 7.4 Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

## 7.5 Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to book their exams at least 7 days in advance and not later than the 40th Class Day.

For Guelph students, information can be found on the SAS website  
<https://www.uoguelph.ca/sas>

For Ridgetown students, information can be found on the Ridgetown SAS website  
<https://www.ridgetownc.com/services/accessibilityservices.cfm>

## 7.6 Academic Integrity

The University of Guelph is committed to upholding the highest standards of academic integrity, and it is the responsibility of all members of the University community—faculty, staff, and students—to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff, and students have the responsibility of supporting an environment that encourages academic integrity. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be

construed as an academic offence should consult with a faculty member or faculty advisor.

Undergraduate Calendar - Academic Misconduct

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Graduate Calendar - Academic Misconduct

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

## **7.7 Recording of Materials**

Presentations that are made in relation to course work - including lectures - cannot be recorded or copied without the permission of the presenter, whether the instructor, a student, or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

## **7.8 Resources**

The Academic Calendars are the source of information about the University of Guelph's procedures, policies, and regulations that apply to undergraduate, graduate, and diploma programs.

Academic Calendars

<https://www.uoguelph.ca/academics/calendars>

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