



**University of Manitoba**  
**Clayton H. Riddell Faculty of Environment, Earth, and Resources**  
**Department of Environment and Geography**

**Advanced Issues in Environment and Health**

**ENVR 4400**

**Winter 2020**

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**COURSE DETAILS**

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**Course Title & Number:**        **Advanced Issues in Environment and Health, ENVR 4400**

**Number of Credit Hours:**        3

**Class Times & Days of Week:**    Jan. 7, 2020 – Apr. 7, 2020  
Tuesday and Thursday; 13:00- 14:15

**Location for classes:**            125 St. John's College

**Pre-Requisites:**                    ENVR 3400 (C)

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**Instructor Contact Information**

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**Instructor(s) Name:**            Dr. Alistair Brown

**Preferred Form of Address:**    Dr. Brown

**Office Hours or Availability:**    Please email to schedule an appointment

**Email:**                                [alistair.brown@umanitoba.ca](mailto:alistair.brown@umanitoba.ca)

E-mails will be answered within 24 hours Mon-Fri.

**Contact:**

I look forward to meeting every student in person, and you can always see me after class. Some correspondence will require documentation and therefore is best done by e-mail (such as requesting special permission).

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**COURSE DESCRIPTION:** This course will address how environmental structure and conditions affect human health. The main components of the course will concentrate on the foundations of toxicology and epidemiology, which provides the framework necessary to assign association or causality between environment and human health effects.

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### General Course Information

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This course provides an opportunity to perform in-depth investigations into chemical/biological contaminants and case studies relating to human health. Through site visits, guest speakers and seminars students explore complex issues of environment and health. Case studies of environmental issues and their human health effects are covered. Students have the opportunity to work on a substantial interdisciplinary environmental health project.

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### Course Goal

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The goal of this course is to explore the complexities of environmental issues and how they directly affect human health.

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### Learning Objectives

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Students will be able to recall basic terminology of the discipline, comment on complex environmental issues, discern the difference between causal factors, confounding factors, and predisposition factors.

Students will be able to recall modes of toxicity and investigate plausible mechanisms for toxicity of chemicals on non-target organisms and humans

Students will be able to contrast how environmental factors influence assignment of causality.

Students will be able to calculate various statistical parameters involved in human health risk assessment.

Students will critically assess the strengths of peer-reviewed environmental/epidemiological studies using Bradford-Hill criteria and/or Koch's postulates, in conjunction with statistical validation.

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### Using Copyrighted Material

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Please respect copyright. We will use copyrighted content in this course. I have ensured that the content I use is appropriately acknowledged and is copied in accordance with copyright laws and University guidelines. Copyrighted works, including those created by me, are made available for private study and research and must not be distributed in any format without permission. Do not upload copyrighted works to a learning management system (such as UM Learn), or any website, unless an exception to the *Copyright Act* applies or written permission has been confirmed. For more information, see the University's Copyright Office website at <http://umanitoba.ca/copyright/> or contact [um\\_copyright@umanitoba.ca](mailto:um_copyright@umanitoba.ca).

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### Recording Class Lectures

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Alistair Brown of the University of Manitoba holds copyright over the course materials, presentations and lectures which form this course. No audio or video recording of lectures or presentations is allowed in any format, openly or surreptitiously, in whole or in part without

permission of Alistair Brown. Course materials (both paper and digital) are for the participant's private study and research.

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### Textbook, Readings, Materials

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REQUIRED TEXT: Essential Epidemiology- Principles and Applications, 1<sup>st</sup> Edition William A. Oleckno, Editor, 2002, Waveland Press

To purchase e-book: <http://bookstore.umanitoba.ca/CourseMaterials.aspx>

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### Course Technology

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IN THE CLASSROOM: It is the general University of Manitoba policy that all technology resources are to be used in a responsible, efficient, ethical, and legal manner. The student can use all technology in classroom setting only for educational purposes approved by instructor and/or the University of Manitoba Disability Services. Student should not participate in personal direct electronic messaging / posting activities (e-mail, texting, video or voice chat, wikis, blogs, social networking (e.g. Facebook) online and offline "gaming" during scheduled class time. If student is on call (emergency) the student should switch his/her cell phone on vibrate mode and leave the classroom before using it. (©[S Kondrashov](#). Used with permission)

COURSE RESOURCES: Course notes, detailed instruction on assignments and general course communications are posted on UM Learn. All assignments unless otherwise noted are submitted on UM Learn.

STUDENT RESOURCES: The Centre for Advancement of Teaching and Learning has instructional videos on accessing and contributing to wikis and blogs that may be useful. [http://intranet.umanitoba.ca/academic\\_support/Centre for the Advancement of Teaching & Learning/resources/wikis\\_blogs.html](http://intranet.umanitoba.ca/academic_support/Centre_for_the_Advancement_of_Teaching_&_Learning/resources/wikis_blogs.html).

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### Class Communication

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The University requires all students to activate an official University email account. For full details of the Electronic Communication with Students please visit:

[http://umanitoba.ca/admin/governance/media/Electronic Communication with Students Policy - 2014 06 05.pdf](http://umanitoba.ca/admin/governance/media/Electronic_Communication_with_Students_Policy_-_2014_06_05.pdf)

Please note that all communication between me and you as a student must comply with the electronic communication with student policy

([http://umanitoba.ca/admin/governance/governing\\_documents/community/electronic communication with students policy.html](http://umanitoba.ca/admin/governance/governing_documents/community/electronic_communication_with_students_policy.html)). **You are required to obtain and use your U of M email account for all communication between yourself and the university.**

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### Expectations: Student

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ATTEND CLASS: The class is intended to be not just one-way delivery of information but rather a facilitated dialogue around materials presented. For this reason, your attendance in class is required so that you can be a part of the conversation and contribute your knowledge,

experiences, and opinions. As such, you are expected to be in attendance both physically and mentally.

Students should refer to the General Academic Regulations and Requirements, Attendance at Class and Debarment, found in the University of Manitoba General Calendar.

[http://umanitoba.ca/student/records/leave\\_return/695.html](http://umanitoba.ca/student/records/leave_return/695.html)

**VOLUNTARY WITHDRAWAL DATE: Wednesday, March 18<sup>th</sup>, 2020**

**ACT WITH PROFESSIONALISM:** In the University setting, we are in professional relationships. These relationships are characterized by demonstrated respect between all parties, students and instructors, and students and other students. This includes professional and respectful language, tone of voice, and demeanour. This is an excellent time to practice the professionalism required in the workforce, especially in your e-mail and in-person communications.

**ACADEMIC INTEGRITY:** Please refer to “Schedule A” policies and resources for students as posted on UM Learn. In addition, please note that;

- (i) group projects are subject to the rules of academic dishonesty;
- (ii) group members must ensure that a group project adheres to the principles of academic integrity;
- (iii) if a group member is not acting with academic integrity or not performing his or her duties as agreed, please advise the Instructor as soon as possible to resolve any potential problems as early as possible;
- (iv) collaboration between students is encouraged for understanding material, proof-reading a peer’s work, making suggestions on approach, etc.; however,
- (v) all work is to be completed independently unless otherwise specified.

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**Student Accessibility Services**

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**Student Accessibility Services (SAS)**

If you are a student with a disability, please contact SAS for academic accommodation supports and services such as note-taking, interpreting, assistive technology and exam accommodations. Students who have, or think they may have, a disability (e.g. mental illness, learning, medical, hearing, injury-related, visual) are invited to contact SAS to arrange a confidential consultation.

Student Accessibility Services <http://umanitoba.ca/student/saa/accessibility/>  
520 University Centre 204-474-7423 [Student\\_accessibility@umanitoba.ca](mailto:Student_accessibility@umanitoba.ca)

### **Expectations: Instructor**

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I will do my best to make each subject as clear and relevant as possible. The material taught in this course is only a subset of the entire spectrum of environmentally relevant issues that pertain to our global, national, and local communities.

I have made it a special focus in this term to mix the classes with traditional lecture styles, the use of audio visual materials, and multiple methods of engaging students in the material, thereby eliciting discussion, and provoking thought. Of especially important note, is the generous contributions of each of the guest lecturers that will help deliver the material over the term. Each guest has been hand-picked based on their research and lecturing interests to provide a more comprehensive look at each subject.

### **Class Schedule**

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This schedule is subject to change at the discretion of the instructor but such changes are subject to Section 2.8 of the – [ROASS](#)- Procedure.

Communicating Environmental Issues (Class Notes)

Community Structure and Disease (Class Notes)

Toxicity and Risk (Class Notes)

Introduction to Chemical Contaminants and Environmental Evaluation (Class Notes)

Biological Contamination (Class Notes)

Introduction to Epidemiology (Ch. 1-3 textbook)

Causality in Epidemiology (Ch. 7 textbook)

Study Design and Accuracy Assessment (Ch. 8 textbook)

Case Control and Cohort Studies (Ch. 11-12 textbook)

Experimental Studies in Epidemiology (Ch. 13 textbook)

Basic Descriptive Studies/ Ecological Studies (Class Notes)

Applications of Epidemiological Data on Intervention Outcomes (Class Notes)

Diagnostic Performance (Class Notes)

Efficacy vs. Effectiveness- Monitoring and Evaluation; Policy (Class Notes)

#### ***Special Guests: (Maybe Subject to Change)***

Mr. Nikita Lysenko- Epidemiology Project Coordinator, Cancer Care Manitoba

Dr. Annemieke Farenhorst- professor, Department of Soil Science, University of Manitoba and the Prairie NSERC Chair for Women in Science and Engineering.

Dr. Lindsay Aboud- Research Associate, Department of Biology, University of Winnipeg



Dr. Linda Larcombe- Assistant Professor, Departments of Internal Medicine, Medical Microbiology, and Infectious Diseases and Community Health Sciences

### Course Evaluation Methods

In many cases there is a grader-marker to assist with the marking load. In each case, you will receive a grade posted on UM Learn. The grade will also have constructive comments intended to assist you in your academic performance in this course. If you have any questions about the grading, please bring them to my attention and arrange a time to meet with me.

Students will be evaluated through the following assignments:

<b>QUIZZES:</b>	<b>(2*5% = 10%)</b>
<b>READING REFLECTIONS:</b>	<b>(2*5% = 10%)</b>
<b>MID-TERM TEST:</b>	<b>(20%)</b>
<b>INTERDISCIPLINARY PROJECT:</b>	<b>(20% Written + 5% Oral Presentation= 25%)</b>
<b>FINAL IN-CLASS CUMULATIVE EXAM:</b>	<b>(35%)</b>
<b>TOTAL:</b>	<b>100%</b>

### Grading

Letter Grade	Percentage out of 100	
A+	90-100	Exceptional
A	80-89	Excellent
B+	75-79	Very Good
B	70-74	Good
C+	65-69	Satisfactory
C	60-64	Adequate
D	50-59	Marginal
F	0-49	Failure

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### Referencing Style

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Any of the main referencing styles may be used in class, but in any case the reference must include an in-text citation (either numerical or author date) close to the idea, fact, image or quote being cited as well as a full citation at the end of the document. Students may choose to use APA, MLA, Chicago, CSE or other recognized referencing style.

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### Quiz/ Test Grading Times

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Marks on graded quizzes and tests will be available within <1 week after the submission date whenever possible. All materials submitted electronically on UM Learn will be graded and comments provided on UM Learn.

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### Quiz Make-Up and Late Policy

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Make up quizzes **MAY** be conducted based on medical or compassionate grounds. Make up quizzes/tests are not normally granted unless there are extenuating circumstances.