SCHOOL OF ENVIRONMENTAL SCIENCES

ENVS*6882*02

-Human Health and the Environment-

January 2026

1. Instructor:

Dr. Loren Knopper (he/him)

2. Contact Information:

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3. Class time and location:

Time: Thursday 1:00-2:20
Location: ALEX 265

4. Synchronous Lectures

Synchronous lectures will be held in ALEX 265 and lectures accessible from within the CourseLink course homepage. The course will be a mix of lecture (by instructor and guests), presentations by students (group or individual depending on class size) and reading/critiquing published scientific literature related to specific weekly topics.

5. Subject Materials to be Presented:

The goal of Human Health in the Environment is to provide students with the opportunity to learn about and discuss current day issues related to global environmental stressors and how they can affect (or be perceived to affect) human and environmental health. Where possible, we will also consider GBA (Gender Based) Plus principles, which will help guide our discussions and evaluations, by considering how different subgroups within the general population and communities (e.g., by sex, gender, age, ethnicity, Indigeneity) may experience effects and risks differently from those of the general population.

Critical evaluation is the basis of this course. Students will use a rubric of questions to evaluate published scientific literature related to specific weekly topics. By the end of the class it is expected that students will have knowledge that is valuable and often needed in today's workplace.

6. Objectives:

The objective of the course is to let students gain a practical understanding of toxicology, risk assessment, risk/scientific communication and perceived and real risks from environmental stressors.

7. Academic Misconduct:

See the Graduate Calendar section on Academic Misconduct.

8. Method of Evaluation:

Attendance (15%): This is a discussion heavy course and student input is expected. This means attendance is a crucial part of the class. Full marks are based on weekly attendance.

- There are 12 classes: 12/12 = 100%; 10-11/12 = 80%; 6-9/12=60%; 0-6/12= 0%

Paper evaluation (50%): Weekly you are expected to evaluate a scientific paper against 11 questions. Your evaluation should be 2-3 pages in length. You are expected to provide "graduate-student-level" justification and provide rationale for your answers. Cursory responses (e.g., one to

two sentences) will result in reduced grade. Answers may require "deeper-dives" where applicable. The mark for a paper will follow this general rubric:

- 2-3 pages, deeper dives, well written and thoughtful, ideas presented in full sentences and paragraphs = 100%; less than page limit, cursory answers, not "graduate level" material = 75%; less than page limit, cursory answers, not "graduate level" material, spelling/grammar errors, obvious unedited use of AI = 60%; not handed in = 0%

Evaluation Questions

1. What is the issue? Explain and describe.
2. Why is there a human health concern? Explain and describe.
3. What are the effects? Explain and describe.
4. What is the evidence for these effects? Is it scientific or anectodical? Explain and describe.
5. Is the risk "real" or perceived? Explain and describe.
6. What is the magnitude/likelihood of the risk? Explain and describe, quantitatively and qualitatively depending on the paper.
7. Has Indigenization, equity, diversity and/or inclusion been considered? Explain and describe.
8. Is the paper/source credible? Explain.
9. Is there an obvious or perceived bias? Explain.
10. What did you learn?
11. What questions do you have from your evaluation?

Group lecture (2-4 people depending on class size) (35%): On a topic and peer-reviewed article provided by me (or of your choice to be agreed upon with me), you will need present to the class a lecture of 40 minutes in length, with a focus on the 11 aforementioned evaluation questions. The mark for the presentation will follow a rubric to be provided in class but criteria upon which your mark will be based are: Presentation Organization; Subject Knowledge; Ability to answer questions; Presentation style; and Elocution.

9. Schedule (TENTATIVE)

Date	Topic
January 8	Introduction
January 15	Wind turbines and health
January 22	Air quality
January 29	Diesel exhaust
February 5	**Student presentation**
February 12	**Student presentation**
February 19	No class: Winter Break
February 26	EMF
March 05	**Student presentation**
March 12	**Student presentation**
March 19	**Student presentation**
March 26	Pesticides
April 2	**Student presentation**