

SCHOOL OF ENVIRONMENTAL SCIENCES

ENVS*6882*02

-Environmental Toxicology, Risk Assessment and Risk Communication-

September 2026

1. Instructor:

Dr. Loren Knopper (he/him)

2. Contact Information:

Phone: 905-518-2854

email: loren.knopper@stantec.com or lknopper@uoguelph.ca

3. Class time and location:

Time: Thursday 12:30 - 2:00

Location: MCKN 307

4. Synchronous Lectures

Synchronous lectures will be held on campus and lectures accessible from within the CourseLink course homepage.

5. Subject Materials to be Presented:

The fields of environmental toxicology, risk assessment and public communication are directly linked with global environmental concerns. Having formal knowledge about these topics, and an understanding of how to apply that knowledge to current environmental situations is key for career growth and development.

With the use of in class discussions (instructor, student and guest led) and self-paced readings and assignments focused on real-world case studies, students enrolled in this class will have an opportunity to learn, through different teaching strategies, about chemicals of global concern (and what, why and how they can be toxic to animals and plants); the ecological risk assessment process used by regulatory agencies; and public communication strategies that will aid in making this technical information accessible to non-technical audiences.

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 technical and practical understanding of toxicology, risk assessment and risk communication.

7. Academic Misconduct:

See the Graduate Calendar section on Academic Misconduct.

8. Method of Evaluation:

Assignment 1: History 5%: Three key messages provided and subsequent class discussion.

Assignment 2: CCME 5%: Five short questions and subsequent class discussion.

Assignment 3: Conceptual Model 40%: This will be a group assignment (2 students/group depending on class size). Development of a risk assessment conceptual model based on class discussion and government agency reports discussed in class. The assignment will be discussed in detail in class but marks will be based on an example site and understanding of information about primary contaminant media, transport mechanisms, complete (operable)/incomplete (inoperable) exposure pathways, and receptor characteristics.

Assignment 4: Uncertainty 30%: This will be a group assignment (2 students/group depending on class size). ERA is bounded by several uncertainties. In this assignment you will list and explain the uncertainties at each primary step of the ERA process.

Final exam 20%: Questions about all components of the course will be found in true and false, multiple choice, short answer and long answer questions. Exam will be a take home format.

9. Schedule (TENTATIVE)

Date	Topic
September 10	Class kick off meeting: overview, administrative issues, Q&A
September 17	Basic Principles of Toxicology
September 24	Disposition; Assignment 1 due
October 01	Ecological Risk Assessment
October 08	Ecological Risk Assessment; Assignment 2 due
October 15	Ecological Risk Assessment
October 22	Ecological Risk Assessment
October 29	Ecological Risk Assessment; Assignment 3 due
November 05	Ecological Risk Assessment in practice
November 12	Ecological Risk Assessment
November 19	Public communication Assignment 4 due
November 26	Class summary (exam handed out)