SCHOOL OF ENVIRONMENTAL SCIENCES

ENVS*6882*02

-Environmental Toxicology, Risk Assessment and Risk Communication-

September 2024

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 9:30-11:30
Location: ALEX 265

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 a formal knowledge about these topics, and an understanding of how to apply that knowledge to current day 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 a 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:

History Assignment 10%: Three key messages provided and subsequent class discussion.

CCME Assignment 10%: Five short questions and subsequent class discussion.

Conceptual Model 30%: This will be a group assignment (likely 4 students/group). Development of a risk assessment conceptual model based on in 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. Peer-peer evaluation will be a part of this assignment (details to be discussed in

class) and individual grades rather than group grades will be given. Peer-peer evaluation will count towards 10% of your assignment grade.

Poster Presentation 30%: This will be a group assignment (likely 4 students/group). A poster presentation will be given in class about a chemical of concern that has Canadian Council of Ministers of the Environment (CCME)environmental quality guidelines. Information about the chemical, its toxicity, fate in the environment, and all published CCME environmental quality guidelines (and their derivation) will form the basis of the presentation. Information can be obtained from CCME fact sheets, summary tables, and outside sources. Presentation is limited to ecological effects.

Mark assigned based on class appraisal (10%; evaluation forms completed in class and handed in); peer-peer evaluation (10%) and my appraisal (80%) using an evaluation rubric, which will be provided to students before presentation. Individual grades rather than group grades will be given.

Fees associated with poster printing will be paid by the department (details to follow).

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 05	Class kick off meeting: overview, administrative issues, Q&A
September 12	History; Basic Principles of Toxicology
September 19	Disposition; Assignment 1 due
September 26	Ecological Risk Assessment
October 03	Ecological Risk Assessment; Assignment 2 due
October 10	Ecological Risk Assessment
October 17	Ecological Risk Assessment*
October 24	Ecological Risk Assessment; Assignment 3 due
October 31	Ecological Risk Assessment
November 07	Public communication
November 14	Poster Presentations
November 21	Class summary