Course Details

Calendar Description

An advanced course that will give students working knowledge of current processes and techniques for toxicological risk characterization. The course material will cover the topics: problem definition; effect characterization; exposure characterization; risk assessment; and risk management decision making.

Pre-Requisite(s): TOX*2000

Method of Delivery: Zoom

Location: Zoom

Time: Tuesday & Thursday 10:00 am to 11:20 am

Topic: ENVS*4000 - Toxicological Risk Assessment
Time: This is a recurring meeting Meet anytime

Join Zoom Meeting
https://us02web.zoom.us/j/83026811998?pwd=bjAzZG9YcXNLY1FqaU1ZT1V6UnE5Zz09

Meeting ID: 830 2681 1998
Passcode: 833273
One tap mobile
+15873281099,,83026811998#,,,,,0#,833273# Canada
+16473744685,,83026811998#,,,,,0#,833273# Canada

Dial by your location
+1 587 328 1099 Canada
+1 647 374 4685 Canada
Meeting ID: 830 2681 1998
Passcode: 833273
Find your local number: https://us02web.zoom.us/u/kdbN1Wwauk

Final Exam

Time:
Available: Friday, April 16th, 12:00 am
Dropbox: Monday, April 19th, 11:59 pm
Location: Take-home

Instructional Support

Instructor

Dr. Ryan Prosser
Email: prosserr@uoguelph.ca
Telephone: (519) 824-4120 Ext. 52190 or Ext. 54374

Office: The Edmund C. Bovey Administration Building (ECBA), Room 2226 or Lab 2229

Dr. Prosser completed his PhD at the University of Guelph in the School of Environmental Sciences. Before returning to Canada to do his PhD, Ryan was a high school chemistry teacher in Kuwait for six years. Following his PhD, he was a post-doctoral fellow for the Aquatic Contaminants Research Division of Environment and Climate Change Canada. To learn more about Dr. Prosser's research, visit his website (www.wisdomofthemoose.com) or his Google Scholar site (https://scholar.google.ca/citations?user=EI5v7zAAAAAJ&hl=en)

Learning Resources

Course Website

CourseLink (powered by D2L's Brightspace) is the course website and will act as your classroom. It is recommended that you log in to your course website every day to check for announcements, access course materials, and review the weekly schedule and assignment requirements.
Recommended textbook for further learning


Learning Outcomes

Course Learning Outcomes

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

1. Define and evaluate problems in ecological and human toxicology;
2. Explain how to measure and be able to characterize effects;
3. Distinguish between assessment endpoints, effect measures, and test endpoints
4. Explain how to measure and be able to characterize exposure;
5. Explain how to calculate hazards and risks and be able to distinguish between a hazard and a risk assessment;
6. Explain the integration of risk assessment and risk management in decision making.
7. Apply these principles to a real-life, hands-on problem with a chemical chosen by the student from a supplied list.

Assessment

The grade determination for this course is indicated in the following table. A brief description of each assessment is provided below. In Courselink, select Content on the navbar to review further details of each assessment. Due dates can be found under the Schedule heading of this outline.

<table>
<thead>
<tr>
<th>Assessment Item</th>
<th>Weight</th>
<th>Due Date</th>
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<tbody>
<tr>
<td>Assignment I: Hazard Assessment</td>
<td>5%</td>
<td>Dropbox Sunday, January 31st by 11:59 pm</td>
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<tr>
<td>Assignment II: Species Sensitivity and Exposure Distributions</td>
<td>5%</td>
<td>Dropbox Sunday, March 7th by 11:59 pm</td>
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<tr>
<td>Midterm</td>
<td>25%</td>
<td>Take-home:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Available: Friday, February 26th, 12:00 am</td>
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<tr>
<td></td>
<td></td>
<td>Dropbox: Sunday, February 28th, 11:59 pm</td>
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</tbody>
</table>
Assignment III:
Species Sensitivity Distributions from Interspecies Correlation Estimation (ICE) 5%
Dropbox Sunday, March 28th by 11:59 pm

Term Paper – ERA or HHRA 30%
Dropbox, Sunday, April 4th by 11:59 pm

Final Examination 30%
Take-home:
Available: Friday, April 16th, 12:00 am
Dropbox: Monday, April 19th, 11:59 pm

Total 100%

Assessment Descriptions

Assignments I to III

Assignments I to III are meant to prepare you for the term paper that is due at the end of the course. The term paper requires you to complete an ecological risk assessment on a pesticide to aquatic ecosystems. Assignments I to III will prepare you to complete a number of components of an ecological risk assessment. A description of each assignment is provided on Courselink. The assignments will be submitted to the Courselink dropbox by 11:59 pm on the assigned due date.

Term Paper – ERA or HHRA

The term paper will involve the student completing an ecological risk assessment or human health risk assessment on a chemical to aquatic ecosystems or humans. A description of the ecological risk assessment or human health risk assessment that will be completed by the student for the term paper is described on Courselink. It will be due to the Courselink dropbox by 11:59 pm on Sunday, April 4th.

Each student needs to choose one of the chemicals below to complete their ecological risk assessment or human health risk assessment. They will tell Dr. Prosser which chemicals they wish to choose for their term paper. Chemicals will be assigned on a first-come-first-serve basis.

2,4-D  Atrazine
Thiamethoxam  Azoxyystrobin
Imidacloprid  Boscalid
Clothianidin  Chlorothalonil
Chlorpyriphos  Pyraclostrobin
Cypermethrin  Dicamba
Metolachlor  Bromoxynil
Captan  Malathion
Carbaryl  Triclopyr
Glyphosate  Bifenthrin
Triclosan  Metformin*
Carbamazepine*  Venlafaxine*
* Human pharmaceutical, so extensive human health risk assessment already performed on these active ingredients. Only available for ecological risk assessment

**Late Policies**

If you choose to submit your individual assignments to the dropbox tool late, the full allocated mark will be reduced by 10% per day after the deadline for the submission of the assignment to a limit of 10 days at which time access to the dropbox folder will be closed. Saturday and Sunday are included in the number of days after the deadline for the submission of the assignment. Extensions will be considered for medical reasons or other extenuating circumstances. If you require an extension, discuss this with the instructor as soon as possible and well before the due date. Barring exceptional circumstances, extensions will not be granted once the due date has passed. These rules are not designed to be arbitrary, nor are they inflexible. They are designed to keep you organized, to ensure that all students have the same amount of time to work on assignments, and to help to return marked materials to you in the shortest possible time.

**Midterm Examination**

The midterm examination will be a take-home exam. It will be available on CourseLink on Friday, February 26th at 12:00 am. The completed mid-term exam needs to be submitted to dropbox on CourseLink by Sunday, February 28th at 11:59 pm. The midterm examination will cover all material (including guest lectures) up to and including the lecture on Friday, February 12th.

**Final Examination**

The final examination will be a take-home exam. It will be available on CourseLink on Friday, April 16th at 12:00 am. The completed final exam needs to be submitted to dropbox on CourseLink by Monday, April 19th, 11:59 pm. The final examination will cover all material presented in the course.

**University Statement**

**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.

**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
Drop Date

The regulations and procedures for course registration are available in the Undergraduate and Graduate 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

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.

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. More information can be found on the SAS website https://www.uoguelph.ca/sas

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

**Plagiarism Detection Software**

Students should be aware that faculty have the right to use software to aid in the detection of plagiarism or copying and to examine students orally on submitted work. For students found guilty of academic misconduct, serious penalties, up to and including suspension or expulsion from the University can be imposed.

The University of Guelph Learning Commons provides a guide to Plagiarism and Academic Integrity and tips for avoiding plagiarism.

https://guides.lib.uoguelph.ca/AcademicIntegrity

**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.

**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