

Ecotoxicology and Risk Assessment

VME 6934:

Class Periods: Tuesday, periods -6-8, 12:50 to 3:50

Location: CEHT conference room, building 470

Academic Term: Spring 2022

Instructor:

Nancy Denslow

ndenslow@ufl.edu

352-294-4642

Office Hours: Thursdays, 3:00-4:00, Building 470, Rm 123

Teaching Assistants:

Please contact through the Canvas website

- Kit Souders, cksouders@gmail.com, Building 470, Rm 109, Tuesday 11:00-12:00

Course Description

This will be a graduate level course, which will address problems in ecotoxicology from both ecological and biochemical points of view and will cover a broad variety of topics in ecotoxicology and ecological risk assessment, including the major classes of contaminants, their environmental fate, biotransformation, detoxification and bioaccumulation, biochemical pathways, effects at the cellular, organ, individual and population levels, other environmental factors that interact with contamination, endocrine active agents, and risk assessment. This is a graduate course and will rely heavily on both the textbook and the current literature. This course will serve as an elective for the concentration in toxicology.

Course Pre-Requisites / Co-Requisites

None

Course Objectives

The students will work collaboratively to perform an ecological risk assessment on a provided problem. In addition, there will be a debate led by students on a relevant topic. The course will have two hours of didactic lecturing and one hour of a student-led discussion, based on an article published in the last year. Students will prepare a short, written review of the paper to hand in.

Materials and Supply Fees

None required

Required Textbooks and Software

Course notes prepared by instructor

Recommended Materials (not essential)

- Fundamentals of Ecotoxicology
- Michael Newman
- 5th edition
- ISBN-13: 978-0815354024

Course Schedule

Week 1: Jan 11 Intro to Ecotox and Environmental Fate of Contaminants/Nancy Denslow/ Chapters 1, 2 and 4
Introduction to toxicology databases

Week 2: Jan 18 Environmental Risk Assessment/ Leah Stuchal/ Chapter 13
Journal presentation

Week 3: Jan 25 Xenobiotic Transport in the Body -- PBPK modeling Approaches/ Zhoumeng Lin/ Chp 3
Journal presentation

Week 4: Feb 1 Cellular and Organ Responses to Toxicants/Nancy Denslow/Chp 7
Project for Eco Risk Assessment

- Week 5: Feb 8 Molecular Effects of Contaminants/Chris Martyniuk/Chp 6
Journal presentation
- Week 6: Feb 15 The Microbiome in Toxicity/Joe Bisesi/
Journal presentation
- Week 7: Feb 22 Endocrine Active Agents in the Environment/Nancy Denslow
Journal presentation
- Week 8: Mar 1 Mid term exam
- Week 9: Mar 15 Analytical Chemistry to Measure Toxicants/John Bowden
Journal presentation
Mar 19 Field trip to environmental site for risk assessment
- Week 10: Mar 22 Adverse Outcome Pathways/ Natalia Garcia Reyero
- Week 11: Mar 29 Zebrafish as a Potent Model for Human Health Effects/ Tracie Baker
Debate
- Week 12: April 5 Epigenetics/CRISPR/ Kit Souders
ERA Project Discussion
- Week 13: April 12 New and developing Methods in Ecotox/ Chris Vulpe
ERA Project Discussion
- Week 14: April 19 Final Exam

Attendance Policy, Class Expectations, and Make-Up Policy

Attendance win person will be required. Part of the grade is from class participation. Absences can be made up. Cell phones and laptops allowed. Arrangements for missed homework, missed quizzes, and missed exams can be made with the instructor. Excused absences must be consistent with university policies in the [Graduate Catalog](#) and require appropriate documentation. Additional information can be found in [Attendance Policies](#).

Evaluation of Grades

Assignment	Total Points	Percentage of Final Grade
Class participation		10%
Midterm Exam		35%
Final Exam		35%
Risk Assessment project		10%
Debate		10%
Total		100%

Grading Policy

The following is given as an example only.

Percent	Grade	Grade Points
90.0 - 100.0	A	4.00
85- 89.9	A-	3.67
80- 84.9	B+	3.33
75-79.9	B	3.00
70 - 74.9	B-	2.67
<75	C	2.00

More information on UF grading policy may be found at:

[UF Graduate Catalog](#)
[Grades and Grading Policies](#)

Students Requiring Accommodations

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the [Disability Resource Center](#). It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Course Evaluation

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. [Click here for guidance on how to give feedback in a professional and respectful manner](#). Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via ufl.bluera.com/ufl/. [Summaries of course evaluation results are available to students here](#).

University Honesty Policy

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” [The Honor Code](#) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Software Use

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see the [Notification to Students of FERPA Rights](#).

Campus Resources:

Health and Wellness

U Matter, We Care:

If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575 so that a team member can reach out to the student.

Counseling and Wellness Center: counseling.ufl.edu/cwc, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Assault Recovery Services (SARS)

Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or police.ufl.edu.

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling.

Library Support, Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.

[Writing Studio](#), 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers.

[Student Complaints Campus](#)

[On-Line Students Complaints](#)