Ecotoxicology and Risk Assessment
VME 6934: Section 19686
Class Periods: Wednesday, periods -6-8, 12:50 to 3:30
Location: CEHT conference room, building 470
Academic Term: Spring 2024
3 credits

Instructor:
Nancy Denslow
ndenslow@ufl.edu
352-294-4642
Office Hours: Wednesdays 3:30-4:30, Building 470, Rm 123

Teaching Assistants:
Please contact through the Canvas website

- TBA

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 10 Intro to Ecotox and Environmental Fate of Contaminants/Nancy Denslow/ Chapters 1, 2 and 4
Introduction to toxicology databases
Week 2: Jan 17 Environmental Risk Assessment/ Leah Stuchal/ Chapter 13
Journal presentation
Week 3: Jan 24 Cellular and Organ Responses/Nancy Denslow/Chp 7
Journal presentation

Week 4: Jan 31 Xenobiotic Transport in the Body -- PBPK modeling Approaches/ Zhoumeng Lin/ Chp 3
Journal presentation
Week 5: Feb 7 Molecular Effects & Biomarkers/Chris Martyniuk/Chp 6
Project for Eco Risk Assessment
Week 6: Feb 14 Endocrine Active Agents in the Environment/Nancy Denslow
Journal presentation
Week 7: Feb 21 Adverse Outcome Pathways/ Nancy Denslow
AOP Student Project
Week 8: Feb 28 Midterm exam

Week 9: Mar 6 Analytical Chemistry to Measure Toxicants/John Bowden
Tour of mass spec lab

MARCH 9-17: SPRING BREAK

Week 10: Mar 20 Microbiomes and Gastrointestinal Toxicity /Joe Bisesi/
Journal presentation
Saturday Field trip to environmental site for risk assessment -- Date to be decided by class

Week 11: Mar 27 Zebrafish as a Potent Model for Human Health Effects/ Tracie Baker
Journal presentation
Week 12: April 3 Cell-based methods to assess effects from environmental contamination/ Nancy Denslow
Journal presentation
Week 13: April 10 Transcriptomics and Proteomics as measures of environmental activity/Nancy Denslow
Journal presentation
Week 14: April 17 ERA project presentations
Week 15: April 24 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

Percent	*Grade*	*Grade Points*
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