

## **Ecotoxicology and Risk Assessment**

VME 6934:

**Class Periods:** Tuesday, periods -6-8, 12:50 to 3:30

**Location:** CEHT conference room, building 470

**Academic Term:** Spring 2022

### **Instructor:**

Nancy Denslow

[ndenslow@ufl.edu](mailto: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

- Kit Souders, [cksouders@gmail.com](mailto: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
- 5<sup>th</sup> 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 Molecular Effects & Biomarkers/Chris Martyniuk/Chp 6  
Project for Eco Risk Assessment

- Week 5: Feb 8 Cellular and Organ Responses/Nancy Denslow/Chp 7  
Journal presentation
- Week 6: Feb 15 Endocrine Active Agents in the Environment/Nancy Denslow  
Journal presentation
- Week 7: Feb 22 Microbiomes and Gastrointestinal Toxicity in Toxicity/ Joe Bisesi/  
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/ Nancy Denslow
- Week 11: Mar 29 Zebrafish as a Potent Model for Human Health Effects/ Tracie Baker  
Journal presentation
- Week 12: April 5 Transcriptomics and Proteomics as measures of environmental activity/Nancy Denslow  
Debate
- Week 13: April 12 Cell-based methods to assess effects from environmental contamination/ Liz Brammer-Robbins  
Journal presentation
- Week 14: April 19 ERA project presentations
- Week 15: April 26 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***

<b><i>Assignment</i></b>	<b><i>Total Points</i></b>	<b><i>Percentage of Final Grade</i></b>
Class participation		10%
Midterm Exam		35%
Final Exam		35%
Risk Assessment project		10%
Debate		10%
<b>Total</b>		<b>100%</b>

### ***Grading Policy***

The following is given as an example only.

<b><i>Percent</i></b>	<b><i>Grade</i></b>	<b><i>Grade Points</i></b>
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/](http://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](mailto: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](http://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](http://police.ufl.edu).

#### **Academic Resources**

**E-learning technical support**, 352-392-4357 (select option 2) or e-mail to [Learning-support@ufl.edu](mailto: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](#)