University of Florida
College of Public Health & Health Professions Syllabus
HSC 4507: Environmental Toxicology Applications in Public Health (3 credit hours)
Fall 2025
Delivery Format: On Campus/Online with synchronous sessions (HyFlex)
Location: HPNP G-114
Time: Mondays from 3:00 pm to 4:55 pm

Instructor Name:	Joseph H. Bisesi Jr, PhD
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Office Location:	Center for Environmental and Human Toxicology (Building 471/470) Room 105
Office Hours:	Wednesdays 8:30-9:30 am (via zoom)
Teaching Assistant:	Jeantel Cheramy
Email Address:	jcheramy@ufl.edu
Office Location:	Center for Environmental and Human Toxicology (Building 471/470)

Preferred Course Communications: The "Inbox" in Canvas will be used for all email correspondence. While the instructor is reachable through their UF email, the Canvas email inbox is preferred to ensure timely responses to course questions.

Prerequisites
BSC 2005 or BSC 2010 required

PURPOSE AND OUTCOME

Course Overview
Environmental toxicology examines exposure to chemical, biological, and physical agents and associated health effects in humans and wildlife. The course covers environmental fate of chemicals, routes of exposure, mechanisms of toxicity, and approaches that are commonly used by public health officials when dealing with toxicants.

Course Objectives and/or Goals
Upon completion of this course, students will be able to:

1. Describe the role of toxicologists in public health, methods used to quantify toxicity, regulations that govern toxic substances, and assessment of risks posed by exposure to toxicants
2. Differentiate the properties of chemicals, biological toxins, and physical agents that influence fate and toxicity in humans, animals, and the environment
3. Defend the use of common environmental toxicology applications in the practice of public health disciplines
4. Identify current toxicological issues in society and discuss these issues with a lay audience.

Relation to Program and Learning Outcomes
Competencies primarily gained in this course

1. Understanding of effects of toxic substances on humans and the environment
2. Diagnose and investigate health problems and assess risks using a community-centered framework
3. Inform, educate, and empower people about the potential hazards of toxic substances to environmental and human health

4. Understand laws and regulations that protect health and ensure safety
5. Communicate effectively with constituencies in oral and written forms

Competencies reinforced in this course

1. Recognition of the role of environmental sciences in the health of populations
2. Develop policies and plans that support individual, community, and population health
3. Conduct research for new insights and innovative solutions to health problems

Instructional Methods

1. Lectures: Students are responsible for all the material presented. This will be the main source of content in this course.
2. Readings: There are recommended readings each week. In addition to the recommended text, supplementary readings and resources will be posted in the course. The reading list may be supplemented during the course.
3. Student Presentations: Students will present on current events.
4. Assessments: The primary assessments will be written assignments, a presentation, and a mid-term and final examination.

Course Format

This course will be taught in a concurrent on-campus/on-line format known as HyFlex. What this means is that students enrolled in the on-campus sections of the course will attend class on-campus, Mondays from 3:00 pm-4:55 pm in HPNP Room G-114. Students that are registered for the online sections will have the option of either coming to class on the day and time described above or participating in the course via live stream. The course will combine both asynchronous content delivery (lectures) as well as weekly synchronous meetings. The weekly synchronous meetings will be on Mondays from 3:00 pm -4:55 pm. The weekly synchronous meetings will allow time for students to ask questions about lectures or assignments. Additionally, we will use this time for activities that enhance learning such as student presentations and discussions. There will be times when students (on-campus and on-line) will be required to be present at these synchronous meetings (physically or through conferencing software) to facilitate discussions of student presentations. The dates and times for these activities will be posted on canvas.

This course also utilizes a blended learning format. A Blended Learning class uses a mixture of technology and face-to-face instruction to help you maximize your learning. Knowledge content that, as the instructor, I would have traditionally presented during a live class lecture is instead provided online before the live class takes place. This lets me focus my face-to-face teaching on course activities designed to help you strengthen higher order thinking skills such as critical thinking, problem solving, and collaboration. Competency in these skills is critical for today's health professional.

What is expected of you?

You are expected to actively engage in the course throughout the semester. You must come to class prepared by completing all out-of-class assignments. This preparation gives you the knowledge or practice needed to engage in higher levels of learning during the live class sessions. If you are not prepared for the face-to-face sessions, you may struggle to keep pace with the activities occurring in the live sessions, and it is unlikely that you will reach the higher learning goals of the course. Similarly, you are expected to actively participate in the live class. Your participation fosters a rich course experience for you and your peers that facilitates overall mastery of the course objectives.

DESCRIPTION OF COURSE CONTENT

This course is taught as a series of modules, each covering one specific aspect of environmental toxicology. Each module may contain lectures, external links, videos, discussions and required readings as well as

assignments. You are responsible for all course content regardless of the format. The topical Outline/Course Schedule below details the dates of content modules and assignments. Debates and Exams are also listed.

Topical Outline:

Week	Date(s)	Topic(s)	Class Meeting	Recommended Readings	Assignments due
Section I: Introduction to Environmental Policy and Enforcement					
1	8/25/2025	Introduction and History of Toxicology	Syllabus Review	Chapter 1	None
2	9/1/2025	What Makes a Chemical Toxic	**No Class Meeting**, Holiday	Chapters 2-4	None
Section II: Environmental Fate					
3	9/8/2025	Environmental Fate of Chemicals in Water	Lecture Review, Current Events	Chapter 5	Current Events Topic 1 Presentations
4	9/15/2025	Environmental Fate of Chemicals in Soil/Sediment	Lecture Review, Current Events	None	Assignment 1 due Current Events Topic 2 Presentations
5	9/22/2025	Environmental Fate of Chemicals in Air	Lecture Review, Environmental Disasters, Current Events	None	Environmental Disasters Discussion 1 Current Events Topic 3 Presentations
Section III: Chemical Disposition and Toxicity					
6	9/29/2025	Understanding Relationships Between Exposure and Effects	**Class Meeting Online**, Lecture Review, Midterm Exam Review	Chapter 6	None
7	10/6/2025	Exposure Dynamics	**No Class Meeting**, Midterm Exam	Chapters 8-9	Midterm Exam (online)
8	10/13/2025	Organ Specific Toxicity	Lecture Review, Current Events	Chapters 12-18	Assignment 2 due, Current Events Topic 4 Presentations
9	10/20/2025	PBPK and QSAR Modeling in Toxicology	Lecture Review, Environmental Disasters, Current Events	None	Environmental Disasters Discussion 2 Current Events Topic 5 Presentations

Week	Date(s)	Topic(s)	Class Meeting	Recommended Readings	Assignments due
10	10/27/2025	Laws and Regulations Governing Toxicants	Lecture Review, Environmental Disasters, Current Events	Chapter 20	Environmental Disasters Discussion 3 Current Events Topic 6 Presentations
11	11/3/2025	Toxicity Testing Techniques	Lecture Review, Environmental Disasters, Current Events	Chapter 21	Environmental Disasters Discussion 4 Current Events Topic 7 Presentations
12	11/10/2025	Epidemiological Approaches to Toxicants	Lecture Review, Current Events	None	Current Events Topic 8 Presentations
13	11/17/2025	Informed Decision Making and Public Safety	**Class Meeting Online**, Lecture Review	Chapters 24-25	Assignment 4 due
14	11/24/2025	None	**No Class Meeting**, Thanksgiving	None	None
15	12/1/2025	Emerging Contaminants	Lecture Review, Final Exam Review, Current Events	None	Current Events Topic 9 Presentations
16	12/8/2025	Final Exam	Final Exam	None	None

Course Materials and Technology:
Instructional materials for this course consist of only those materials specifically reviewed, selected, and assigned by the instructor(s). The instructor(s) is only responsible for these instructional materials.

Textbook (Recommended):
Principles and Practice of Toxicology in Public Health*, 2nd edition*
Ira Steven Richards and Marie Bourgeois, Jones & Bartlett Learning, 2014 ISBN 978-1-4496-4526-7

e-Learning in Canvas site:
There will be an online site for this course in Canvas, the learning management system supported by the University. Log in at https://elearning.ufl.edu/ and go to course site for HSC4507/PHC6304: Environmental Toxicology Applications in Public Health
Here, I will post the syllabus, lecture slides, assignments and allow for communication between the students and course instructors. You will also turn in assignments through this site. Once the course begins, all communication will take place through the e-Learning in Canvas site. This includes all emails. This will eliminate any issues with students not getting emails due to connection problems. It will be your responsibility to check the site on a routine basis to keep up with announcements, emails, and course modifications.

Getting Started
1. Visit http://elearning.ufl.edu and login to e-Learning in Canvas using your Gatorlink ID and password.

2. Find our course website. It will be listed as HSC4507/PHC6304: Environmental Toxicology Applications in Public Health
3. Complete the "Getting Started" Module under the Modules Tool (left menu). This will prompt you to download and review the syllabus, review the materials on plagiarism, and complete the syllabus quiz.

The remainder of the course materials will be locked and unavailable to you until you have completed the "Getting Started" Module. You MUST earn a 100% score on the quiz in this module for the course materials to open in the course site. If you do not receive a 100% score, please review the feedback on your quiz attempt and retake as soon as possible. This is an important element to ensure that all students are aware of the curriculum requirements for this course. If you have ANY difficulty with this quiz, please send an email in the course using the Canvas "Inbox" as soon as possible.

For technical support related to course materials and links, please contact me and the online course coordinator.
For technical support for this e-Learning in Canvas, please contact the UF Help Desk at:

- Learning-support@ufl.edu
- (352) 392-HELP - select option 2
- http://helpdesk.ufl.edu/

ACADEMIC REQUIREMENTS AND GRADING

General information
Assignments are to be turned in as a Word document or PowerPoint file as directed, unless otherwise indicated. They will be returned to you with comments. If you have unexpected issues with Canvas, you may email the assignment to the course TA and instructor directly. Assignments are normally intended as individual projects unless otherwise directed. Shared work may be treated as a form of plagiarism. Assignments may be required to be submitted via Turnitin in this course (this will be done automatically in the Canvas Assignment). This tool will pick up any passages in students' work that come from another source. Be sure to adequately cite your sources/references for these assignments to avoid plagiarism (see format below). Also please confirm that your work is not overtly plagiarized, the Turnitin system will give you a report. Some similarity is expected and unavoidable, however if large portions are copied from other sources, this will be as considered plagiarism.

The Canvas assignment tool will notify you confirming the submission of your assignment. PLEASE check your UFL email at http://webmail.ufl.edu on a regular basis for these and other email notices from the course site. If you do not receive an email confirmation within 2 hours of submission, please return to the site and resubmit your assignment. It is a student's responsibility to verify that they turn in assignments on time and that they turn in the CORRECT assignment attachment. Please take a few moments to open your submitted attachment and verify that you have submitted the correct file.

You will be graded in the course through the use of written assignments, presentations, graded discussions, and exams.

Written Assignments: (See course topical outline for deadlines)
There will be 4 assignments (4 assignments worth 50 points each; Total 200 points or 26% of final grade).
The written assignments are designed to reinforce the concepts of each section of the course. Students will be expected to apply knowledge from lectures, readings, and peer reviewed publications to answer questions about a given chemical, including its environmental fate, exposure pathways, effects, and methods used by environmental health professionals to assess the chemicals toxicity. Students will be

evaluated on their ability to analyze data and apply concepts from the course to the real-world scenarios presented in the assignments. Assignments are typically 2-4 pages of short answer questions. Written assignments will be due at 11:55 PM on the due date. Late submissions will be subject to the late assignment policy below.

Current Events Presentation (See canvas for assigned deadlines)

Each Student will complete a presentation on a current event as it relates to your assigned topic (100 points or ~13% of your final grade). Students will find an article that describes a current event and prepare a 5-minute presentation on the topic. The presentation will be given in class (in person or via zoom) during our regularly scheduled class meetings. Students will be evaluated on their analysis and summation of the article as well as their ability to apply what they have learned in class to provide suggestions or critiques of the event. More details on the formatting and grading rubric of this presentation will be given on the canvas site.

Environmental Disasters Discussions (See canvas for assigned deadlines)

All students will participate in discussions throughout the semesters (2 discussions worth 30 points each = 60 points or ~8% of final grade). There will be a series of environmental disaster presentations given throughout the course by the graduate students. Undergraduate students are not expected to give an environmental disaster presentation, but they are expected to participate in 2 discussions following these presentations. Each student will be assigned to the presentations in which they will participate in discussions. Students will receive full credit for these discussions by actively contributing to the discussions. Discussions will be conducted as groups, and as long as students are active participants in the group discussion they will receive full credit. All discussions will take place during live synchronous sessions.

Exams (Week 7 and Week 16);

There will be two exams: a midterm (Week 7) and a final (Week 16) (200 points each; Total 400 points or 53% of your grade). The format for both exams will be **CLOSED BOOK**. The midterm exam will test your knowledge of the first series of modules, including material covered in lectures and assigned readings. The final exam will focus on material covered in modules from the midterm onward; however, as this material builds on concepts presented during the first half of the course, it will be imperative to have a good comprehension of material covered during the first part of the course. Both exams will be comprised of multiple choice, matching, short answer, and true/false questions. You will have 2 hours to complete each exam. Exams will be administered through the Canvas Online Learning System. We will utilize Honorlock proctoring service for all exams. More information on how to take exams will be provided on the course site.

Grading

Requirement	Due date	Points
Written Assignments = 4 @ 50 points	See Course Schedule	200
Discussions = 2 @ 30 points total	See Course Schedule	60
Current Event Presentation = 1 @ 100 points	See Course Schedule	100
Midterm Exam = 1 @ 200 points	See Course Schedule	200
Final Exam = 1 @ 200 points	See Course Schedule	200
	TOTAL	760

Point system used (i.e., how do course points translate into letter grades).

Percentage of Points Earned	93-100%	90-92%	87-89%	83-86%	80-82%	77-79%	73-76%	70-72%	67-69%	63-66%	60-62%	Below 62%
Points Earned	703-760	680-702	657-679	627-656	604-626	581-603	551-580	528-550	505-527	475-504	452-474	Below 452
Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E

Passing grades and Grade Points: Credit Earned

Passing Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E
Grade Points	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	0.67	0

For greater detail on the meaning of letter grades and university policies related to them, see the Registrar's Grade Policy regulations at:
http://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

Late Assignments and Make Up Work
Assignments turned in up to 24 hours late will be discounted **10%** of the grade that they would otherwise receive. Assignments turned in more than 24 hours late will **not** be graded and will contribute zero points toward your final grade, unless arrangements have been made in advance with the instructor. Missed assignments will contribute zero points toward your final grade.

Special Circumstances
Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:
https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

In the event of exceptional situations that may interfere with your ability to perform an assignment or meet a deadline, contact the instructor as soon in advance of the deadline as possible. Such special cases will be dealt on an individual basis, provided that you have sufficient documentation.

Please note: Any requests for make-ups due to technical issues MUST be accompanied by the UF Computing help desk (http://helpdesk.ufl.edu/) correspondence. You MUST e-mail me within 24 hours of the technical difficulty if you wish to request a make-up.

Policy Related to Required Class Attendance
Attendance is not required in this course other than during assigned discussions.

All faculty are bound by the UF policy for excused absences. For information regarding the UF Attendance Policy see the Registrar website for additional details: https://catalog.ufl.edu/graduate/regulations/#text

Excused absences must be consistent with university policies in the graduate Catalog. Additional information can be found here: https://catalog.ufl.edu/graduate/regulations/#text

Policy Related to Online Synchronous Sessions
Our class sessions may be audio and visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have

your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated. However, graded discussions require voice participation and text based discussions will not be accepted. If you are unwilling to participate in verbal discussions you may lose points for discussion assignments and may want to consider withdrawing from the course.

Policy Related to AI Use in This Course

The use of AI technologies or generative AI models (e.g. ChatGPT, ChatSonic, Google Bard etc) are not allowed for completion of any assignments in this course.

Failure to cite the use of AI assistive technology, or use of the technology disregarding specific course limitations is considered academic misconduct. **The use of AI on assignments, written assignments, presentation materials, exams, and quizzes when prohibited by course or college instructions is considered cheating** and students are violating the UF Regulations 4.040 Student Honor Code and Student Conduct Code.

ACADEMIC POLICIES & RESOURCES

University academic policies and resources can be found at: https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

STUDENT EXPECTATIONS, ROLES, AND OPPORTUNITIES FOR INPUT

Expectations Regarding Course Behavior

You are expected to maintain a civil tone and respect the opinions of other posters. While commenting on others' discussion points is encouraged, aggressive or patronizing tone and language are unacceptable and may result in the loss of your discussion privileges and may impact your grade.

Communication Guidelines

It is preferred that you contact the professor by email using the "Inbox" in Canvas for clarification and assistance with the course material and the assignments, and for special issues that may arise. Weekday daytime (US Eastern Time) emails have the best chances of being answered quickly.

PHHP Student Resources

PHHP's UPTurn (Unified Pathways to Support Wellness) program is a no-cost mental health and wellness program that is offered year-round to all PHHP students (undergraduate, graduate and professional level) and students (from any college) who are enrolled in PHHP courses. UPTurn advisors support students on their wellness journeys by curating individualized plans (resources and support) to help them manage academic, social, emotional, and health-related stress.

Interested students are paired with an UPTurn advisor, who meets with each student virtually (Zoom, Teams, phone) or in person (private office/room in HPNP) for a 45-minute consultation, followed by (if desired):

1. Up to 4 follow-up skills-building visits
2. When needed and appropriate, up to 10 psychotherapy sessions after completion of the 4 follow-up skills-building visits

Note: UPTurn is NOT a crisis/emergency resource. Students who are in crisis are strongly encouraged to use UF's existing crisis support resources, which are listed here: https://counseling.ufl.edu/services/crisis/

Students can learn more about UPTurn and request an appointment here: https://phhp.ufl.edu/student-resources/upturn-wellness-program/
Any questions regarding UPTurn can be directed to upturn@phhp.ufl.edu or (352) 273-6850.

Inclusive Learning Environment

Public health and health professions are based on the belief in human dignity and on respect for the individual. As we share our personal beliefs inside or outside of the classroom, it is always with the understanding that we value and respect diversity of background, experience, and opinion, where every individual feels valued. We believe in, and promote, openness and tolerance of differences in ethnicity and culture, and we respect differing personal, spiritual, religious and political values. We further believe that celebrating such diversity enriches the quality of the educational experiences we provide our students and enhances our own personal and professional relationships. We embrace The University of Florida's Non-Discrimination Policy, which reads, "The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans' Readjustment Assistance Act."