

Biology 338: Environmental Toxicology
Spring 2011 Syllabus
457 N. Halsey Science
MW 9:10-10:10 am

Professor: Dr. Sabrina Mueller-Spitz (Dr. S for short)
Halsey Science 151
email: muellesr@uwosh.edu
Phone: 424-1104

Office Hours: Wednesday 1:50-3:30 and Thursdays 1:50-3:30
Other times are available by appointment.
Available anytime by email.

Course Readings: All readings will be posted on D2L. There will be papers and weblinks posted for the different topics covered in this course. Papers for class based discussions will be posted in individual folders along with reading questions for each topic.

Course Description: My objective for this course is to provide the students with an appreciation and understanding of the principles of environmental toxicology including but not limited to the following topics of basic chemistry of the toxicants, sources and fate contaminants in the environment and effects of toxicants upon organic life. The emphasis of this class is on contemporary problems in human health and the environment associated with environmental toxicants.

Course Objectives: The main objective of this course is to provide an understanding for the fate and impact of contaminants and toxicants on "organic" life. Upon successful completion of the course, the student should be able to:

1. Understand the fundamentals of toxicology and ecotoxicology.
2. Apply toxicology principles to the fate of toxins and contaminants in the environment.
3. Characterize the biological impacts of toxins and contaminants on "organic life".
4. Critically evaluate environmental toxicology topics in the media and the science behind these studies.
5. Be able to critically evaluate, discuss, explain, and present current topics in environmental toxicology.

Assessment: There will be **three exams**. While the regular exams are not explicitly cumulative, the second and third exams will employ terms and concepts learned during the previous part of the course. There will be NO MAKE UP exams! If a student misses an exam because of extreme circumstances (e.g. death of a close relative or a documented medical excuse) the student will be allowed to take a replacement exam during the last week of the semester. It is the student's responsibility to contact the professor before or immediately following the missed exam to make arrangements. Lack of planning on the student's part could result in earning a failing grade in the course. The grade earned on this replacement exam will be substituted for the one missed exam.

There will be daily in-class activities as the semester proceeds which are associated with an attendance/participation part of your grade. The activities will include group discussions, short quizzes, class participation, and independent exercises. **Attendance is required.** Each class period (excluding exam dates) will include a daily participation point associated with in-class questions. *There are NO make-ups for missing these daily in-class activities.*

Each Wednesday we will spend the first 10-15 minutes of class discussing "what's happening in the environmental toxicology news". This will happen from February 9-April 27. Each student is required to present a current topic to the Wednesday discussion once during the semester. Students should pay attention to local, regional, national, and global events related to the environmental toxicology in all of its aspects. Students need to post the story on D2L discussion page for the rest of the class. Students will have ~5 minutes to present orally on the topic. No late presentations will be allowed.

There will be three case studies where the class will discuss a suite of papers related to 1 specific topic chosen by the class. The professor will find between 4-6 papers per topic. Each student will be responsible for reading the paper before class and answering a series of questions to help facilitate discussion among students that have read the same paper. There will be 10 points associated with each discussion. You **MUST** contribute to the class discussion in order to obtain all of the points for the discussions. Each student will be responsible for sharing/presenting the essential elements about the 1 of the papers to the rest of the class after small group discussion and facilitating the entire class discussion. Each student will sign-up for the discussion date and once papers are posted each student will sign-up for a specific paper of interest. Each paper will be the responsibility of ~2 different students.

The out of class assignments for the ecotoxicology project will be posted on the D2L drop box and mentioned in class. These home assignments **MUST BE** submitted on D2L's drop box to receive credit. **Any late assignment will lose 10% per day that it is late.** There will be a special late drop-box for these late assignments. The ecotoxicology project/paper will need to focus on an aspect of environmental toxicology, which will be based on CURRENT scientific literature (within 5 years). More details will follow in a separate rubric further detailing the assignment about the topic choices, paper format, and criteria. Points will be taken off assignments if references are not included. The accepted format for this class is found in ASM Style Guides for References (posted on D2L). For more information about when to cite consult the instructor or sources like <http://www.princeton.edu/pr/pub/integrity/08/cite/>. If you struggle with writing and putting others' information in your own words, come talk with me during office hours or go and meet with the writing center (<http://www.uwosh.edu/wcenter>). Please read section UWS 14.03 associated with the student code of conduct (<http://www.tts.uwosh.edu/dean/studentdisciplinecode.html#Chapter%20UWS%2014>). **I take academic misconduct VERY SERIOUSLY.** If you have questions about how to correctly summarize someone else's work, please come talk with me.

Point Break Down

Exam 1	75 pts.
Exam 2	75 pts.
Exam 3	100 pts.
Attendance/Daily Participation	75 pts
Environ. Toxicology in the News	10 pts.
Environ Toxicology Project	100 pts.
ET Project Discussion	10 pts.
In-Class Discussions Participation	20 pts.
Case Study Presentation & Discussion Facilitator	20 pts.
Earth Day Activities	5 pts.
Policy & Regulations	10 pts
Total Points	500 pts.

GRADING SCALE:

93-100 %	A
90-92.9 %	A-
87-89.9 %	B+
82-86.9 %	B
81.9-80 %	B-
77-79.9 %	C+
71-76.9 %	C
69-70.9 %	C-
67-68.9 %	D+
61-66.9 %	D
60.9-60 %	D-
less than 60	F

Academic Dishonesty: Cheating on an exam, plagiarizing, or any other form of academic dishonesty will be dealt with in accordance with the current UWO Student Discipline Code <http://www.uwosh.edu/dean/conduct.htm>. Please read this document and understand what is considered academic dishonesty. **Any violation of related to Student Code of Conduct will be dealt with on an individual basis according to the severity of the misconduct.**

Tentative Lecture Schedule:

Topics (Corresponding lecture readings will be posted on D2L)

* *Instructor Reserves the right to change order of topics or remove topics*

Introduction to Environmental Toxicology

Classification of Toxicants

Environmental Fate (distribution, transformations, & global distribution)

Toxicity, Toxicokinetics & Toxic Responses

Toxicity Assays

Biological Response of Organisms (Tetraogenesis, Mutagenesis & Carcinogenesis)

Population Effects

Community & Ecosystem Response

Policy & Regulation (The class will be split into groups to present on these topics. This will not be on exam 3).

Important Course Dates:

Exams	Case Studies/Discussion	ET Project/Paper
Feb 28th	Feb 23rd	All dates for this assignment are found on the document detailing the assignment.
April 6th	April 4th	
Take home Due May 8 th	May 4th	