

Syllabus for: EHI 350

Design and Implement a Research Project in Ecotoxicology (Bulletin Title)

Stony Brook University

Sustainability Studies Program

Instructor: [Sharon T. Pochron](#)

Office Hours: Monday, 12-12:45

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Course Title: Design Ecotoxicology Research

Classroom: Life Sciences Greenhouse, Bay 5 and SBC 640

Semester: Fall

Time: TBA

Credits: 3

SBC: EXP+, STEM+

Course Description: Research, design and implement a unique project in ecotoxicology. Course covers literature reviews, hypothesis formulation, initial implementation of an original research project, and some write-up. Projects vary by year but may involve ecotoxins such as acid rain, heavy metals, pesticides, plastics or herbicides and organisms such as soil microbes and/or earthworms. Students are encouraged but not required to enroll in EHI 351, offered in the spring, to complete and communicate their project. Course may be repeated once.

Additional Course Description:

Students begin the course by performing an extensive review of published literature regarding ecotoxicology using Web of Science and PubMed. Next, they draw on this research to formulate hypotheses and design a novel project to test those hypotheses using the Sustainability Studies Earthworm Ecotoxicology Lab. They will draft high-quality Introduction and Methods sections for their research. Finally, they will initiate their novel research project and begin data collection.

Course Learning Objectives:

- * Understand the methods scientists use to explore natural phenomena including observation, hypothesis development, measurement and data collection, experimentation, and evaluation of evidence.
- * Assess scientific information and understand the application of scientific data, concepts, and models in the natural sciences.
- * Make informed decisions on contemporary issues involving scientific information.
- * Locate and organize information from a variety of appropriate sources.
- * Analyze the accuracy of information and the credibility of the sources.
- * Determine the relevance of the information.
- * Use the information ethically and responsibly to produce novel hypotheses.
- * Design a research project that functions to test their hypotheses.
- * Set up their novel research design.
- * Collect data from their research.
- * Write a high-quality Introduction and Methods section in APA journal style.

Prerequisites: C or higher in BIO 201, BIO 202, or BIO 203; or C or higher in CHE 115, 123, CHE 129, CHE 131, CHE 141, or CHE 152; or C or higher in PHY 121 or PHY 125, a C or higher in ENV 115.

COURSE REQUIREMENTS

Attendance: We need you in class! You need to be there to dig up the worms, feed them, water them, love them! You need to be there to set up the experiment, poison them, and weigh them! You also need to be there to get instructions for literature reviews and teamwork.

How is attendance graded? You have the opportunity to earn 56 points for attendance, two points per day. If you're late or leave early, you earn one point. Those 56 points make up 40% of your grade.

Homework: Homework will include finding relevant papers on Web of Science, reading them and summarizing them. You will create a Powerpoint (or alternate) presentation and give it to the class. Late homework will not be accepted.

Papers: Late papers will not be accepted. For Paper 1, you will write an Introduction section of a paper; for Paper 2, you will write a Methods section of a paper. **Both must be taken to the Writing Center.** Each paper counts as 15% of your grade. Paper 1 is tentatively due on Oct 13. Paper 2 is tentatively due on Nov 10.

Final Project: You will present your introduction and methods via Powerpoint (or something similar) to the class on the last day of class, Dec. 8. You will use the second-to-last day of class (Dec. 6) to prepare for that presentation. If you miss either of these days or if you are more than 10 minutes late, you will lose half a letter grade off your final course grade. So, if you were going to receive an A in the class, but you were 10 minutes late on either Dec. 1 or Dec. 3, you will receive an A-.

Recommended Reading:

1) *Writing Science: How to Write Papers that Get Cited and Proposals that Get Funded*, by Joshua Schimel.

Required Reading:

1) Topical peer-reviewed scientific journal articles discovered and assigned throughout the semester.

Grading:

Attendance: 40%

Homework: 15%

Paper 1: 15%

Paper 2: 15%

Final Project: 15%

Grade Curve:

A = 94-100, A- = 93-90, B+ = 89-87, B = 86-84, B- = 83-80, C+ = 79-77, C = 76-74, C- = 73-70, D+ = 69-67, D = 66-64, D- = 63-60, F = 59 and lower.

Blackboard and E-mail: Please check your e-mail. If I cancel class or change a due-date, that's how I'll let you know. Also, I'll put pdfs of all required reading up on BB.

Class Resources: You will be required to use Blackboard, the Writing Center, Web of Science, and PubMed.

Tentative Schedule and due dates:

Class	Date	Day	Lecture
1	30-Aug-16	Tuesday	
2	1-Sep-16	Thursday	
3	6-Sep-16	Tuesday	No class
4	8-Sep-16	Thursday	
5	13-Sep-16	Tuesday	
6	15-Sep-16	Thursday	
7	20-Sep-16	Tuesday	
8	22-Sep-16	Thursday	
9	27-Sep-16	Tuesday	
10	29-Sep-16	Thursday	
11	4-Oct-16	Tuesday	
12	6-Oct-16	Thursday	
13	11-Oct-16	Tuesday	
14	13-Oct-16	Thursday	Paper 1: Methods. Must have taken it to the Writing Center! Work in pairs. Use the handout.
15	18-Oct-16	Tuesday	
16	20-Oct-16	Thursday	
17	25-Oct-16	Tuesday	
18	27-Oct-16	Thursday	
19	1-Nov-16	Tuesday	
20	3-Nov-16	Thursday	
21	8-Nov-16	Tuesday	
22	10-Nov-16	Thursday	Paper 2: Intro. Must have taken it to

			the Writing Center! Work in pairs. Use the handout.
23	15-Nov-16	Tuesday	
24	17-Nov-16	Thursday	
25	22-Nov-16	Tuesday	
26	24-Nov-16	Thursday	No class
27	29-Nov-16	Tuesday	
28	1-Dec-16	Thursday	
29	6-Dec-16	Tuesday	Prepare presentation.
30	8-Dec-16	Thursday	Final Project: Present your research!

Required Syllabus Information:

DISABILITY SUPPORT SERVICES (DSS) STATEMENT (must be the following language)

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, room 128, (631) 632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential.

ACADEMIC INTEGRITY STATEMENT (must be the following language as approved by the undergrad council):

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at <http://www.stonybrook.edu/uaa/academicjudiciary/>

CRITICAL INCIDENT MANAGEMENT (must be the following language as approved by the undergrad council):

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures.