

Syllabus for: EHI 351

Conduct and Communicate a Research Project in Ecotoxicology (Bulletin Title)

Stony Brook University

Sustainability Studies Program

Instructor: [Sharon T. Pochron](#)

Office Hours: Tu, Thu, 9:00-9:50, or by appointment

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Course Title: Conduct Ecotoxicology Research

Classroom: Life Sciences Greenhouse, Bay 5

Semester: Spring

Time: Tu,Th, 1:00-2:20

Credits: 3

SBC: EXP+

Course Description: Conduct and communicate a student-designed project in ecotoxicology. Course covers data collection, data analysis and write up. Students will communicate their research at an appropriate venue such as URECA. Projects vary by year and will involve ecotoxins such as acid rain, heavy metals, pesticides, plastics or herbicides and organisms such as soil microbes or earthworms. Course builds on a project initiated in EHI 350, but EHI 350 is not a prerequisite. Course may be repeated once with director's approval.

Additional Course Description:

Students will collect data on an existing project, analyze that data using quantitative methods, and turn that information into a poster for URECA or other relevant venues. Students will present their research orally at a relevant venue, such as URECA. If the research yields important results, the students will draft a paper that we will submit for publication in a peer-reviewed journal.

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.

- Interpret and draw inferences from statistical models.
- Employ statistics to solve problems.
- Check statistical results for reasonableness.
- Recognize the limits of statistical methods.
- Research a student-selected topic in ecotoxicology, develop an oral and written argument, and organize supporting details.
- Deliver an oral presentation for the intended audience using a research-focused poster.
- Determine if the research is suitable for publication in a peer-reviewed scientific journal.

Prerequisites: C or higher in one of the following: BIO 204, 205, 207, CHE 133, 134, 154, PHY 123, 124, 133, 134, 191, 192, EHI 350

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.

Papers: Late papers will not be accepted. For Paper 1, you will write an Results section of a paper; for Paper 2, you will write a Discussion/Conclusions 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 _____. Paper 2 is tentatively due on _____.

Oral Presentation: Each student present research orally at the Earthstock Keynote, URECA, or other relevant venues. Your oral presentation counts as 25% of your grade. We will practice in class, but your presentation may occur outside of the scheduled class period.

Required Reading:

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

Naked Statistics: Stripping the Dread from the Data by Charles Wheelan

Topical peer-reviewed scientific journal articles will be assigned throughout the semester.

Grading:

Attendance: 40%

Paper 1: 15%

Paper 2: 15%

Oral Presentation: 30%

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.

Tentative Schedule:

Week	Topic of discussion
1.	Review the established Methods, Collect Data
2.	Review the established Introduction, Collect Data
3.	Read Literature, Collect Data
4.	Discuss Literature, Collect Data
5.	Collect Data
6.	Collect Data
7.	Analyze Data
8.	Analyze Data
9.	Interpret and Write Results, Paper 1 Due
10.	Write Discussion, Paper 2 Due
11.	Create Poster
12.	Practice Oral Presentations
13.	Give Oral Presentations
14.	Review Work, Consider Potential Publication, Build on Bibliography
15.	(week 15 is finals week for fall/spring)

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

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.