FHL 470
Historical Marine Ecology Research Experience

Friday Harbor Labs, University of Washington
Spring 2018
Instructors: Dr. Robin Elahi (elahi.robin@gmail.com), Dr. Hilary Hayford (hayford@uw.edu)
Meeting Times: Tuesdays 4PM, Fridays 8:30AM-5PM (flexible; see schedule for details)
Meeting Locations: Lab X and other locations
Course Website: xxx

The course listing is **here**

Find this resource here: https://github.com/elahi/fhl470/blob/master/syllabus/syllabus.pdf

OVERVIEW

Biological field stations are treasure troves of historical ecological information because a major task of pioneering scientific naturalists was the detailed description of ecosystems. Much of this information remains unpublished in student reports from classes led by professors of botany and zoology in the early 20th century. We will revisit the natural history approach taken by these professors – but through the lens of human impacts and global change. This course provides students with a general introduction to historical marine ecology and the opportunity to do a hands-on research project. Lectures will focus on basic understanding of ecological principles and the role of historical approaches in understanding temporal change. The bulk of the course will be spent engaged in developing and completing a collaborative research project that repeats a historical study with the goal of understanding population- or community-scale change in the intertidal zone.

LEARNING OBJECTIVES

Students will:

1. learn the basics of historical ecology with a focus on marine systems
2. learn about the ecology of rocky intertidal shores through lecture and field activities
3. practice the process and skills of research science ('scientific method')
    - search for, review, and synthesize primary literature and unpublished student reports
    - develop a research question and generate testable hypotheses
    - gather empirical field data to test hypotheses
    - analyze and interpret data using the R programming language
    - form conclusions based on rigorous scientific evidence
    - communicate results via oral and written formats
    - learn best practices for data archival and reproducibility
4. participate in peer review
5. explore science career possibilities and training pathways

EVALUATION AND GRADING

Here is a breakdown of graded tasks, with examples of each:

- Research conduct (30%)
  - project planning and execution
  - good techniques
  - conceptual understanding and stewardship of project
  - record keeping and data archival
  - respect for lab, equipment, and collaborators
- Scientific communication (25%)
  - drafts and revisions for each section of the final research report and oral presentation
- R workshop (25%)
  - data analysis and R computing assignments
- Collaborative participation (10%)
  - discussion facilitation and participation
  - peer reviews
- Classroom exercises (10%)
  - reading assignments
  - ethics course
  - literature search and annotated bibliography

NOTES

Instructor may change the activities schedule or meeting location. You will be notified of any changes.

Use of your personal computer for in-class exercises, such as data analysis and literature searches, is highly recommended. Please let your instructor/TA know if you do not have a computer so we may make classroom arrangements.

Plagiarism and Academic Dishonesty

At the University level, passing anyone else's scholarly work, which can include: written material, exam answers, graphics or other images, and even ideas as your own, without proper attribution, is considered academic misconduct. Plagiarism, cheating, and other misconduct are serious violations of the University of Washington Conduct Code (WAC 478-120). We expect that you will know and follow the UW's policies on cheating and plagiarism. For more information, see the College of the Environment Academic Misconduct Policy:

https://environment.uw.edu/intranet/academics/academic-integrity/academic-misconduct/

You will ALWAYS be expected to properly credit the ideas and words of others in your papers. We will discuss citation formats and strategies in class.

Disability Accommodations
It is crucial that all students in this class have access to the full range of learning experiences. At the University of Washington, it is the policy and practice to create inclusive and accessible learning environments consistent with federal and state law. Full participation in this course requires the following types of engagement:

- Lecture & Discussion: the ability to attend lectures & participate in discussion of 60 minutes with up to 20 other students.
- Lab: the ability to work independently and with peers in the laboratory, including recording observations by hand
- Field Trips: the physical conditioning and ability to participate in trips to beaches & mudflats, including hiking on steep trails, clambering over rocks, walking in the mud, working at night

If you anticipate or experience barriers to your learning or full participation in this course based on a physical, learning, or mental health disability, please immediately contact the instructor to discuss possible accommodation(s). A more complete description of the disability policy of the College of the Environment can be found **here**. If you have, or think you have, a temporary or permanent disability that impacts your participation in any course, please also contact Disability Resources for Students (DRS) at: 206-543-8924 V / 206-543-8925 TDD / uwdss@uw.edu e-mail / http://www.uw.edu/students/drs.

Roles and Responsibilities

Student: inform the instructor no later than the first week of the quarter of any accommodation(s) you will or may potentially require.

Instructors: maintain strict confidentiality of any student's disability and accommodations; help all students meet the learning objectives of this course.