

FSH 437: Fisheries Oceanography

Comments from class
evaluations:

Fisheries Oceanography is a totally new subject for me. It took some work to start to understand the concepts and procedures....

This class was based on conceptual thinking & critical thinking rather than just memorizing facts.

Guest lectures were great, but discussions were best.

Weekly assignments took a lot of time ...

This class filled a lot of holes that existed in what I had learned so far. Study questions were definitely "thought" pieces and it was fun to try and decide exactly how to go about it.

John K. Horne

Introductions

John Horne

School of Aquatic and Fishery Sciences (Rm 322a)

Alaska Fisheries Science Center (Thurs.)

Office hours: by appointment, Weds between class and discussion is good

Logistics

Lecture:

M, W, F; 09:30-10:20; FSH 213

Wednesday Discussions:

14:30 – 16:20; FSH 213

Text Book:

No text book. Readings available on class website

Class Website:

depts.washington.edu/fish437/fis437

(content updated regularly: shift+refresh)

Syllabus: Course Content Overview

1. Introduction to Fisheries Oceanography
2. Fish Distributions and Dynamics
3. Early Life History
4. Population Abundance and Recruitment
5. Sampling Technology
6. Scale-Dependent, Physical-Biological Coupling Examples (small to large)
7. Presentations

Lecture Schedule

Week	Monday	Wednesday	Friday	Weds. Discuss
1 Jan. 2		Logistics	Scales of Fisheries Oceanography Class	Assignments, Proposals, History of Fisheries Oceanography
2 Jan. 9	Ocean Dynamics Kathryn	NE Pacific Oceanography Sean	Distributions, Dynamics Kimberly	Scale
3 Jan 16	MLK day No Class	Production, Density Elliott	ELH I: fecundity, spawning Karen	Recruitment Variability
4 Jan 23	ELH II: feeding, growth Juliette	ELH III: mortality Sam	ELH IV: kinematics Karrin	ELH research
5 Feb 6	Recruitment Kathryn	Recruitment Dan Cooper	Bio-Phys Coupling George Hunt	Stock-recruitment
6 Feb 13	Population abundance indices Sean	Population abundance indices II Kimberly	Midterm	Midterm Review
7 Feb 20	Pres day No Class	Sampling Technology Elliott	Requests for Proposals Karen	Midterm Post Mortem
8 Feb 27	Proposal Components	Multispecies Models Kirstin Holsman	Management Response Steve Barbeaux	Multispecies Models
9 Mar 6	Physical	Biological	Coupling, Recruitment, Management Juliette	Management Response
10 Mar 13	Presentations	Presentations		Presentations

Color code key: pink – guest speaker, aqua – no class, blue – grad student discussion leader topics, red – exam, green – preparation/consultation during discussion, purple – lecture questions

Grading

Component	Percentage
Assignments	25
Midterm Exam	25
Proposal Presentation	25
Proposal Paper	20+5

Outlined in Syllabus

Learning Objectives

A learning objective is a statement of what students will be able to do when they have completed instruction.

For Today:

Explain the structure and content of Fisheries
Oceanography 437

good guide for midterm studying

Teaching Objectives

Philosophy of Approach:

Content – evaluate biological responses of early life stages to a set of environmental conditions (not just one answer)

Skills – critical thinking, integration of concepts, scientific writing and communication

Operational:

- fundamentals then applications (increasing scales)
- guest lecturers (in the trenches) + NE Pacific subtheme
- assignments before discussions to promote thinking and writing, and for discussion preparation
- So what?

How To Succeed in Class?

Class:

- read required reading(s)
- preview lecture slides posted on class website
- identify/prepare theme questions

Assignments:

- start early
- listen to guidance and ask questions when assignment is handed out
- discuss with classmates

Midterm:

- read questions carefully (points + space \propto answer volume)
- check that logic is consistent
- state answer and support it

Expectations

Come to class prepared to participate, having completed assigned readings and/or assignment.

Come to class on time, participate in the course content for the full class period, and refrain from activities that distract from a positive learning environment.

Participate in class and discussions in ways that foster a positive learning environment and show respect for others.

Take an active role in your learning and in the monitoring of your learning.

Have fun, expect to be challenged (it's not personal), and remember that there is typically more than one answer.

What is Fisheries Oceanography?

The study of oceanic processes affecting the abundance and availability of commercial fishes. W. Wooster (1961)

Fisheries oceanography is the study of the distribution and abundance of a living marine resource, focusing on how the life cycle of a commercial species is shaped by the physical and biological characteristics of the ocean. J. Wroblewski

NOAA Fisheries: Research to Understand Integrated Marine Ecosystem Processes

Fisheries-oceanography research seeks to reduce uncertainty in management decisions through coordinated ecological research. These programs target the physical and biological processes (i.e., recruitment variability, compensatory mechanisms, and species interactions) that control the abundance of living marine resource populations. **NOAA: to better understand the influence of the environment on living marine resources in order to improve management.** Secondly, these projects enhance the ability of scientists and managers to identify, understand and manage anthropogenic impacts to marine ecosystems against the background of natural system variability.