BIOL 461/561: Fisheries Ecology and Management

Lecture: Mon-Thurs 2:30-3:50— CLE C109
Tutorial: Thurs 4:00-4:50— CLE C109)
Grad student tutorial: Mon 4:00-4:50— CLE C109
FALL 2022 (CRN: 10449/50, 10458/9)

Objectives: To examine the principles of fisheries science from the basic biology of individuals to dynamic processes of populations, whole fisheries, and how mathematical models are derived to predict changes in fisheries for management purposes.

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Texts: **Required**: Jennings, S., M.J. Kaiser, and J.D. Reynolds. 2001. *Marine Fisheries Ecology.* Blackwell Science Ltd. Oxford, UK. 417pp. **Now available as an ebook in the library**
Recommended: King, M. 2007. *Fisheries Biology, Assessment, and Management*. Blackwell Science Ltd. (any edition); Gotelli, NJ. *A primer of Ecology*, Sinauer (any edition),

Grading:		
	3 Exams	each exam 10% of grade
	Exercises	30%
	Paper	20%
	Presentation	10%
	Peer review	5%
	Attendance/Participation	5%

Grading Policy: You are expected to attend all lecture and tutorial sessions. Lectures will not be recorded. All homework exercises (including reading presentations) must be handed in by 2:30 pm on the due date. Late assignments will incur a 20% penalty during the first 7 days past the due date. No assignments will be accepted more than 7 days past the due date.

Exams: Exams will be held during class time. Any makeup exams will be ORAL exams honoured only with the accompaniment of a medical/personal emergency excuse.

Academic honesty Students will be expected to adhere to the UVic *Policy on Academic Integrity* standards (http://web.uvic.ca/calendar2012/FACS/UnIn/UARe/PoAcI.html). You may discuss how to solve homework assignments together, but are expected to compute and write your results separately.

Paper: A brief summary of the fisheries biology and management of a (marine) species of your choice. A handout outlining appropriate literature and paper format will be distributed in class. For library research help, see our course library guide, http://libguides.uvic.ca/FisheriesEcology

Species choice and 5 references: Due October 13
Final: Due November 17
Length: 5-7 pages (Double-spaced, 12 point font, 1 inch margins)

Presentations: Students will deliver a live or recorded oral presentation on species papers during the last weeks of classes (due November 24 or December 6). Graduate students will lead book review and present oral and written summaries of assigned chapters, and work on a data project.

Grading scale (GPA): A+=90-100 (9); A=85-89 (8); A-=80-84 (7); B+=77-79 (6); B=73-76 (5); B-=70-72 (4); C+=65-69 (3); C=60-64 (2); D=50-59 (1); F=<50 (0)

Course Outline

Part 1. Introduction

Basic definitions

Marine Fisheries Management:

Current Issues	
Objectives and goals	Chapter 1, 17
Marine ecology and production	Chapter 2
Fishery Resources	Chapter 3
Fishing Gear and Methods	Chapter 5
History of Fisheries	
Aquaculture production	
Fisheries today: wild vs aquaculture	
Global	
Canada	

EXAM 1--OCTOBER 6

Species choice and references due **OCTOBER 13**

Part 2. Population dynamics Chapters 4, 9

Age and Growth
Density-independent mortality
Density-dependent mortality
Reproduction
Recruitment
Stock-recruitment models
Age-structured models

EXAM 2--NOVEMBER 7

Part 3. Fishery processes Chapters 7, 8

Surplus production models
Dynamic Pool models
Cohort models (Virtual Population analysis)
Management tactics and strategies
Socio- and Bio-economic models Chapters 6, 11
Conservation issues Chapters 13-16

Papers due on **NOVEMBER 17**
Oral Presentations due on **NOVEMBER 24**
Peer reviews due on **DECEMBER 12**

EXAM 3—December 1

Part 4. Student presentations (A mini-symposium on reading day? Dec 6)

NOTE, Monday October 10 and Thursday November 10 are both holidays.