BIOL 461/561: Fisheries Ecology and Management
Lecture: Mon-Thurs 2:30-3:50 — synchronous (attendance preferred)
Tutorial: Thurs 4:00-4:50 — synchronous (attendance required)
Grad student tutorial: Mon 4:00-4:50 — tba
FALL 2020 (CRN: 10441, 10451)

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

Grading Policy: You are expected to attend all tutorial sessions, lectures will 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 15
Final: Due November 19
Length: 5-7 pages (Double-spaced, 12 point font, 1 inch margins)

Presentations: Students will deliver/record an oral presentation on species papers during the last weeks of classes (due November 26). 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  
Marine ecology and production  
Fishery Resources  
Fishing Gear and Methods  
History of Fisheries  
Aquaculture production  
Fisheries today: wild vs aquaculture  
Global  
Canada

EXAM 1--OCTOBER 8
Species choice and references due OCTOBER 15

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 5

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  
Conservation issues  
Papers due on NOVEMBER 19  
Oral Presentations due on NOVEMBER 26  
Peer reviews due on DECEMBER 14

EXAM 3—December 3

Part 4. Student presentations (A mini-symposium on reading days?)
NOTE, Mondays October 12 and November 9 are both holidays.