BIOL 461/561: Fisheries Ecology and Management

Lecture: Mon-Thurs 1:00-2:20— Clearihue D131
Tutorial: Thurs 2:30-3:20— Clearihue D131
Grad student tutorial: Mon 2:30-3:20— Petch 114
FALL 2016 (CRN: 10394, 10403)

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.

Instructor: Francis Juanes, 116 Petch, 721-6227, juanes@uvic.ca
TA: Mauricio Carrasquilla, 114 Petch, mcarrasq@uvic.ca

Texts: **Required**: Jennings, S., M.J. Kaiser, and J.D. Reynolds. 2001. *Marine Fisheries Ecology.* Blackwell Science Ltd. Oxford, UK. 417pp.
Recommended: King, M. 2007. *Fisheries Biology, Assessment, and Management*. Blackwell Science Ltd. (any edition); Gotelli, NJ. *A primer of Ecology*, Sinauer (any edition),
Weekly readings—from library

Grading:		
	3 Exams	each exam 15% of grade
	Exercises	20%
	Paper	20%
	Presentations	10%
	Attendance	5%

Grading Policy: You are expected to attend all class sessions. All homework exercises must be handed in by 3 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 honored 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 20
Final: Due November 14
Length: 5-7 pages (Double-spaced, 12 point font, 1 inch margins)

Presentations and Readings: Students will present a reading summary that includes review questions (3-5), submit the electronic version, and deliver an oral presentation on species papers during the last week of classes or on final exam date. 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 13

Species choice and references due **OCTOBER 20**

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 14**

EXAM 3—December 1

Part 4. Student presentations (November 17, 24, Final exam day?)

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