OCSC 7400 Fisheries Resource Management

Memorial University of Newfoundland
Department of Ocean Sciences Graduate Course January 2020

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Course Outline

Course Description:
This Graduate Studies course takes a global view of marine fisheries resource management. The objectives, principles and quantitative theories of fisheries management are reviewed. Classroom discussions include the role of industry, federal and regional governments, and non-governmental organizations (NGOs) in managing living marine resources, both wild stocks and aquacultured species. The course has a special focus on how fishery managers could adjust to the risks associated with climate change.

Evaluation method:
First Classroom Presentation 30%
Second Classroom Presentation 30%
Assignments (2 assignments each worth 20%) 40%

Assigned Readings are available online through the D2L shell for the course.

Reference Book:

Lectures:
Topic 1:
Global distribution of demersal fish catches, coastal pelagic fish catches, catches of tuna-like fishes and crustacean catches


Topic 2:
Present state of the world’s fisheries
Food and Agriculture Organization of the United Nations. Fisheries Department (2016). In Brief: The State of World Fisheries and Aquaculture (FAO, Rome)

Topic 3:
Define “fisheries management, fisheries ecology, fisheries stock assessment”
The difference between fisheries science and fisheries management
Hardin, G. 1968. The tragedy of the commons. Science 162: 1243-1248


Hilborn and Walters, Chapters 1 and 2, pages 1-43.

Topic 4:
Type I errors; Type II errors in fisheries science.


Topic 5:
Define “adaptive management”

Hilborn and Walters. Chapter 17, pages 487-514.

Define “ecosystem-based fishery management”

Public policy and scientific uncertainty
The development, implementation and evaluation of public policy
“Virtually certain” means a 99% chance that… “Very likely” means a 90% chance that…

Define “risk assessment, decision analysis”


**Topic 6:**
The role of NGOs in promoting sustainable fisheries and aquaculture
Marine Stewardship Council

**Topic 7:**
Canada’s Fisheries Act

**Topic 8:**
Canada’s Oceans Act

**Topic 9:**
Canada’s Species at Risk Act

**Topic 10:**
Large-scale marine ecosystem domains, fisheries resources and climate change


**Topic 11:**
Implications of natural climate fluctuations for fisheries management

**Topic 12:**
Predicted effect of climate change and ocean acidification on fish and shellfish fisheries production


Rheuban, J.E. et al. 2018. Projected impacts of future climate change, ocean acidification, and
management on the US Atlantic sea scallop fishery. PLOS (Public Library of Science) ONE.

**Topic 13:**
Evaluating predictions of the impact of climate change on fisheries


**Classroom etiquette and Memorial Policies relevant to this course:**
This classroom provides a safe learning environment to all students, regardless of religious, linguistic and economic backgrounds, lifestyle choices, gender, nationality, physical ability or learning differences.

Memorial University is committed to supporting inclusive education based on the principles of equity, accessibility and collaboration. Accommodations are provided within the scope of the University Policies for the Accommodations for Students with Disabilities (www.mun.ca/policy/site/policy.php?id=239). Students who may need an academic accommodation are asked to initiate the request with the Glenn Roy Blundon Centre (www.mun.ca/blundon).

Students are expected to adhere to those principles which constitute proper academic conduct. A student has the responsibility to know which actions, as described under Academic Offences in the University Regulations, could be construed as dishonest or improper. For more information regarding this policy, students should refer to the University Regulations for Academic Misconduct (Section 6.12) in the University Calendar.

**Land Acknowledgement, Memorial University**
We acknowledge that the lands on which Memorial University’s campuses are situated are in the traditional territories of diverse Indigenous groups, and we acknowledge with respect the diverse histories and cultures of the Beothuk, Mi’kmaq, Innu, and Inuit of this province.