

OCES4103 Fisheries and Aquaculture (3-credits)

Introduction to the Course

This course will introduce the biology of fisheries resources, common fishing methods, fisheries management science, and aquaculture from both global and local perspectives. Current practices, theories, new techniques and future directions in fisheries science will be covered to provide a broad understanding of the subject.

Learning Outcomes

After taking this course, students are expected to be able to:

1. Describe the status, operation and management of capture fisheries production
2. Explain the biology of fished resources and how this knowledge is essential for fisheries management
3. Explain aquaculture production and appraise its economic importance
4. Elaborate on marine community dynamics
5. Implement basic fish population modelling
6. Explain the principles of emerging fish monitoring tools

Format (the schedule provided is provisional subject to change)

- Lectures - two lectures per week
- In-class exercises, including mini-projects and hands-on activities
- Field trips

Course Assessment

- Final Examination (60%)
- Participation and assignments (including field trips) (40%)
[Course participation 10%, Written assignment 30%]

Major Reference

“Fisheries Biology, Assessment and Management” 2nd edition (2008) by Michael King
Supplementary references and reading materials will also be made available on Canvas.

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Wk	Topic & Format	
1	Course Introduction; Importance of Fish & Fisheries	
2	World Fisheries Production: past and present status	
	Fishing Gears and Methods	
3	<i>Public Holiday – No Class</i>	
	Hong Kong's Capture Fisheries	
4	Biology of Fishery Resources I	
	Biology of Fishery Resources II	
5	Fishery Stock Assessment I	
	Fishery Stock Assessment II	
6	Fisheries Surveys	
	Introduction to Marine Aquaculture (Mariculture)	
7	Mariculture in Hong Kong	
	Oyster Mariculture in Hong Kong - TBC	
	Field Trip - TBC	
8	<i>No Lecture [compensation for Field Trip on Sat 23 Mar]</i>	
	Marine Ecology in Relation to Fisheries I	
9	Marine Ecology in Relation to Fisheries I	
	<i>Mid-Term Break – No Class</i>	
	<i>Mid-Term Break – No Class</i>	
	<i>Mid-Term Break – No Class</i>	
10	Fish Population Monitoring and Data Analysis I	
	Fish Population Monitoring and Data Analysis II	
11	Introduction to Environmental DNA (eDNA) Analysis	
	Water Sampling for eDNA Analysis (eDNA Project)	
12	Modeling Fish Population Dynamics I	
	Modeling Fish Population Dynamics II	
13	Detection of Fish eDNA Data (eDNA Project)	
	Interpretation of Fish eDNA Data (eDNA Project)	
14	Oral Presentation for the eDNA Project	
	Course Review	

TBC – to be confirmed