

**FISHERY AND AQUACULTURE**  
**Course Information and Syllabus**

**Instructor:**

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Office hours: Sunday, Tuesday 12- 1:00 PM, or by appointment

Week	
	<b>Chapter 1</b>
1	Marine Fisheries: Introduction and Status
	What is a fishery?
	The resource
	The habitat
	The people involved
	World Fisheries Production 1950-2006
	Top species contributing to marine capture fisheries production in 2004
2	Near shore ecosystems and fishing grounds
	Importance of fish as a food source
	Status of Marine Fisheries – a historical perspective
	World capture fisheries production (1950-2006)
	Status of Marine Fisheries
	Fisheries Collapses
	<b>Chapter 2</b>
3	Fish Capture Devices in Industrial and Artisanal Fisheries
	Modern fishing methods
	The basic principles fishing methods
	Main fish capture techniques
	Trawl selectivity factors
	Pelagic trawling
4	Catch Distribution
	The importance of fish behavior in fishing process
	Species and size selectivity
	Artisanal Fisheries
	Research problems in artisanal fisheries
	<b>Chapter 3</b>
5	History of fisheries (science and management)
	<u>Aspects of the nature of fishing</u>
	Origin of fisheries
	Evolution of fishing methods
	Overfishing
	Graham's law of fishing
	<b>Chapter 4</b>
6	Gathering Data for Resource Monitoring and Fisheries Management

	Fisheries information framework
	Information and fisheries management
	Fishing effort and sightings
	Stock structure
7	Community structure
	Environment
	Community dependence and the social status of fishers
	Fisheries data collection and management
	<b>Chapter 5</b>
8	Community-based aquaculture
	Introduction
	Community-based aquaculture
	Community-based rural aquaculture
	Safeguards for freshwater aquaculture
	<b>Chapter 6</b>
9	Reef Fish Spawning Aggregation Monitoring and Guideline
	What is a spawning aggregation SPAG?
	Types of SPAG's
	Finding Fish SPAG's
	Target Species and Seasonality
	Spawning Indicators
	Underwater Visual Survey
10	Catch per Unit Effort and Size (Frequency Analysis)
	Fish Tag and Recapture
	SPAG's and marine reserves
	Management options of SPAG
	<b>Mid term exam</b>
	<b>Chapter 7</b>
12	Aquaculture (principles and practice)
	Why sea food?
	History of aquaculture and its present state
	Introduction to Aquaculture
	Aquaculture and Agriculture
	<b>Chapter 8</b>
13	Phases of Aquaculture
	General Principles
	Aquaculture Systems
	Recirculating aquaculture systems
	Methods of Cultivation (Extensive vs. Intensive)
	<b>Chapter 9</b>
14	Water Quality in Aquaculture
	Environment impact of aquaculture
	Aquaculture of giant clams ( <i>Tridacnidae</i> ) Gulf of Aqaba
	<b>Chapter 10</b>
15	Reproduction, Early Life Stages, Growth

	Feeds and Feed production
	Microalgae
	Zooplankton – Rotifers and brine shrimp
	Artificial diets
	<b>Chapter 11</b>
16	Fish diseases
	General principles – density and disease
	Disease management techniques
	<b>Chapter 12</b>
	Socio-economic aspects of aquaculture
	Planning of small-scale rural aquaculture
	<b>Final exam</b>

### **Assessment of Learning Outcomes**

Learning outcomes will be assessed through Graded Exams and Pop Quizzes. The final exam will contain selected questions repeated from the midterm exams (see **Grading**), and the grade differential for these repeat questions will also be used as measure of overall learning progress.

### **Attendance**

Class attendance is critical to the learning success of students. In addition, graded quizzes will not be announced and if a student misses lectures where quizzes are given, he/she will earn 0 points for each missed quiz (see **Grading**). Therefore, students are strongly advised to attend all lectures.

In the event the instructor is late to class without prior notice, students should wait a minimum of 10 minutes before leaving the classroom.

It is the responsibility of students who miss any lectures to ensure that they have knowledge of the material covered during the missed lectures and of all assigned readings. Office hours will not be used to re-teach the content of missed lectures.

### **Grading**

There will be two written exams (one midterms and one final). The final exam will be comprehensive and will consist of 30% material from the first term, 20% from the lab works term, and 50% from the last term. Exams will worth a total of 80 % exam points. At least five pop quizzes will be given over the semester to worth points of a total of 10 points.

### **Required Reading**

1. Selected chapters or chapter sections from Lucas, J.S. and Southgate, P.C., editors. 2003. Aquaculture. Farming Aquatic Animals and Plants. Blackwell Publishing Co.
2. Additional required reading materials may be assigned during class lectures.