

Department: Biology	Module Code: 09
Module Title: Fisheries and aquatic sciences	Module Credit: 6
Course Title: Fisheries and Aquaculture	Course code: Biol3092
Credit: 2 (2 theoretical classes/week)	Credit Point (ECTS): 3
Instructors name:	Mode of delivery: Block II
Instructors contact information:	Course information:
Office:	Academic year:
Phone:	Semester: I
Email:	Class schedule:
Office hours:	Venue:
Target Group:- 3rd Year First Semester	Course Category:
Pre-request: Biol3091	

1. Course Description:

The course deals with issues in fisheries activities and marketing. Establishment and maintenance of aquaculture, management of fisheries resources and their sustainable exploitation are covered. Also the diversity and geographical distribution of commercially important fishes are included. Fisheries activities in Ethiopia are also discussed. A field trip to selected aquatic body (lake, river, large pond) is recommended at the end of the theoretical part to give students actual experience of theoretically studied material.

1. Course Objective:

After completing the course the students will be able to:

- discuss the diversity, abundance and distribution of most commercially important fish
- discuss the status and potential of Ethiopian fisher resources
- participate in establishment and maintenance of aquacultures
- devise sound fisheries management strategies

1. Student work load:

A student will spend 81 hours on the course (3* 27). These hours distributed to the activities of the course as listed below.

Activity breakdown	Lecture	Field Trip and Report	Independent Study	Total
Time Allocated	32hrs	20hrs	29hrs	81hrs

4. Tentative Course schedule:

Week	Conceptual focus(content)	Readings /Assignments
01	1. Introduction (1 hr)	6 and 7
02	2. Aquacultures (4 hrs) 2.1. Establishment of aquaculture 2.2. Types of aquaculture (ponds, cages and panes) 2.3. Maintenance of aquaculture	2,4,11and12
03	3. Fish reproduction and growth (1hrs)	4 and 11
	4. Diversity of fishes (number of species and abundance of cartilaginous and bony fishes) (4 hrs) 4.1. Marine fish diversity 4.2. Freshwater fish diversity	2,4 and 8
04	5. Commercially important fishes (4 hrs) 5.1. Commercially important fishes of the temperate region 5.2. Commercially important species of the tropics	2,4,8 and 11
05-06	6. Fisheries management (7 hrs) 6.1. Stock assessment 6.2. Recruitment of young 6.3. Ecological requirements of commercially important fish 6.4. Sustainable exploitation	4 and 7
	7. Types of marketing (2 hrs) 7.1. Fresh 7.2. Canned 7.3. Smoked	4,7 and 11
07	8. Benefits from fisheries activities (4 hrs) 8.1. Monetary 8.2. Nutritional 8.3. Food security	4 and 7
08	9. Status and potentials of Ethiopia's fishery resources (3 hrs)	Internet source

5. Teaching Learning Methods:

Lectures, field work, individual or group projects, demonstrations, and group work.

6. Assessment Method

Continuous assessment 50% (including Test 30% Field work 20%)

Final exam 50%

7. Reference Materials:

1. Allan, J.D. (1995). Stream Ecology. Chapman & Hall. London.
2. Begon M., Colin R. T. and John L. H. (2006). Ecology: From Individuals to Ecosystems, (4th ed.) Blackwell Publishing Ltd, Oxford.
3. Cole, G.A. (1983). Textbook of Limnology. (3rd ed.) The C.V. Mosby Company, St. Louis.
4. FAO Training Series No.21/1, 21/2 (1998). Management for Freshwater Fish Culture and Farm Management.
5. Goldman, C.R. & Horne, A.J. (1983). Limnology. McGraw-Hill Book Company, New York.
6. Horne, A.J. and Goldman, C.R. (1994). Limnology. MacGraw Hill, New York.
7. Moss, B. (1998). Ecology of Fresh Waters, Man and Medium. Blackwell Scientific Publications, London.
8. Scheffer, M. (1998). Ecology of Shallow Lakes. Chapman and Hall, London.
9. Wetzel, R. and Likens, G. (2001). Limnology. Academic Press.
10. Fuiman, L. A. and Werner, R. G. (2002). Fishery Science: The Contribution of Early Life Stages. Blackwell Science Ltd, UK.
11. Pillay, T. V. R. (1993). Aquaculture: Principles and Practices. Fishing News Books, UK.
12. Swift, D. R. (1993). Aquaculture Training Manual. Fishing News Books, UK.