

COURSE OUTLINE

1. GENERAL

SCHOOL	NATURAL SCIENCES		
ACADEMIC UNIT	BIOLOGY		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	BIO_YΔA	SEMESTER	6-8
COURSE TITLE	AQUACULTURE		
INDEPENDENT TEACHING ACTIVITIES		WEEKLY TEACHING HOURS	CREDITS
	Lectures, Laboratory Exercises, Field Work	2 (lec) + 3 (lab)	6
COURSE TYPE	Field of Science Skills Development		
PREREQUISITE COURSES	Ichthyology		
LANGUAGE OF INSTRUCTION and EXAMINATIONS	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBSITE (URL)	https://eclass.upatras.gr/courses/BIO305/		

2. LEARNING OUTCOMES

Learning outcomes
At the end of the course the student should be able to:
<ol style="list-style-type: none"> 1. know the categories of aquaculture rearing systems. 2. know the basic parameters of water quality which are important for aquaculture. 3. know the basic stages in the production process in marine aquaculture and biological components in production of fish larvae, live feed, fish juveniles and on-growing of the most important marine fish species. 4. know the production process in culture of microalgae, rotifers and Artemia. 5. comprehend the basic principles of microbial ecology in rearing systems, and processes during deterioration of flesh quality. 6. know the basic impact of aquaculture on the environment and most important fish diseases in cultured fish populations. 7. know the basic principles in culture of salmonids, eels, bivalves, and macroalgae.
General Competences
By the end of this course the student will have developed the following General Abilities :
<ol style="list-style-type: none"> 1. Autonomous (Independent) work 2. Group work 3. Generation of new research ideas 4. Respect for the natural environment 5. Development of free, creative and inductive thinking
Additionally, by the end of this course the student will have developed the following Special skills/competences :
<ol style="list-style-type: none"> 1. The ability to culture microalgae and monitor their growth 2. The ability to culture rotifers and monitor their growth 3. The ability to rear fish larvae and monitor ontogenetical changes 4. The ability to feed fish larvae with live food organisms.

3. SYLLABUS

Introduction to aquaculture. Water quality. Mediterranean Marine Aquaculture. Broodstock management. Microalgae. Live food. Larval cultures. Fish nutrition. Microbial ecology. Fish Diseases. Flesh quality. Environmental impact of aquaculture. Salmonids. Bivalves. Macroalgae.

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY	Face to face	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY	PowerPoint and Prezi presentations. Support of educational procedure using the e-class electronic platform.	
TEACHING METHODS	Activity	Semester workload
	Lectures (13 weeks x 2 hours per week)	26
	Laboratory exercises (6 weeks x 3 hours per week)	12
	Home study	112
	Course total	150
STUDENT PERFORMANCE EVALUATION	<p>Written exams (at the semester's end), in Course theory and lab. Language: Greek. Exams through short answer questions.</p> <p>Final Course Grade: Theory Grade x 0.7 + Laboratory Grade x 0.3</p> <p>Grading scale: 1-10. Passing grade: 5</p>	

5. ATTACHED BIBLIOGRAPHY

Suggested bibliography:

1. Lucas, J.S., Southgate, P.C., and Tucker, G.S., 2021. Aquaculture: Farming aquatic animals and plants. 3rd edition (in Greek)
2. Moretti, A., Pedini Fernandez-Criado, M., Cittolin, G., and Guidastrri, R., 1999. Manual on Hatchery Production of Seabass and Gilthead Seabream Volume 1, F.A.O. Rome.