



COURSE: Hydrobiology and Aquaculture			
ACADEMIC YEAR: 2019/2020			
TYPE OF EDUCATIONAL ACTIVITY: Characterizing			
TEACHER: Stefano Cecchini			
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phone: 0971-2062532			
Language: Italian			
ECTS: 6 (5 lessons & tutorials/1 practice)	n. of hours: 56 (40+16) (lessons e tutorials/practice)	Campus: Potenza School: SAFE Program: LM Agricultural Sciences and Technologies	Semester: I

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

The course aims to provide students with basic knowledge of aquatic life, the relationship between rearing environment and reared fish populations, problems and main techniques and types of farming. The acquisition of the theoretical basis concerning the aquatic ecosystem, energy, the cycle of matter and ecosystem productivity is a prerequisite for understanding the different forms of aquaculture. Students will acquire skills and abilities related to knowledge of aquatic ecosystems and the interaction between culture activities and natural environment. The main skills will be those addressed to the ability to critically analyse the sustainability of culture activities in a given environment and the different farming technologies.

Knowledge and understanding capacities: knowledge and ability to understand the general principles governing aquatic ecosystem life; knowledge and ability to understand biology of the main raised fish species; knowledge and ability to understand the various breeding techniques; knowledge and ability to understand the relationship between aquatic animal and breeding environment.

Knowledge application and understanding skills: ability to analyse and interpret natural phenomena or derived from human activity related to aquaculture; ability to apply and understand acquired knowledge in other disciplines such as animal physiology, nutrition, and statistics.

Autonomy of judgment: the student should be able to evaluate the different rearing techniques and technologies and choose the most appropriate ones according to the considered species and the environmental characteristics of the rearing site.

Communication skills: ability to communicate, using a proper language also suitable for people extraneous to the sector, acquired knowledge and skills.

Learn skills: ability to collect and organize in a functional way the information received during the course and to update the knowledge through personal consultation of texts, publications, participation in courses and seminars and what else can be useful for the purpose.

PRE-REQUIREMENTS

No requirements for attending the course and passing the final exam.

SYLLABUS

water cycle, cycles of matter, chemical and physical characteristics of water, aquatic ecosystem, flow of energy in the ecosystem, productivity, food chain and food web. Meaning of aquaculture, state of the art, relationships between reared animal and rearing environment, physioclimatology, breeding of the main fish species, extensive and intensive farming, mariculture.

TEACHING METHODS

40 hours of lessons and 16 hours of field (technical visits) and laboratory practices.

EVALUATION METHODS

Oral examination at the end of the course.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

- AA. V.V. (2001). Acquacoltura Responsabile. A cura di S. Cataudella e P. Bronzi, Unimar-Uniprom, Roma.
- Bone Q., Marshall N.B., Blaxter J.H.S. (1995). Biology of Fishes. Blackie Academic & Professional, UK.
- Ghittino P. (1985). Tecnologia e Patologia in Acquacoltura. Vol. 1 Tecnologia. Tipografia E. Bono, Torino.



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- Giordani G., Melotti P. (1984). Elementi di Acquacoltura. Edagricole, Bologna.
 - Lawson T.B. (1994). Fundamentals of Aquacultural Engineering. Kluwer Academic Publishers.
 - Odum E.P. (1988). Basi di Ecologia. Piccin, Padova.
 - Saroglia M., Ingle E. (1992). Tecniche di Acquacoltura. Edagricole, Bologna.
 - Wedemeyer G.A. (1996). Physiology of Fish in Intensive Culture Systems. Chapman & Hall, NY.
 - clipboard, lecture slides, educational material given during the course.
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INTERACTION WITH STUDENTS

- in the office at planned days/hours
 - email, skype (every time)
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EXAMINATION SESSIONS (FORECAST)

Calendar online: <https://unibas.esse3.cineca.it/Home.do>

SEMINARS BY EXTERNAL EXPERTS YES NO

EVALUATION BOARD

Dr. Stefano Cecchini (President), Prof. Adriana Carmen Di Trana (Member), Prof. Maria Brigida Lioi (Alternate Member)
