COASTAL AND MARINE BIOLOGY AND ECOLOGY (LM51)

(Lecce - Università degli Studi)

Teaching ENVIRONMENTAL PHYSIOLOGY

GenCod A002335

Owner professor Maria Giulia LIONETTO

Teaching in italian ENVIRONMENTAL PHYSIOLOGY

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SSD code BIO/09

Reference course COASTAL AND MARINE BIOLOGY AND ECOLOGY

Course type Laurea Magistrale

Credits 6.0

Teaching hours Front activity hours: 52.0

For enrolled in 2017/2018

Taught in 2018/2019

Course year 2

Language ENGLISH

Curriculum PERCORSO COMUNE

Location Lecce

Semester First Semester

Exam type Oral

Assessment Final grade

Course timetable https://easyroom.unisalento.it/Orario

REQUIREMENTS	basic knowledge of general physiology
COURSE AIMS	The objective of the course is to provide students the basic knowledge of the environmental physiology (physiological responses to the variability of the environmental factors), and to gain a sound background in the physiological responses of animals to environmental pollutants and in their application in the ecotoxicological monitoring.
TEACHING METHODOLOGY	Lectures (5 CFU, 40h) and exercitations (1 CFU, 12 h)
ASSESSMENT TYPE	oral examination

FULL SYLLABUS	-Internal environment and external environment -Physiological responses to environmental variability. -Conformists and regulators -Homeostasis -Range of tolerance and resistance -Adaptation and acclimatization -Temperature limits for living organisms, adaptations to extreme temperatures -Heat exchanges between the organism and the external environment -Determinants of body heat -Endothermic and ectothermic organisms -Thermal homeostasis -Water exchanges between the organism and the external environment -Osmoregulation in aquatic environments. -Osmoregulation in terrestrial environments -Gas exchange between the organism and the environment -Respiration in aquatic and terrestrial environments - Homeostatic control of oxygen concentration -Organisms and environmental chemical pollutants -Absorption, distribution, metabolism, accumulation, and escretion of chemical pollutants -Detoxification mechanisms -Effect of pollutants on proteins and nucleic acids -Oxidative stress and exposure to environmental chemical pollutants -Endocrine disruptors -Toxicity testing -Biomarkers and their application in environmental biomonitoring
REFERENCE TEXT BOOKS	- P. Willmer, G. Stone, I. Johnston. Environmental Physiology of Animals. Blackwell Publishing -W.C.H. Hopkin, S.P.Sibly, R.M. Peakall. Principles of Ecotoxicology. Taylor and Francis