COASTAL AND MARINE BIOLOGY AND ECOLOGY (LM51)

(Lecce - Università degli Studi)

Insegnamento ECOLOGY AND BIOLOGY OF TRANSITIONAL WATERS

GenCod A005723

Docente titolare Alberto BASSET

Insegnamento ECOLOGY AND BIOLOGY OF TRANSITIONAL WATERS

Anno di corso 1

Insegnamento in inglese ECOLOGY AND BIOLOGY OF TRANSITIONAL WATERS

Lingua

Settore disciplinare BIO/07

Percorso Curriculum Marine Biology and Ecology

Corso di studi di riferimento COASTAL AND MARINE BIOLOGY AND ECOLOGY

Tipo corso di studi Laurea Magistrale

Sede Lecce

Crediti 6.0

Periodo Secondo Semestre

Ripartizione oraria Ore Attività frontale: 52.0

Tipo esame

Per immatricolati nel 2021/2022

Valutazione

Erogato nel 2021/2022

Orario dell'insegnamento https://easyroom.unisalento.it/Orario

BREVE DESCRIZIONE DEL CORSO

The course focuses on the emergent properties of transitional water ecosystems as and ecological domain at the interface among the freshwater, marine and terrestrial ones. The course gives to the student compenences on the driving forces of TWs structural and functional components, addressing patterns and underlying mechanims of biodiversity organisation, ecosystem functioning and properties and ecosystem services in TW ecosystems.

PREREQUISITI

foundations of animal and plant biology and microbiology, elements of physical and chemical properties of water, inorganic and organic chemistry, coastal geomorphology at the level of high school and bachelor degrees

OBIETTIVI FORMATIVI

The course is aimed at giving to the students a solid preparation on ecology and biology of transitional waters for the achievement of an established knowledge and a deep understanding of the ecological phenomena, at all level of the ecological scales, driving the structure, organisation and functioning of transitional water ecosystems.

In order to provide these skills, the course envisages activities aimed at: acquiring deep knowledge on the biology and ecology of these ecosystems and practical, operative and adequate skills of a ecologist specialized on this ecological domain through practicals in lab, field and eScience infrastructure facilities and external activities, such as formative trainings, laboratories, and/or stages with Italian and foreign universities, also within the framework of international agreements of transnational access with European Research Infrastructures, with outstanding lab (elab) facilities for TW studies, such as Danubius-RI, eLTER and LifeWatch ERIC

METODI DIDATTICI

Lectures at presence and/or distance learning and practicals in lab (BIOforIU), field (Aquatina choked lagoon) and eScience (LifeWatch) infrastructures

MODALITA' D'ESAME

Oral exam with student presentations and intermediate tests during the course

PROGRAMMA ESTESO	Fundamentals of transitional waters: geaomorphological classification, typology and taxonomy of transitional waters; driving forces and emergent properties. NIche dimensions of transitional waters: niche theory and question-based limiting dimensions, limiting abiotic niche dimensions in TW, water salinity, temperature, oxygen concentration, nutrient contents and 'chemical species', water and sediment chemical pollutants. The biotic components of transitional waters: niche filtering and coloniser selections, species functional traits (micro-organisms, phytoplankton, macrophytes, macroinvertebrates, fish fauna), functional diversity and niche filtering (micro-organisms, phytoplankton, macrophytes, macroinvertebrates, fish fauna); TW biotic component under changing climates. Biodiversity organisation in TWs: biodiversity definition, measurements and open problems; biodiversity organisation: species coexistence and coexistence models; species distribution, taconomic composition, taxonomic richness, species diversity, trit distribution and morphofunctional diversity; decodng biodiversity organisation fron biodiversity patterns. Biodiversity conservation: biodiversity organisation mechanisms and biodiversity conservation procedures; species redundancy and scales of biodiversity conservation in transitional waters. Ecosystem functioning and services in TW: ecosystem functioning, primary productivity, decomposition processes, nutrient recycling and parsimony in TW ecosystems; ecosystem services, ecosystem service classification, ecosystem service valuation and pricing, citizen science approach to transitional water ecosystemn service valuation, ecosystem services and natural capital. Past ecosystem services of transitional waters and the Mediterranean culture.
TESTI DI RIFERIMENTO	Booklets and materials produced by the lecturer, published papers and reports