

# COASTAL AND MARINE BIOLOGY AND ECOLOGY (LM51)

(Lecce - Università degli Studi)

## Teaching MARINE LIFE CYCLES AND SYMBIOTIC ASSOCIATIONS

GenCod A006025

**Owner professor** Genuario BELMONTE

**Teaching in italian** MARINE LIFE CYCLES AND SYMBIOTIC ASSOCIATIONS

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**SSD code** BIO/05

**Reference course** COASTAL AND MARINE BIOLOGY AND ECOLOGY

**Course type** Laurea Magistrale

**Credits** 8.0

**Teaching hours** Front activity hours: 68.0

**For enrolled in** 2022/2023

**Taught in** 2022/2023

**Course year** 1

**Language** ENGLISH

**Curriculum** Curriculum Marine Biology and Ecology

**Location** Lecce

**Semester** First Semester

**Exam type** Oral

**Assessment** Final grade

**Course timetable**  
<https://easyroom.unisalento.it/Orario>

### BRIEF COURSE DESCRIPTION

diversity of life cycles of marine invertebrates; post-embryonic development; larvae and metamorphosis; life histories. factors determining space-time dynamics of communities. evolution of life cycles and life history traits. co-evolution of species and survival strategies.

### REQUIREMENTS

Zoology, Comparative anatomy, Histology, Embryology, basic Ecology, Genetics

### COURSE AIMS

each student will be able to learn and understand:  
differences between life cycle stages and life history traits  
diversity, similarity, and uniformity of embryo and post-embryo development  
adaptation and conditioning in animal associations and communities

in addition, it will be developed:  
synthesis ability in treating/communicating scientific arguments  
ability in planning and execution of sampling of life cycle elements in the marine environment, other than analysis of samples and data generation for statistical elaboration.

### TEACHING METHODOLOGY

frontal lessons, study and comprehension of scientific literature, practical experiences in the field

### ASSESSMENT TYPE

the examination consists of a multiple answer questionnaire on the whole program, plus an oral presentation on a single argument (selected by the student)

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## FULL SYLLABUS

Diversity of Life Cycles in marine organisms, Stages and steps of development (egg, embryo, larva, juvenile, adult), intraspecific polymorphism. Fertilization (internal and external); Larvae and individual polymorphism. Life cycle and life history. Egg and Embryo development; postembryonic development (direct, indirect), larvae and metamorphosis. Ancestral condition and Metazoa evolution (the Trochaea theory). Resource utilization by different stages, reproductive strategies (sexual and asexual) and adulthood. Reproductive behaviour (mating, brooding, parental care). Life cycles of marine organisms and ecological implications (population dynamics, settlement-recruitment; pre and post-settlement events). Space-time community dynamics and assembly rules. Supply Side Ecology and Connectivity, Supply Vertical Ecology and Resurrection Ecology. Definition of closed and open communities. Metapopulation and metacommunity concepts. Factors controlling local biodiversity. Importance of biotic relationships and species associations within communities. Intra-specific and Inter-specific relationships. Individual, Species, and Community Polymorphism.

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## REFERENCE TEXT BOOKS

scientific articles and didactic material distributed by the teacher