

## Spatial Distribution of Genetic Biodiversity (C004240)

**Course size** *(nominal values; actual values may depend on programme)*

**Credits 3.0** **Study time 75 h**

**Course offerings in academic year 2026-2027**

A (semester 2) English Gent

**Lecturers in academic year 2026-2027**

Machado Schiaffino, Gonzalo

OVIED001 lecturer-in-charge

**Offered in the following programmes in 2026-2027**

[International Master of Science in Marine Biological Resources](#)

crdts	offering
3	A

**Teaching languages**

English

**Keywords**

biodiversity, distribution, populations, genetics

**Position of the course**

**Contents**

- Theory: Population genetic structure and gene flow. Population differentiation, F analysis. Indicators of population mixture. Wahlund effect. Distribution of genetic variation within a species and its determining factors.
- Populations and stocks. Molecular applications to the management of exploited populations. Identification of biological and management units. Estimates of effective population size through genetic variation. Inference of bottlenecks. Genetic signatures and examples of marine metapopulations.
- Practical work: Research-based of a case study comprising field, laboratory, analytical work using modern software. Critical analysis of a relevant quality publication; analysis of a real dataset with state of the art software.

**Initial competences**

Graduate level in sciences. Basic knowledge in molecular biology is recommended.

**Final competences**

- 1 Students should be acquainted with state of the art methodologies currently applied in the analysis of spatial structure of marine populations.
- 2 They should also be able to design complete protocols for analysis of genetic biodiversity, population and stock structure.

**Conditions for credit contract**

Access to this course unit via a credit contract is determined after successful competences assessment

**Conditions for exam contract**

This course unit cannot be taken via an exam contract

**Teaching methods**

Seminar, Lecture

**Study material**

None

**References**

**Course content-related study coaching**

**Assessment moments**

continuous assessment

**Examination methods in case of periodic assessment during the first examination period****Examination methods in case of periodic assessment during the second examination period****Examination methods in case of permanent assessment**

Peer and/or self assessment, Assignment

**Possibilities of retake in case of permanent assessment**

examination during the second examination period is possible

**Extra information on the examination methods**

Presentation of the results of the case study supported by visual material. Team working is encouraged and peer evaluation will represent 20% final score.

**Calculation of the examination mark**