GHENT UNIVERSITY

Course Specifications

Valid as from the academic year 2024-2025

Landscape Genetics in Marine Settings (C004238)

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

Méndez, Trinidad Pérez	OVIED001	lecturer-in-charge

Offered in the following programmes in 2026-2027	**crdts**	**offering**
International Master of Science in Marine Biological Resources	3	A

Teaching languages

English

Keywords

genetics, genomics, diversity, populations

Position of the course

Contents

Theory: Environmental factors promoting spatial genetic diversity at sea. Vertical and horizontal genetic and genomic population differentiation. Spatial barriers in the ocean and scale effect on genetic and genomic variation. Genetic diversity in special populations: islands, hydrothermal vents, coral reefs, abyssal plains. Speciation hotspots at sea. Mixing-isolation-mixing models in impermanent barriers, and other ocean features promoting speciation. Climate change and changes in marine gene pools: polar, temperate and tropical species. Anthropogenic disturbances of marine genetic landscapes.

Practical work: Critical analysis of recent and relevant publications. Research-based approach for solving a case study of spatial differentiation using real data of marine species and state of the art software.

Initial competences

Graduate level in sciences. Basic knowledge in marine genomics is recommended.

Final competences

Students should be acquainted with main factors and oceanic features that explain the spatial structure of populations at sea, and how they affect genes and genomes of marine species.

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

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. Report in writing. Active engagement in class discussions and activities.

Calculation of the examination mark