GHENT UNIVERSITY

Course Specifications

Valid as from the academic year 2024-2025

Comparative Endocrinology and Endocrine Disruption (COO4295)

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

Credits 4.0 **Study time 100 h**

Course offerings in academic year 2026-2027

A (semester 2) English Gent

Lecturers in academic year 2026-2027

Ortiz-Zarragoitia, Maren	LEIOA01	lecturer-in-charge
Izagirre, Urtzi	LEIOA01	co-lecturer

Offered in the following programmes in 2026-2027	**crdts**	**offering**
International Master of Science in Marine Biological Resources	4	A

Teaching languages

English

Keywords

molluscs, crustaceans, fish, reproduction, sexual determination, pollution, health assessment

Position of the course

Fish reproduction, sex determination and differentiation. Endocrinology of marine fish and shellfish. Endocrine and reproductive effects of pollutants. Applications to fisheries, aquaculture and environmental pollution assessment.
Aims (a) to introduce the students to the wide diversity and variability existing in fish reproduction and sexual determination and differentiation processes; (b) to offer to the students basic knowledge on endocrinology of marine fish and shellfish; (c) to show the students the effects of environmental pollutants on endocrine system and reproduction of fish and shellfish; and (d) to develop skills to estimate reproductive stages in fish and shellfish and understand modern tools on aquaculture of fish and shellfish species.
At the end of the Unit, you should be able to Identify sex and gonad development in fish and shellfish and to Identify effects of pollutants in reproductive and endocrine system in fish and shellfish

Contents

1. Reproduction in the marine environment: Fish and shellfish
2. Reproduction strategies and cycles in fish
3. Sex determination and differentiation in fish
4. Endocrinology of fish
5. Hormones and their function in fish
6. Impact of environmental pollutants on fish reproduction and endocrine system
7. Aquaculture strategies in fish: tools to improve fish reproduction
8. Endocrinology of main marine shellfish groups (crustaceans, molluscs and echinoderms)
9. Hormones in shellfish: participation on reproduction
10. Endocrine disruption on marine invertebrates
11. Shellfish aquaculture: modern tools and techniques

Initial competences

Basis of bioscience or animal science and environmental sciences

Final competences

1 Understand reproduction strategies in fish.
2 Identify reproduction strategies and reproductive gonad stages in fish and shellfish.
3 Have gained a knowledge of impact of environmental pollutants on fish and shellfish reproduction and endocrine system, as well as of hormonal regulation in aquaculture.

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, Practical

Extra information on the teaching methods

Lectures 20
Practicals 6
Seminars 6
Computer class 4
Tutorials 4

Study material

None

References

to be provided during the course

Course content-related study coaching

Assessment moments

end-of-term assessment

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

Oral assessment, Written assessment

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

Oral assessment, Written assessment

Examination methods in case of permanent assessment

Possibilities of retake in case of permanent assessment

not applicable

Calculation of the examination mark