

## Environment and Fisheries/Aquaculture Interactions (C004230)

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

**Credits 4.0**      **Study time 100 h**      **Contact hrs**      36.0h

**Course offerings in academic year 2022-2023**

A (semester 2)      English      Gent

**Lecturers in academic year 2022-2023**

Martínez, Iciar      LEIOA01      lecturer-in-charge  
Eguiraun, Harkaitz      LEIOA01      co-lecturer

**Offered in the following programmes in 2022-2023**

[International Master of Science in Marine Biological Resources](#)      **crdts**      **offering**  
4      A

**Teaching languages**

English

**Keywords**

molluscs, crustaceans, fish, genomics, transcriptomics, pollution, health assessment

**Position of the course**

General overview of the impact of environmental and breeding conditions on the safety/quality of seafood, both in fisheries and in aquaculture. The students will get a general overview on the interactions between environmental and breeding conditions on the safety/quality of seafood, both in fisheries and in aquaculture. Aims to provide a general view of the impact of environmental conditions, pollutants, climate change and breeding conditions on the safety, quality and biochemical composition of seafood; to provide knowledge suitable to be applied to farming practices and to seafood safety; and to provide a general view of the impact of fisheries and aquaculture on environmental quality status and ecosystem health.

At the end of the unit, you should be able to:

- 1 Find relevant information including updates in laws and regulations and Rapid Alert System for Food and Feed (RASFF);
- 2 Actively participate in seminars and discussions;
- 3 Become familiar with the production system and the introduction, control and elimination of undesirable substances from the production chain.
- 4 Understand the relationship between environmental conditions and seafood safety

At the end of the Unit the student should be able to find relevant information including updates in laws and regulations and Rapid Alert System for Food and Feed (RASFF); and become familiar with the seafood production system and the introduction, control and elimination of undesirable substances from these seafood production chain.

**Contents**

- 1 The environment and seafood safety: introductory remarks
- 2 Seafood safety hazards: anthropogenic contaminants, toxins, virus, bacteria, allergen, parasites
- 3 Emerging risks and climate change
- 4 Ensuring seafood safety: Hazard analysis and critical control points (HACCP)
- 5 Seafood quality: fish nutrition, harvesting methods, post-mortem changes
- 6 Seafood authenticity and how to fight fraud on species identification, geographic

- origin, production and processing.
- 7 Environmental impact of fisheries and aquaculture
- 8 Intelligent aquaculture systems

**Initial competences**

Basis of bioscience or animal science and environmental sciences.

**Final competences**

- 1 Know the foundations of seafood safety and authenticity.
- 2 Understand how diverse factors affect fish wellbeing and seafood safety/quality.
- 3 Know procedures to ensure seafood safety/quality and human health.
- 4 Be familiar with analytical methods to identify fraud and the relationship between fraud and seafood safety.

**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, Seminar: coached exercises

**Extra information on the teaching methods**

- Lectures 24
- Practicals 8
- Seminars 8

**Learning materials and price**

Delivered during the course (free)

**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**

Report, Written examination, Oral examination

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

Report, Written examination, Oral examination

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

not applicable

**Calculation of the examination mark**

- written/oral examination (50%),
- oral report (50%)