GHENT UNIVERSITY

# Course Specifications

Valid as from the academic year 2024-2025

## Physiology of Aquatic Organisms (I001579)

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

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

**Course offerings and teaching methods in academic year 2024-2025**

| | | | |
|---|---|---|---|
| A (semester 2) | English | Gent | lecture |
| | | | practical |

**Lecturers in academic year 2024-2025**

| | | |
|---|---|---|
| Van Hecke, Thomas | LA22 | lecturer-in-charge |

| **Offered in the following programmes in 2024-2025** | **crdts** | **offering** |
|---|---|---|
| Master of Science in Aquaculture | 3 | A |
| Exchange Programme in Bioscience Engineering: Agricultural Sciences (master's level) | 3 | A |

**Teaching languages**

English

**Keywords**

Physiology, aquatic organisms, fish.

**Position of the course**

Animal physiology can be defined as the study of the function of animals and their constituent parts. The ultimate goal of this subject is to understand the mechanisms that operate in living organisms at all levels, ranging from cell to the whole organism. This goal is a very ambitious one, for each living organism, a single cell, is incredibly complex.

**Contents**

1. Introduction: Central themes in animal physiology
2. Energetics of living cells
3. Membranes, channels, transport
4. Ionic and osmotic balance
5. Gas exchange and acid base balance
6. Hormonal control
7. Energy metabolism, size and temperature

**Initial competences**

General biology, chemistry and biochemistry.

**Final competences**

1 The student understands the structure and function of biomembranes.
2 The student ynderstands the ionic and osmotic balances and gas exchanges.
3 The student understands the acquisition and use of energy.
4 The student is able to apply good laboratory practices.
5 The student is able to perform measurements on energy use (respiration rates, energy stores).

**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**

Lecture, Practical

**Extra information on the teaching methods**

**Study material**

None

**References**

Randall, Burggren, French: Eckert Animal Physiology: mechanisms and adaptations.
WH Freeman and Company

Willmer, Stone, Johnston: Environmental Physiology of Animals. Blackwell Science

Moyes, Schulte: Principles of Animal Physiology. Pearson Education

Voet, Voet: Biochemistry. Whiley Press.

**Course content-related study coaching**

Study guidance upon request by email or on appointment.

**Assessment moments**

end-of-term and continuous 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**

Participation

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

examination during the second examination period is not possible

**Extra information on the examination methods**

**Calculation of the examination mark**

Out of 20:
20 point attributed to the oral exam with written preparation

Students that do not attend practical classes without a valid reason, should retake the course the next academic year.

Students who eschew period aligned and/or non-period aligned evaluations for this course unit may be failed by the examiner.