

# Course Specifications

Valid as from the academic year 2024-2025

# Physiology of Aquatic Organisms (1001579)

Course size	(nominal values; actual values may depend on programme)					
Credits 3.0	Study time 75 h					
Course offerings and tea	ching methods in academic y	/ear 2024-2025				
A (semester 2)	English	Gent	Gent le		ecture	
			pr	actical		
Lecturers in academic ye	ar 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	А	
Exchange Programme in Bioscience Engineering: Agricultural Sciences (master's level)				3	А	

#### **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.