

## Biomedical Physiology (C004086)

Due to Covid 19, the education and evaluation methods may vary from the information displayed in the schedules and course details. Any changes will be communicated on Ufora.

<b>Course size</b>	<i>(nominal values; actual values may depend on programme)</i>		
<b>Credits</b> 5.0	<b>Study time</b> 150 h	<b>Contact hrs</b>	45.0 h

### Course offerings and teaching methods in academic year 2020-2021

A (semester 1)	English	Gent	online lecture	22.5 h
B (year)			online lecture	22.5 h

### Lecturers in academic year 2020-2021

Brouckaert, Peter	WE14	lecturer-in-charge
de Graaf, Dirk	WE10	co-lecturer
Vereecke, Lars	GE35	co-lecturer

### Offered in the following programmes in 2020-2021

	crdts	offering
<a href="#">Bachelor of Science in Molecular Biotechnology</a>	5	A, B

### Teaching languages

English

### Keywords

Physiology, Skin, muscles, Nerves, Sense-organs, Hormones, Blood, Hart, Lymph, Respiration, Digestion, Excretion, Reproduction

### Position of the course

The physiology of man is the study of the functions of the human body, organ systems and their interactions in the intact organism. Regulatory mechanisms taking care of homeostasis in normal, adaptive physiological and pathological situations are at the center stage. Physiology is a course that allows to integrate the knowledge obtained in other courses. Experimentation skills will be trained.

### Contents

- Chapter 7: Endocrine System
- Chapter 8: Neurons
- Chapter 9: The Central Nervous System
- Chapter 10: Sensory Physiology
- Chapter 11: Autonomic and Somatic Motor Control
- Chapter 12: Muscles
- Chapter 14: Cardiovascular Physiology
- Chapter 15: Blood Flow and Blood Pressure
- Chapter 16: Blood
- Chapter 17: Mechanics of Breathing
- Chapter 18: Gas Exchange and Transport
- Chapter 19: The kidneys
- Chapter 20: Fluid and Electrolyte Balance
- Chapter 21: Digestive System
- Chapter 22: Metabolism and energy balance
- Chapter 23: Endocrine control of growth and metabolism
- Chapter 26: Reproduction and Development

### Initial competences

Knowledge of Biodiversity in the Animal Kingdom, Cell Biology, Biochemistry, Physics.

## **Final competences**

- 1 Insights into the function of the human body, the interactions between the different organs and the origin and consequences of certain diseases/affections.
- 2 The integrative character of this course is an ideal opportunity to teach students how to make links between different fields.
- 3 The student acquires the necessary basis to follow more specialized physiological courses as Immunology, Neurobiology, Endocrinology and Pathophysiology and can place this knowledge in the context of the whole organism.
- 4 Through the Practical Exercises students develop an independent problem solving attitude.
- 5 In addition, the student acquires a good basis for future research in animal physiology.

## **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, practicum, online lecture

## **Learning materials and price**

Siverthorn et al. (2016) Human Physiology: an integrated approach. Seventh Edition. (Cost: about 75 Euro-reduced price possible with group order through Chemica student association, ebook around 50 Euro)

## **References**

Fox Stuart Ira, „Human Physiology, 12de editie, The McGraw Hill Companies, ISBN: 978-0-07-337811-4  
Saladin Kenneth S., „Anatomy and physiology: the unity of form and function, 3de editie, The McGraw Hill Companies, ISBN 0-07-291926-4  
Silbernagl S. and Despopoulos A., „Atlas of physiology, 15de editie, SESAM, ISBN 978-90-5574-588-3

## **Course content-related study coaching**

This course is further supported through the UFORA forum and contacts with lecturers before and after the lectures and during the practicum

## **Evaluation methods**

end-of-term evaluation and continuous assessment

## **Examination methods in case of periodic evaluation during the first examination period**

Written examination with open questions, written examination with multiple choice questions, oral examination

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

Written examination with open questions, written examination with multiple choice questions

## **Examination methods in case of permanent evaluation**

Participation, job performance assessment, report

## **Possibilities of retake in case of permanent evaluation**

examination during the second examination period is not possible

## **Calculation of the examination mark**

End-of-term evaluation (80%) and permanent evaluation (20%). To obtain credits the student has to pass for both the end-of-term evaluation and the permanent evaluation. The results of the permanent evaluation of the first examination period are transferred to the second examination period.