

Biomedical Physiology (C004086)

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

Credits 5.0 Study time 150 h Contact hrs 45.0 h

Course offerings and teaching methods in academic year 2019-2020

A (semester 1) English lecture 22.5 h

Lecturers in academic year 2019-2020

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

Offered in the following programmes in 2019-2020

	crdts	offering
Bachelor of Science in Molecular Biotechnology	5	A

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: Endocrien 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

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 Minerva 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.