

Physiology and Pathophysiology of Body Systems (J000351)

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

Credits	7.0	Study time	210 h	Contact hrs	52.5 h
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Course offerings and teaching methods in academic year 2018-2019

A (semester 1)	Dutch	lecture	45.0 h
		practicum	7.5 h

Lecturers in academic year 2018-2019

Van de Voorde, Johan	GE33	lecturer-in-charge
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Offered in the following programmes in 2018-2019

Bachelor of Science in Pharmaceutical Sciences	crdts	offering
	7	A

Teaching languages

Dutch

Keywords

Physiology, pathophysiology, organs, body systems, targets for drugs.

Position of the course

This course highlights the functional structures (anatomy) and the mechanisms involved in the normal functioning (physiology) of the human body and the consequences of common dysfunction of the body systems (pathophysiology). Much attention is given to potential drug targets. This course is the follow-up of the course human anatomy and general physiology and is necessary to understand courses taught in higher years such as pathology, pharmacology and pharmaceutical care/rational drug therapy.

Contents

In connection with the course "Human Anatomy and General Physiology", this course deals with the structure and function of several body systems, more specifically the cardiovascular system, blood, respiration and pulmonary system, gastro-intestinal system and renal system. As much as possible links are made to targets of drugs acting on these systems. The chapters also deal with topics on pathophysiological concepts responsible for the most common diseases and with aspects of pharmaceutical care for patients. In the practical exercises some tools to evaluate physiological functions will be demonstrated and applied.

Initial competences

Having successfully completed the courses "Human Anatomy and General Physiology" and "Animal Cell Biology and Histology" or having acquired the corresponding competences in another way.

Final competences

- 1 to integrate knowledge on cardiovascular function and to link this knowledge with pathological situations and cardiovascular adaptations to special situations (f.e. exercise).
- 2 to integrate knowledge on respiratory function and to link this knowledge with pathological situations and respiratory adaptations to special situations (f.e. exercise, stay at high altitude).
- 3 to associate knowledge of the function of the different blood cells with problems such as bleeding, allergy, anemia.
- 4 to integrate knowledge on gastro-intestinal function and to link this knowledge with pathological situations and uptake of food elements and drugs in the organism.

5 to integrate knowledge on renal function and to link this knowledge with homeostasis of Na⁺ and water and the function of diuretics.

6 to understand common medical terminology.

7 to have practical competences in reporting findings, techniques (measurement of blood pressure, spirometry) and research methods related to physiology and pathophysiology.

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

Extra information on the teaching methods

Lectures (with illustrations using computer and computer simulations).
Practical classes in which the student measures physiological parameters on him/herself.

Learning materials and price

A syllabus + notes for practical exercises (in Dutch) will be available. Price: about 8 €. Presentations used in the lectures are available on the electronic learning platform.

References

"Principles of Anatomy and Physiology" (Tortora and Derrickson), 13th edition.
"Pathophysiology" (Copstead and Banasik), 3th edition.

Course content-related study coaching

Students have different possibilities to ask questions, both individually and in group: before or after the classes or on appointment. Small numbers of questions can also be answered by e-mail. For larger numbers the student should make an appointment.

Evaluation methods

end-of-term evaluation

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

Written examination with multiple choice questions

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

Written examination with multiple choice questions

Examination methods in case of permanent evaluation

Possibilities of retake in case of permanent evaluation

not applicable

Extra information on the examination methods

Theory: periodic, written
Practical classes: periodic, written.
Theory and practical classes are examined at the same time (written examination with multiple choice questions).
Unjustified absence from practical classes results in exclusion from theoretical examination. There is a second examination chance for the practical classes

Calculation of the examination mark

Theory: 95 % of total score and practical classes: 5 % of total score. Calculation of the final score of the multiple choice questions is based on standard setting.