Course syllabus for

The Structure and Function of the Organ Systems, 27 credits

Organsystemens struktur och funktion, 27 hp
This course has been cancelled, for further information see Transitional provisions in the last version of the syllabus.

Course code	2TL032
Course name	The Structure and Function of the Organ Systems
Credits	27 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Not applicable
Level	G1 - First cycle 1
Grading scale	Pass, Fail
Department	Department of Neuroscience
Participating institutions	• Department of Physiology and Pharmacology • Department of Dental Medicine
Decided by	Programnämnd 10
Decision date	2014-11-10
Revised by	Education committee DENTMED
Last revision	2019-10-24
Course syllabus valid from	Spring 2015

Specific entry requirements

Biology 2, Physics 2, Chemistry 2, Mathematics 4 (field specific entry requirements A13). Or: Biology B, Physics B, Chemistry B, Mathematics D (field specific entry requirements 13).

Objectives

The general aim of the course is that the student should acquire knowledge and skills about the normal microscopical and macroscopic structure of the body and function which constitute solid basis for the continued studies under the program and the future profession exercise.

The general aim is achieved through the following learning outcomes divided into the different modules of the course:

Module 1:

The Anatomy, Histology and Physiology of the Organ System 1, 9 credits

On completion of the module, the student should:

- know medical terminology related to the musculoskeletal system, skin, supporting tissue and the nervous system.
- be able to account for the normal organisation of the body and function at cellular, tissue, organ and organ systemic level concerning ephitelium, supportive, muscle and nerve tissue, the musculoskeletal system, skin and the nervous system including the sensory organs.
- be able to account for the anatomy of the organ systems histology and normal function with respect to: the musculoskeletal system, including the muscle function and motor function, the nervous system with sensory organs and skin.
- understand the relationship between the structure and function of the in this part included organ systems
- have practical knowledge of and be able to account for examination methods of cranial nervous function, sight, taste and muscle function
- be able to use a microscope
- be able to identify the in this part included cell types and tissues in histological preparations by means of microscopes and images.

Module 2:
The Anatomy, Histology and Physiology of the Organ System 2, 9 credits

On completion of the module, the student should:

- be able to medical terminology related to blood/bone marrow cells, circulatory, respiratory, urogenital, digestive, thymolymphatic and endocrine organs.
- be able to account for the normal organisation of the body and function at cellular, tissue, organ and organ systemic level concerning blood/bone marrow cells, circulatory, respiratory, urogenital, digestive, thymolymphatic and endocrine organs.
- be able to account for the anatomy of the organ systems histology and normal function with respect to: circulation, respiration, digestion (including oral physiology), blood/bone marrow cells, thymolymphatic organs, urogenital organs (including kidney function, fluid balance, acid-base regulation and reproduction) and endocrine organs.
- understand the relationship between the structure and function of the in this part included organ systems
- have practical knowledge of and be able to account for examination methods for blood pressure, heart/lung function and respiratory regulation.
- be able to identify the in this part included cell types and tissues in histological preparations by means of microscopes and images.

Module 3:
Oral Anatomy, 3 credits

On completion of the module, the student should:

- be able to account for the macroscopic structure of the throat and the head
- be able to identify and palpate the anatomic structures of the throat and the head
- understand the relationship between the macroscopic structure of the throat and the head and function
- be able to account for oral pain pathways and pain physiology

Module 4:
Synthesis of Structure and Function of Organ System, 6 credits

On completion of the module, the student should:

- independently be able to integrate, synthesise and present acquired knowledge of the structure of

the organ systems, organisation and function.

Content

The course contains modules that treat general and oral anatomy, histology and physiology. The integration between structure and function take place in stages in four modules with two initial modules focused on the structure and function with functional applications of the organ systems. Thereafter is a module that treats specific aspects on the structure and function of the throat and the head. In the final module, a synthesis of structure and function takes place.

The Anatomy, Histology and Physiology of the Organ Systems 1, 9.0 hp

Grading scale: GU

The modulet includes medical terminology and the anatomy, histology and function of the organ systems divided into: the musculoskeletal system (epithelium, musculature, connective tissue (in. cartilage and bone) and muscle function), the nervous system (including integrative brain functions, autonomic nervous system, sensory physiology, sensory and motor function) with sensory organs and skin.

The Anatomy, Histology and Physiology of the Organ Systems 2, 9.0 hp

Grading scale: GU

The module includes medical terminology and the anatomy, histology and function of the organ systems divided into: circulation, respiration, digestion (including oral physiology), urogenital organs (including kidney function, fluid balance, acid-base regulation and reproduction) and endocrine organs.

Oral Anatomy, 3.0 hp

Grading scale: GU

Specialisations of particularly significant areas in dentistry within the organ systems with an emphasis on the anatomy of the head and the throat.

Synthesis of Structure and Function of Organ Systems, 6.0 hp

Grading scale: GU

Synthesis of the academic discipline of all previous modules (1-3) to give an overall view of the organ systems and their functions.

Teaching methods

Module 1:
The Anatomy, Histology and Physiology of the Organ System 1, 9 credits
The teaching is given in the form of lectures, laboratory sessions, teacher-supervised demonstrations, group microscopy classes and individual microscopy sessions with and without teacher supervision.

Module 2:
The Anatomy, Histology and Physiology of the Organ System 2, 9 credits
The teaching is given in the form of lectures, laboratory sessions, teacher-supervised demonstrations, group microscopy classes and individual microscopy sessions with and without teacher supervision.

Module 3:
Oral Anatomy, 3 credits
The teaching is given in the form of lectures, group studies with and without teacher supervision and teacher-supervised dissections.

Module 4:
Synthesis of Structure and Function of Organ System, 6 credits
The working methods include lectures as well as independent studies during the final part of the course.

Examination

Module 1:
The Anatomy, Histology and Physiology of the Organ System 1, 9 credits
Written examination. Web-based examination regarding the histological appearance of the tissues.

Module 2:
The Anatomy, Histology and Physiology of the Organ System 2, 9 credits
Written examination. Web-based examination regarding the histological appearance of the tissues.

Module 3:
Oral Anatomy, 3 credits
Oral examination

Module 4:
Synthesis of Structure and Function of Organ System, 6 credits
Written integrated examination

In connection with the course, examinations for part 1 are given, 2, 3 and 4 at one regular occasion and two make-up opportunities. Students who do not pass a regular examination are entitled to re-sit the examination on five more occasions. If the student has failed six examinations/tests, no additional examination is given. In case a student is registered for an examination but does not attend, this is not regarded as an examination.

Transitional provisions

The course has been cancelled and was offered for the last time in the spring semester of 2019. Examination will be provided until the spring of 2020 for students who have not completed the course.

Other directives

A course evaluation is carried out according to the guidelines established by the Board of Higher Education.

Literature and other teaching aids

Martini, Frederic.; Nath, Judi Lindsley.; Bartholomew, Edwin F.
Fundamentals of anatomy & physiology Fundamentals of anatomy and physiology

9th ed. : San Francisco : Benjamin Cummings, c2012. - 1114 s.
ISBN:978-0-321-70933-2 (student edition : alk. paper) LIBRIS-ID:12159363
Library search

Ross, Michael H.; Pawlina, Wojciech.
Histology : a text and atlas : with correlated cell and molecular biology

6. ed. : Philadelphia : Wolters Kluwer/Lippincott Williams & Wilkins Health, c2011
ISBN:9781451101508 (International ed.) LIBRIS-ID:12030789
Library search

Halsens och huvudets deskriptiva och topografiska anatomi
Albiin, Nils

Lund : Studentlitt., 1982 - 164, [9] s.
ISBN:91-44-17811-5 LIBRIS-ID:7276881
Library search

Sobotta, Johannes
Sobotta atlas of human anatomy Atlas of human anatomy : Head, neck, and neuroanatomy
Paulsen, Friedrich; Waschke, Jens
Klonisch, T.; Hombach-Klonisch, S.

15th ed. : Munich : Elsevier Urban & Fischer, 2011 - 370 s.
ISBN:978-0-7234-3733-8 LIBRIS-ID:12531447
Library search

Atlas of anatomy : Latin nomenclature
Gilroy, Anne M.; MacPherson, Brian R.; Ross, Lawrence M.; Schünke, Michael.; Schulte, Erik.; Schumacher, Udo.

New York : Thieme Medical, 2009 - xv, 656 p.
ISBN:1-60406-099-9 LIBRIS-ID:11505359
Library search