



**Karolinska  
Institutet**

Course syllabus for

## **Examination - Physiology 2, 7.5 credits**

Tema undersökning - Fysiologi 2, 7.5 hp

This course syllabus is valid from autumn 2018.

Please note that the course syllabus is available in the following versions:

Autumn2015 , Spring2017 , Autumn2017 , Spring2018 , Autumn2018

Course code	1FY014
Course name	Examination - Physiology 2
Credits	7.5 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Not applicable
Level	GX - First cycle
Grading scale	Pass, Fail
Department	Department of Physiology and Pharmacology
Decided by	Programnämnd 3
Decision date	2015-05-04
Revised by	Education committee NVS
Last revision	2018-04-13
Course syllabus valid from	Autumn 2018

## **Specific entry requirements**

Physical Education 1, Mathematics 2a / 2b / 2c, Natural Sciences 2, Social Sciences 1b / 1a1+1a2 (field specific entry requirements A15). Or: Physical Education A, Mathematics B, Natural Sciences B, Social Sciences A (field specific entry requirements 17).

## **Objectives**

The aim of the course is to introduce the subject physiology with a specialisation in the physiology of the internal organ systems, environmental physiology, exercise physiology, aging physiology, pharmacology and to provide the students an opportunity to develop basic theoretical knowledge in physiology to be able to become part of an integrated clinical thinking. The course also aims at stimulating a scientific attitude.

Learning outcomes

At the end of the course, the student should be able to:

- describe and explain parts of physiological functions regarding the autonomic nervous system, the normal functioning of the internal organs and the effects on various external environmental

- factors, stress and aging; immune system; muscular function in different types of muscle work
- describe parts of the basic principles of pharmacology

## Content

Physiology 2 may be summarised to include teaching of the function of the internal organ systems and introduction to pharmacology which includes:

- Blood - the components of the blood, hemostasis
- Heart and circulation - the conduction system and pumping of the heart, valvular diseases of the heart, methods to examine heart function, hemo-dynamics, blood pressure and blood pressure regulation, the lymphatic system, circulatory adaptation
- Respiration - respiratory mechanics, lung volumes, gas exchange, gas transport, respiratory regulation
- Work and environmental physiology - adaptation to various temperatures, high height, diving, submaximal and maximum work
- Introduction to exercise physiology - the energy system of the muscle, fitness training, strength training
- Endocrinology
- Digestion and nutrition
- Immunology
- Kidney function and fluid balance
- Pharmacological basic principles
- Stress
- The physiology of aging

The course is given in direct connection to the course Theme Examination - Anatomy, moment 3 Inner organs anatomy.

## Teaching methods

The teaching is based on a problem-oriented and collaborative approach to learning in which the tasks provide opportunities for the student to take active responsibility for their learning. The used teaching methods are lectures, laboratory sessions and own work with study questions. In addition to this, the student is expected to acquire a large part of the knowledge through theoretical self-study.

The student is given the opportunity to feedback on his or her knowledge through electronic questionnaires on the learning platform and through active participation in question time with teaching teachers.

Compulsory participation for a pass grade on a course is:

- participation in laboratory sessions

The course coordinator decides whether, and if so how, absence from compulsory course elements can be made up. Study results cannot be reported until the student has participated in compulsory course elements or compensated for any absence in accordance with instructions from the course coordinator. Absence from a compulsory course element could mean that the student can not retake the element until the next time the course is offered.

## Examination

The course is examined with a written examination integrated with the course Theme examination -

Anatomy, moment 3 Visceral organs anatomy.

A student who has not approved after the ordinary examination opportunity are entitled to participate in further five examinations. If the student has completed six failed examinations/tests, no further examination opportunity will be given. As an exam opportunity, the times are counted when the student participated in one and the same exam. The submission of blank written exam is counted as an examination opportunity.

Examination opportunity to which the student was enrolled but did not participate is not counted as an examination opportunity.

In the case of failed results of regular examination, the student is given the opportunity to return to a re-examination in the same semester. After that, the student is given the opportunity to be examined on two occasions per semester, in connection with the regular and rest occasions (rest exam), the coming semesters.

## **Transitional provisions**

An examination will be made available for a period of one year in the event of the course being discontinued or a new course syllabus being devised.

## **Other directives**

Course evaluation is conducted according to the guidelines established by the Board of Education at KI.

## **Literature and other teaching aids**

### **Fysiologi**

*Lännergren, Jan; Westerblad, Håkan; Ulfendahl, Mats; Lundeberg, Thomas*

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