



**Karolinska  
Institutet**

Course syllabus for

## **Integrative Physiology, 15 credits**

Integrativ fysiologi, 15 hp

This course syllabus is valid from autumn 2013.

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

Autumn2008 , Autumn2011 , Autumn2013

|                            |  |
|----------------------------|--|
| Course code                | 1BI006   |
| Course name                | Integrative Physiology   |
| Credits                    | 15 credits   |
| Form of Education          | Higher Education, study regulation 2007                          |
| Main field of study        | Biomedicine  |
| Level                      | G2 - First cycle 2   |
| Grading scale              | Excellent, Very good, Good, Satisfactory, Sufficient, Fail, Fail |
| Department                 | Department of Physiology and Pharmacology                        |
| Decided by                 | Programnämnden för biomedicinprogrammen                          |
| Decision date              | 2008-08-28   |
| Revised by                 | Programme committee for study programmes in biomedicine          |
| Last revision              | 2020-01-27   |
| Course syllabus valid from | Autumn 2013  |

## **Specific entry requirements**

At least grade E at the courses Introduction to Biomedical Science, and General and Organic Chemistry, and at least grade G (pass) at the parts Basal metabolism (3 credits) and Biochemical laboratory methods (3 credits) of the course Medical Biochemistry, and the part Cell biology (6 credits) of the course Cell Biology and Genetics at the Biomedicine programme.

## **Objectives**

Upon completion of the course, the student should be able to:

- describe the normal physiological state and homeostasis mechanisms in the human body,
- explain how selected diseases develop, and how they are diagnosed and treated,
- account for basic anatomical structures in the various organ systems,
- account for the functions of the various organ systems in the body, and how they communicate with each other,
- provide a general account for how the various organ systems are regulated,
- provide a general account for how intracellular signaling occurs in various specialised cells,
- identify relevant original and overview articles dealing with specific topics in physiology, and

- analyse and consolidate these in the form of a presentation,
- take into account ethical considerations in research on humans.

## Content

The course focuses on physiological principles and regulatory mechanisms within the following areas: membranes and nerves; autonomic nervous system; muscle (skeletal, heart, and smooth muscle); heart and circulation; respiration; kidney, fluid and electrolyte balance, acid-base control; gastrointestinal tract; endocrinology; regulation of body temperature; exercise physiology; environmental physiology.

The course is divided into the following parts:

### Integration of practical features, 4.0 hp

Grading scale: UG

Part time exam, laboratory practicals and seminars.

### Project work, 3.0 hp

Grading scale: UG

The project work involves searching, analysing and summarising current literature, ending in an oral presentation.

### Integration of the course contents, 8.0 hp

Grading scale: AF

## Teaching methods

Teaching will be in the form of lectures, laboratory practicals, seminar work and a project that serve to describe and illustrate the functional characteristics of the different organ systems.

## Examination

Integration of practical features (4 credits). The examination consists of an oral quiz that covers the material given in the first part of the course, and presentations of given problems. Graded Fail/Pass.

Project work (3 credits). The examination consists of an oral presentation. Graded Fail/Pass.

Integration of the course contents (8 credits). The examination consists of a written exam. Graded A-F.

The final grade for the whole course is based on the grade for the part Integration of the course contents. To pass the whole course (grade E or above), the grade pass must have been obtained for the other parts on the course.

### Compulsory participation

Laboratory practicals and seminars are compulsory. The course director assesses if and, in that case, how absence can be compensated. Before the student has participated in all compulsory parts or compensated absence in accordance with the course director's instructions, the student's results for respective part will not be registered in LADOK.

### Limited number of examinations

Students who have not passed the regular examination are entitled to participate in five more examinations. If the student is not approved after four examinations, he/she is recommended to retake the course at the next regular course date, and may, after that, participate in two more examinations. If the student has failed six examinations/tests, no additional examination or new admission is provided.

The number of times that the student has participated in one and the same examination is regarded as an examination session. Submission of a blank examination is regarded as an examination. An examination, for which the student registered but not participated in, will not be counted as an examination.

## **Transitional provisions**

The course has been cancelled and was offered for the last time in the autumn semester of 2014.

## **Other directives**

The course language is English.

Course evaluation will be carried out in accordance with the guidelines established by the Board of Higher Education.

Oral evaluation in the form of course council meetings will be carried out during the course.

## **Literature and other teaching aids**

### **Mandatory literature**

#### **Medical physiology : principles for clinical medicine**

*Rhoades, Rodney; Bell, David R.*

3. ed. : Philadelphia : Lippincott Williams & Wilkins, cop. 2009 - 816 s.

ISBN:978-0-7817-6852-8 LIBRIS-ID:10702457

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