



**Karolinska  
Institutet**

Course syllabus for

## **Basic Biology, 7.5 credits**

Grundläggande biologi, 7.5 hp

This course syllabus is valid from autumn 2024.

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

Autumn2022 , Autumn2023 , Autumn2024

Course code	2PS040
Course name	Basic Biology
Credits	7.5 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Not applicable
Level	GX - First cycle
Grading scale	Fail (U), pass (G) or pass with distinction (VG)
Department	Department of Clinical Neuroscience
Participating institutions	<ul style="list-style-type: none"><li>• Department of Neuroscience</li></ul>
Decided by	Education committee CNS
Decision date	2022-04-06
Revised by	Education committee CNS
Last revision	2024-02-28
Course syllabus valid from	Autumn 2024

## **Specific entry requirements**

Mathematics 2a or 2b or 2c, Social Sciences 1b or 1a1+1a2.

## **Objectives**

On completion of the course, the student should be able to

1. describe at a general level basic concepts of evolution
2. reflect on how knowledge of human physiology can be useful for a professional psychologist or researcher in psychology
3. describe at a general level the cell's energy metabolism and protein synthesis
4. describe the structure and function of the nervous system
5. describe at a general level the structure and function of the motor system
6. describe the structure and function of the nerve cell and the neurotransmission
7. describe the location and function of certain neuroanatomical structures
8. describe the structure and function of the autonomic nervous system, as well as different stress

responses

9. describe at a general level the structure and function of the following organ systems; cardiovascular system, gastro-intestinal tract, liver, kidney, respiratory tract and reproductive organs

10. describe at a general level the components and function of blood, immune system and of certain hormone systems

11. identify and briefly describe the competence of the different professionals working in healthcare.

## Content

The course gives the student basic knowledge in human anatomy and physiology with focus on function. Cell biology is covered at a general level, with a focus on the cell's energy metabolism and protein synthesis. Structure and function of the nerve cell and the nervous system, glial cells, neuroanatomy, motor behaviour and the autonomic nervous system are studied in more detail. The physiology of the rest of body is also part of the course, this includes cardiovascular physiology, respiration, gastro-intestinal tract, endocrinology, the reproductive organs, immune system and blood at a more general level. Examples are given on how knowledge of human physiology is needed to understand other courses of the study programme of psychology, and how this knowledge can be of great value to a professional psychologist and a researcher in psychology. The course presents an overview of human evolution and behaviour of animals, and how this can contribute to the knowledge of human psychology.

A full day with interprofessional learning (IPL) together with other students from semester 1 studying at KI's programmes, is also included.

During the course a number of opportunities to attend training in adult-CPR (cardiopulmonary resuscitation) will be offered.

## Teaching methods

Most teaching takes the form of lectures. Seminars and group assignments are part of the course, as is a workshop in neuroanatomy where the students participate in a demonstration of human brain tissue, and a laboratory session where the students will dissect an animal heart and inspect a human corpse. A full day with interprofessional learning (IPL) together with other students from semester 1 studying at KI's programmes, is also included. The students are offered rehearsal questions that covers the course content.

Some course elements are compulsory, see heading "Examination".

## Examination

The course is examined in the following way:

- a) written examination in evolution, is graded U (Fail) or G (Pass)
- b) written final examination (excluding evolution), is graded U, G or VG (Pass with distinction)
- c) two oral tests, each is graded U or G
- d) compulsory participation in group assignment
- e) compulsory participation in the IPL day of Karolinska Institutet
- f) compulsory written assignment

The course is graded U, G or VG.

The grade G requires G on examination assignment a and b, G on both oral tests in assignment c, as well as fulfillment of compulsory course elements d, e and f, according to instructions.

The grade VG on the course requires, in addition, VG on examination assignment b.

*Absence from or unfulfillment of compulsory course elements*

The examiner decides whether, and if so how, absence from or unfulfillment of compulsory course elements can be made up for. Study results cannot be reported until the student has participated in or fulfilled compulsory course elements, or compensated for any absence/ failure to fulfill in accordance

with instructions from the examiner. Absence from or unfulfillment of a compulsory course element may imply that the student can not retake the element until the next time the course is offered.

#### *Opportunity for exception from the regulations of the course syllabus of examination*

If there are special grounds, or a need for adaptation for a student with a disability, the examiner may decide to deviate from the syllabus's regulations on the examination form, the number of examination opportunities, the possibility of supplementation or exemptions from the compulsory section/s of the course etc. Content and learning outcomes as well as the level of expected knowledge, skills and attitudes may not be changed, removed or reduced.

## **Transitional provisions**

If the course is cancelled or goes through substantial changes, information about interim regulations will be stated here.

## **Other directives**

Course evaluation takes place according to KI's local guidelines. Results and other measures are returned to the students on the course web.

## **Literature and other teaching aids**

### **Mandatory literature**

#### **Människokroppen : fysiologi och anatomi**

*Sand, Olav; Sjaastad, Øystein V.; Haug, Egil; Bjålie, Jan G.; Toverud, Kari C.  
Bolinder-Palmér, Inger; Olsson, Kristina*

Tredje upplagan : Stockholm : Liber, [2021] - 668 sidor  
ISBN:9789147142873 LIBRIS-ID:1f7cddfz3598w7k

[Library search](#)

*Purves, Dale.*

#### **Principles of cognitive neuroscience**

2nd ed. : Sunderland, Mass. : Sinauer Associates, c2013.  
ISBN:978-0-87893-573-4 LIBRIS-ID:13905270

[Library search](#)

Additional articles/ other resources according to teacher's instructions