



**Karolinska  
Institutet**

Course syllabus for

## **Tissue Biology, 4 credits**

Vävnadsbiologi, 4 hp

This course syllabus is valid from autumn 2022.

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

Autumn2018 , Autumn2019 , Autumn2021 , Autumn2022 , Autumn2023

Course code	1BI040
Course name	Tissue Biology
Credits	4 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Biomedicine
Level	G2 - First cycle 2
Grading scale	Pass with distinction, Pass, Fail
Department	Department of Laboratory Medicine
Decided by	Programnämnden för biomedicinprogrammen
Decision date	2018-03-23
Revised by	Programme committee for study programmes in biomedicine
Last revision	2022-03-23
Course syllabus valid from	Autumn 2022

## **Specific entry requirements**

At least grade pass (G) at the courses Introduction to biomedical science; General and organic chemistry; Cell-, stem cell and developmental biology and Genetics, genomics and functional genomics, and at least grade pass (G) at the part Biochemistry (5 credits) of the course Biochemistry, at the Bachelor's programme in Biomedicine.

## **Objectives**

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

*Regarding knowledge and understanding*

- explain the specialized functions of different cell types,
- describe the composition of different tissues and explain how the component cells contribute to the function of the tissue,
- explain the underlying theory and the application of the most common tissue analysis methods.

*Regarding competence and skills*

- identify tissues and their component cells in histological tissue sections,
- plan a laboratory tissue analysis project.

## Content

Initially, general aspects on the structure of tissues and central morphological concepts within histology are presented. The emphasis of the course lies on understanding the histological appearance of different organ systems and the connection to their functions. Description of different methods for tissue analysis such as histological preparation techniques, histochemical methods, electron microscopy and digital image analysis of tissues form the central theme of the course. The students will also plan a laboratory tissue analysis project.

## Teaching methods

The teaching will be in the form of lectures, digital microscopy of histological preparations, demonstrations, seminars and a laboratory tissue analysis project.

## Examination

The examination is divided in two parts:

Part 1. Laboratory tissue analysis project (1 credit). The examination consists of a written individual experimental plan and an examining seminar. Graded Fail/Pass.

Part 2. Tissue biology. The examination consists of a written examination. Graded Fail/Pass/Pass with distinction.

The final grade for the whole course is based on the grade for part 2, Tissue biology (written examination). To pass the whole course the grade pass must be obtained also for part 1, laboratory tissue analysis project.

### Compulsory participation

The course introduction, laboratory tissue analysis project, 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 or practical training sessions

Students who have not passed the regular examination are entitled to participate in five 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.

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 skills, knowledge and abilities may not be changed, removed or reduced.

## 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**

Course hand-outs

### **Recommended literature**

*Ross, Michael H.; Pawlina, Wojciech*

**Histology : a text and atlas : with correlated cell and molecular biology**

Eighth edition. : Philadelphia : Wolters Kluwer Health, [2020] - 1045 pages

ISBN:9781496383426 LIBRIS-ID:jsdmqhsjgp3t3d27

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