



**Karolinska
Institutet**

Course syllabus for

Tissue Biology, 4 credits

Vävnadsbiologi, 4 hp

This course syllabus is valid from autumn 2019.

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	2019-10-28
Course syllabus valid from	Autumn 2019

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. The course includes a tour of the Pathology clinic.

Tissue biology, 3.0 hp

Grading scale: VU

Laboratory tissue analysis project, 1.0 hp

Grading scale: GU

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

Tissue biology (3 credits). The examination consists of a written examination. Graded Fail/Pass/Pass with distinction.

Laboratory tissue analysis project (1 credit). The examination consists of a written experimental plan and an oral examination of the plan. Graded Fail/Pass. Good performance in the laboratory based project can generate bonus points to be added to the points obtained in the final written exam (Tissue biology).

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

Compulsory participation

The laboratory tissue analysis project, seminars and the demonstrations 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.

Transitional provisions

After each course occasion there will be at least six occasions for the examination within a two-year period from the end of the course.

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

6. ed. : Philadelphia : Wolters Kluwer/Lippincott Williams & Wilkins Health, c2011

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