



**Karolinska
Institutet**

Course syllabus for

Tissue Biology, 5 credits

Vävnadsbiologi, 5 hp

This course syllabus is valid from spring 2012.

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

Spring2009 , Spring2011 , Spring2012 , Spring2014

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| Course code | 1BI005 |
| Course name | Tissue Biology |
| Credits | 5 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 Laboratory Medicine |
| Decided by | Programnämnden för biomedicinprogrammen |
| Decision date | 2008-10-13 |
| Revised by | Programnämnd 7 |
| Last revision | 2011-11-25 |
| Course syllabus valid from | Spring 2012 |

Specific entry requirements

At least grade E at the courses in Introduction to biomedical science (1BI001) and General and Organic Chemistry (1BI000), and at least grade G (pass) at part 1 and 2, Basal metabolism and Biomedical laboratory methods (3+2 credits) of the course Medical biochemistry (1BI002), and part 1, Cell biology (6 credits) of the course Cell biology and genetics (1BI003).

Objectives

On completion of the course, the student should: - be able to account for fundamental different cell types and their specialised functions, - understand how different tissues are built-up and how the cells in these tissues cooperate to give optimum function at molecular and tissue level, - comprehensive be able to describe and name tissues and its cells in histological preparations, - be able to account for principles within general pathology, - be familiar with the theory behind and the carrying out different preparations before tissue analysis, - be familiar with the principles behind the most common tissue analysis methods, - independently be able to plan carry out, evaluate and compile a tissue analysis laboratory project.

Content

Initially, general aspects on the structure of tissues as well as central morphological concepts within histology are presented. The emphasis in the course lies on understanding of histological appearance of different organ systems and the connection to their functions. Furthermore is treated general principles within pathology, such as cell lesion, cell death, wound healing and tumour theory. As a central element during the entire course, several methods for tissue analysis, such as histological preparation techniques, histochemistry and immunofluorescence are clarified. Various microscopy techniques are demonstrated: fluorescence, confocal and electron microscopy. A laboratory project is planned, being carried out, been evaluated and being compiled of the student. The course is divided into two parts that are examined individually.

Part 1. Laboratory-based project, 2 hp - Part 2. Integration of tissue biology and pathology, 3 hp -

Teaching methods

Lectures about tissue cell types and basic disease mechanisms. The lectures provide an overview, and aim at facilitating the self-study of the course literature. Supervised microscopy exercises of histological preparations. The teaching of methods for tissue analysis consists of lectures, demonstrations and a laboratory session.

Examination

Part 1 Written laboratory reports. Are assessed with Fail (U) or Pass (G). Part 2 - Examination of knowledge in histological preparations. - Written examination of the course content. Part 2 is assessed with grade A-F, where the results of the examination of preparation and the written examination are taken into account with equally large part each. For a Pass grade in the course is required at least Pass on part 1 and E on the examinations under part 2. The final school grades in the course are based on the grade in the examinations under part 2. Compulsory participation: The laboratory session and demonstration of histological preparations. Laboratory project presentation. The course director decides if and in that case how absence may be compensated. Before the student has participated in compulsory parts, or compensated absence in accordance with the course director's instructions the student's results on respective part will not be registered in LADOK. Limited number of examinations or practical training sessions: Students who have failed the regular examination/test 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 will be provided. The number of times that the student has participated in one and the same examination is regarded as the number of examination session. Submission of a blank examination is regarded as an examination. An examination for which the student registered but not participated in is not counted as an examination.

Transitional provisions

After each course will be offered at least six occasions for examination within a 2-year period after the course.

Other directives

Course evaluation is carried out in accordance with the guidelines established by the Board of Education.

Literature and other teaching aids

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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