Medical Physiology

Medicinsk fysiologi
6.0 credits

Programme course

8BKG15

Valid from: 2022 Spring semester

Determined by	**Main field of study**	
Chairman of The Board for First and Second Cycle Programmes	Medical Biology	
Date determined	**Course level**	**Progressive specialisation**
2017-08-22	First cycle	G1X
Revised by	**Disciplinary domain**	
	Medicine	
Revision date	**Subject group**	
2020-09-11; 2021-05-03	Medical Biology	
Offered first time	**Offered for the last time**	
Autumn semester 2018		
Department	**Replaced by**	
Medicinska fakulteten		

Course offered for

- Bachelor´s Programme in Experimental and Industrial Biomedicine

Entry requirements

General entry requirements for undergraduate studies
and
English corresponding to the level of English in Swedish upper secondary education (English 6)
And
Chemistry, Mathematics and Biology corresponding to the level in Swedish upper secondary education (Chemistry 2, Mathematic 4 and Biology 2)
Exemption from Swedish 3

Intended learning outcomes

Knowledge and understanding
After completion of the course, the student shall be able to:

- Describe the central tissues and organ systems of the human body as well as their function and interaction
- Describe the structure, physiology and regulation of the major organ systems of the body, such as the circulatory system, kidneys, respiratory system, digestive tract and musculoskeletal system
- Describe the most important nutrients and how these are absorbed and used in the body

Skills and abilities
After completion of the course, the student shall be able to:

- Identify tissues and cell types in histological samples
- Apply laboratory methodology pertaining to physiological and biochemical measurement methods used in molecular biology
- Independently collect, delimit and critically process scientific material from an academic, ethical and social perspective.

Judgement ability and approach
After completion of the course, the student shall be able to:

- Critically appraise and evaluate knowledge within the field of medical physiology from an academic, ethical and social perspective.
- Evaluate the impact of environmental factors on cell and tissue homoeostasis.

Course content

During the course, the student will study basic human physiology from a medical perspective. The organisation and function of the human body is introduced with a focus on organ systems and tissues. The term 'homoeostasis' is used to describe the normal functioning of the body and how abnormalities can result in disease. During the course, the student will study basic biomedical methodology, with a focus on illustrating physiological processes. During the course, the student will be introduced to histological samples that are representative of the various organ systems. The course prepares the student for more advanced study of systems physiology and neurobiology.
The course covers the fields physiology, cell biology, molecular biology, anatomy and histology, which are integrated with biomedical laboratory technology, biomedical ethics and a scientific approach.

Teaching and working methods

At the Faculty of Medicine and Health Sciences student centred and problem based learning make up the foundation of the teaching. The student takes responsibility for, studies and researches current content of the courses and study programme. The methods of the course work challenge the students to independently formulate questions for learning, to seek knowledge and in dialogue with others judge and evaluate achieved knowledge. Students in the Bachelor's programme in Experimental and Industrial Biomedicine work together in groups based on reality based and course related biomedical issues to apply their knowledges, develop their own learning, contribute to the fellow students' learning and to practice cooperation. Throughout the study programme theory is integrated with practical modules. The course methods and integration modules stimulates and support the student's ability to apply their knowledge and professional competence.
The work methods in this course are laboratory sessions, lectures and seminars.

Examination

The forms of examination are an individual written examination and an individual practical examination. In addition, active participation in compulsory course elements is required in order to pass the course. Compulsory course elements include seminars, reports and written assignments.

Resource-demanding examinations, in this syllabus the individual practical examination, are limited to five attempts. The written examination may be performed an unlimited number of times by those students who have not achieved a passing grade.

Grades

The grades for the course are either fail (F) or grades 3-5, where 3 corresponds to pass, 4 corresponds to satisfactory and 5 corresponds to excellent. An overall assessment of both written and practical examinations form the basis for the final grade in the course.

If special circumstances prevail, and if it is possible with consideration of the nature of the compulsory component, the examiner may decide to replace the compulsory component with another equivalent component.

Application for examination

Instructions on how to apply for examinations are given prior to the beginning of each course.

Re-examination

The date for re-examination should normally be announced by the date of the regular examination at latest; in which case the scope must be the same as at the regular examination.

Examination for students with disabilities

If the LiU coordinator for students with disabilities has granted a student the right to an adapted examination for a written examination in an examination hall, the student has the right to it.

If the coordinator has recommended for the student an adapted examination or alternative form of examination, the examiner may grant this if the examiner assesses that it is possible, based on consideration of the course objectives.

An examiner may also decide that an adapted examination or alternative form of examination if the examiner assessed that special circumstances prevail, and the examiner assesses that it is possible while maintaining the objectives of the course.

Nomination of another examiner

A student who has taken two examinations in a course or a part of a course without obtaining a pass grade is entitled to the nomination of another examiner, unless there are special reasons to the contrary.

Grades

Four-grade scale, LiU, U, 3, 4, 5

Course literature

A literature reference list must be set no later than two months before the course begins by the programme committee for the Bachelor's Programme in Experimental and Industrial Biomedicine. There is no compulsory course literature.

Other information

Planning and implementation of the course is to be based on the wordings in the course syllabus. A course evaluation is compulsory for each course and should include how the course is in agreement with the course syllabus. The course coordinator will analyse the course evaluation and propose appropriate development of the course. The analysis and proposal will be returned to the students, the Director of Studies, and as needed to the Education Board, if related to general development and improvement.

The course is carried out in such a way that knowledge of gender, gender identity/expression, ethnicity, religion or other belief system, disability, sexual orientation and age is addressed, highlighted and communicated as part of the programme.

If the course is cancelled or undergoes major changes, examination is normally offered under this course syllabus, at a total of three occasions, within/in connection to the two following semesters, of which one in close proximity to the first examination.