8FO0100

Mätteknik och modellering inom fysiologiska tryck och flöden, 5 hp
Measurement and Modelling of Physiological Pressure and Flows, 5 credits

Third-cycle education course

Faculty of Medical and Health Sciences
Valid from: Spring 2018

Syllabus (English version)

Approved by
The Research and PhD studies Committee

Approved
2017-11-27

Registration number: LiU-2017-01448
Admission
Entry requirement for studies on third-cycle education courses
- second-cycle degree,
- 240 credits in required courses, including at least 60 second-cycle credits, or
- acquisition of equivalent knowledge in some other manner

Learning outcomes
By the end of the course the students will be able to:

Knowledge and understanding
- present relevant flow mechanical theories and models of the circulatory system in health and disease
- generalize theories and measurement methods for pressures and flows to other physiological systems

Competence and skills
- apply flow mechanical theories and models of the circulatory system to health and disease
- apply theories on respiratory physiology, gas exchange and respiratory diseases

Judgement and approach
- evaluate, assess and critically relate to pressure measurements, blood flow assessments and gas flow analyses

Contents
In the course, we focus on concepts, principles and techniques for modelling and measuring physiological pressures and flows in primarily the circulatory and respiratory systems and their use for diagnosis of diseases.

Educational methods
The pedagogical approach applied at the Faculty of Medical and Health Sciences is student centered, problem based learning (PBL). The student takes responsibility for his/her own learning, and seeks and evaluates information and knowledge based on own queries and formulated problems. The role of the teacher is to guide and support the students.
Educational methods applied in this course are lectures, demonstrations and laboratory work.

Examination
The course is examined with an individually written assignment. For passing the course, active attendance is also required for compulsory elements. Compulsory parts consist of lectures and laboratory work.

Students who fail are offered one re-examination occasion in close connection to the course. After that participation in a coming course examination is offered. The re-examination should be equally comprehensive as the ordinary examination.

Change of examiner
Students who have failed the course or part of the course twice are entitled to request another examiner for the following examination occasion.

Grading
Pass or Fail

Course certificate
On the student’s request, course certificate is issued by the course examiner.

Recommended reading
A list of recommended literature will be provided by the course coordinator before the start of the course.

General information
The course is planned and carried out according to what is stated in this syllabus. Course evaluation, analysis and suggestions for improvement should be fed back to the Research and PhD studies Committee (FUN) by the course coordinator.

If the course is withdrawn or is subject to major changes, examination according to this syllabus is normally offered at three occasions within/in close connection to the two following semesters.

Department
Department of Medical and Health Sciences