Materials in Medicine (CDIO-Project)

Programme course

6 credits

Material i medicin (CDIO-projekt)

TFTB43

Valid from: 2017 Spring semester

Determined by
Board of Studies for Chemistry, Biology and Biotechnology

Date determined
2017-01-25

Main field of study
Engineering Biology

Course level
Second cycle

Advancement level
A1X

Course offered for
- Engineering Biology, M Sc in Engineering

Specific information
The course is not available for exchange students

Entry requirements
Note: Admission requirements for non-programme students usually also include admission requirements for the programme and threshold requirements for progression within the programme, or corresponding.

Prerequisites
Previous courses within the Engineering Biology programme.

Intended learning outcomes
In this course, the student gets an opportunity to develop and apply previously acquired knowledge related to devices and materials in biomedicine, by working in a project according to the CDIO model. This work is performed in groups of more than two students.
After this course, the student should

- show increased capability to work in groups, with shared work tasks and responsibilities.
- be able to independently, and with a scientific approach, plan scientific work and collect, process, interpret and present research data.
- be able to independently author an advanced project report in English.
- be able to independently find, use and present knowledge from scientific journals, reports and books.

Course content
Contemporary research problems related to devices and materials in biomedicine. The project is a commission to the project group according to the CDIO model and typically contains both theoretical and practical elements.

Teaching and working methods
Project work in groups and individual assignments. There may also be guest lectures or study visits. The course follows the "Conceive Design Interact Operate (CDIO)" initiative at LiU, where the project model "Linkoping Interactive Project Steering (LIPS)" is used. Following a few introductory lectures in the beginning, the rest of the course is based on self studies. Students are organized in groups, and devote most of their time to a research project, developing and testing devices and/or materials relevant in biomedicine in a research lab. Project work will be performed in groups of 4-6 students, under the guidance of a researcher from IFM.
The course runs the entire spring semester.

Examination

PRA1	Project work	6 credits	U, G

The grade on the course will be Fail/Pass(U/G). For a pass grade the student must pass all parts of the course (individual literature assignment, project documentation and project work according to the CDIO model, written final report, and oral presentation at final seminar).
All course documents must be written in English.

Grades
Two-grade scale, U, G

Department
Institutionen för fysik, kemi och biologi

Director of Studies or equivalent
Magnus Boman

Examiner
Karin Enander

Course website and other links
http://www.ifm.liu.se/edu/coursescms/tftb43/

Education components

Preliminary scheduled hours: 14 h
Recommended self-study hours: 146 h

Course literature

Additional literature

Books

Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at http://styrdokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva.