# Project in Experimental and Medical Biosciences

Projektarbete i experimentell och medicinsk biovetenskap
30 credits

Programme course

8MEA20

Valid from: 2024 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** |
| 2012-12-07 | Second cycle | A1E |
| **Revised by** | **Disciplinary domain** | |
| Chairman of The Board for First and Second Cycle Programmes | Medicine | |
| **Revision date** | **Subject group** | |
| 2014-10-06; 2021-05-03; 2023-06-30 | Medical Biology | |
| **Offered first time** | **Offered for the last time** | |
| Autumn semester 2013 | | |
| **Department** | **Replaced by** | |
| Institutionen för biomedicinska och kliniska vetenskaper | | |

# Specific information

One of the courses Project in Experimental and Medical Biosciences, 15 credits, and Project in Experimental and Medical Biosciences, 30 credits, is compulsory in semester one, two or three in the Master's Programme in Experimental and Medical Biosciences.

# Course offered for

- Master's Programme in Experimental and Medical Biosciences

# Entry requirements

Bachelor's degree in a major subject area with relevance for biomedical sciences, equivalent to a Swedish Kandidatexamen with a total of at least 90ECTS credits in some of the following subjects:

- biochemistry
- cell biology
- molecular biology
- genetics
- gene technology
- microbiology
- physiology
- immunology
- histology
- anatomy
- pathology

English corresponding to the level of English in Swedish upper secondary education (Engelska 6/B) (Exemption from Swedish)

# Intended learning outcomes

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

Knowledge and understanding

- Show basic theoretical and methodological knowledge within an area of the biomedical field

Competence and skills

- Identify scientific questions within a well-defined area, and based on that formulate goals
- Plan and perform scientific, laboratory experiments and/or data collection
- Compile obtained results in a written report and orally present and discuss this report

Judgement and approach

- Analyze, interpret, and critically evaluate obtained results
- Critically review reports and oral presentations by other students and argue for and against analyses and results

# Course content

The course contains theoretical, methodological and practical knowledge within the field of medical biology. Under supervision, the student works independently with a well-defined scientific project, and applies and deepens acquired knowledge on a biomedical problem. The course also contains mentor meetings (in full-class and individual) where the focus is on the professional development and scientific approach. More specifically the following is included in the course:

- Formulation of goal and planning of scientific experiments
- Experimental laboratory work and/or other forms of data collection
- Analysis, processing, interpretation, and critical assessment of obtained results

# Teaching and working methods

Within the Faculty of Medicine, student-centered and problem-based learning forms the basis of teaching. The student takes personal responsibility for the learning through an active and processing approach to the learning tasks. The working methods challenge the students to independently formulate questions for learning, to seek knowledge and to assess and evaluate acquired knowledge in dialogue with others.

In the present course the students work independently under supervision and the project leads to a project report including presentation and defense of this report. Seminars and mentor meetings are also included.

# Examination

The examination in this course consists of an individual written report and oral presentation and defense of this report. Individual oral and written opposition, and written report of auscultations.

Active participation in the compulsory parts is necessary to pass the course. Active participation includes giving individual contributions and/or reflections with relevance to the learning tasks. The compulsory parts of this course is practical, laboratory work or other type of data collection

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

Two-grade scale, U, G

## 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 conducted in such a way that there are equal opportunities with regard to sex, transgender identity or expression, ethnicity, religion or other belief, disability, sexual orientation and age.

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.

If special circumstances prevail, the vice-chancellor may in a special decision specify the preconditions for temporary deviations from this course syllabus, and delegate the right to take such decisions.