



**LUND**  
UNIVERSITY

Faculty of Science

## **MOBY10, Molecular Biology: One Year Master's Degree Project, 30 credits**

*Molekylärbiologi: Examensarbete - magisterexamen, 30  
högskolepoäng*

**Second Cycle / Avancerad nivå**

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### **Details of approval**

The syllabus was approved by Study programmes board, Faculty of Science on 2019-11-05 to be valid from 2019-11-05, spring semester 2020.

### **General Information**

The course is elective for a degree of One Year Master of Science in Molecular Biology (60 credits).

*Language of instruction:* Swedish and English

The course is given in English, but can be given in Swedish, depending on the subject of the degree project.

*Main field of studies*

Molecular Biology

*Depth of study relative to the degree requirements*

A1E, Second cycle, contains degree project for Master of Arts/Master of Science (60 credits)

### **Learning outcomes**

The overall aim of the course is that the student should carry out an independent scientific project in a well-defined subject area within the field of molecular biology.

### **Knowledge and understanding**

On completion of the course the student shall be able to:

- present the subject area and give detailed account for the current knowledge
- give a detailed account for the methods used within the subject area and discuss their advantages and limitations

## Competence and skills

On completion of the course the student shall be able to:

- on basis of the current scientific knowledge, formulate questions of relevance for the development of the subject area
- independently acquire and compile the information required to carry out a scientific project
- compile a project plan including research issues, time plan and risk assessment
- discuss the scientific methods that are applicable within the subject area, and argue for the choice of methods used in the current degree project
- independently, and within a planned time frame, carry out and document a scientific project based on a project plan
- apply the methods required to carry out the degree project
- analyse and compile the results of a project and discuss these from a wider perspective
- identify future needs for research within the subject area
- organise and write a scientific report and a popular science summary of this report
- give an oral presentation and in-depth discuss the completed degree project

## Judgement and approach

On completion of the course the student shall be able to:

- critically review information and evaluate its relevance for a scientific project in molecular biology
- assess his/her knowledge and take responsibility for his/her development within the subject area
- reflect on the potential social and ethical issues related to the objectives, execution and achieved results of the project

## Course content

The content and execution of the degree project is planned in consultation with a supervisor. The work shall include literature studies that survey the background of the selected project as well as laboratory work and/or theoretical work. The student shall write a project plan and with a high degree of independence carry out the project, including data collection, documentation of the work, as well as compilation, analysis and evaluation of the results. The degree project shall be presented in the form of a written scientific report and as a short popular summary, as well as orally for an examining committee.

## Course design

The course is carried out as a project that is planned in consultation with a supervisor with experience within the chosen subject area. The student shall contact a research team or equivalent to find an appropriate project and engage a supervisor. The project may be carried out within or outside the university. The project is carried out under supervision, but with a high degree of independence. A project plan with a time plan shall be compiled and this must be approved by the examiner/program coordinator. The plan shall also contain ethical aspects and risk assessment, if applicable.

The practical work shall be documented in detail and in accordance with the routines of the workplace. The student shall record his/her working hours and any possible interruptions of the project so that the examiner can assess whether the time plan has been followed. Halfway through the project, an evaluation is carried out together with the supervisor, allowing the examiner to check that the time plan is being followed and that the work is progressing in a satisfactory way.

The student shall write a scientific report including a scientific abstract, as well as a short popular summary directed to a broader audience. The student shall give an oral presentation of the degree project for the examining committee, if possible at the research department/workplace where the project has been carried out. The student's effort shall correspond to 90 days' of full-time work. The project plan, execution of the project, documentation of the project, half-time evaluation, scientific report, popular summary and oral presentation are compulsory.

## Assessment

The examination is conducted in the form of a written scientific report and a short popular summary, as well as through an oral presentation of the degree project. The ability of the student to carry out the project will also be assessed. The examination is carried out by an examining committee in consultation with the supervisor. The examining committee consists of one examiner and one independent reviewer. Other forms of assessment may be used in special cases. If the degree project is not approved during regular examination, the student is offered the possibility to supplement the work and then have it re-assessed by the examiner.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

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*Subcourses that are part of this course can be found in an appendix at the end of this document.*

## Grades

Marking scale: Fail, Pass, Pass with distinction.

To pass the entire course, the following should be approved: the project plan, performance during the project, the half-time evaluation, the written report, the popular summary and the oral presentation.

The final grade is decided through a combined assessment of the student's ability to:

- plan and work independently on a project
- carry out experiments, laboratory work and/or theoretical assignments as well as document the work
- analyse and interpret data
- in writing present the project and the results, as well as structure the scientific report
- discuss the results and put them into a subject area context as well as a wider perspective

- orally present and discuss the project work during the examination
- complete the project within the planned time frame

The grade Pass with distinction requires that the student has shown a high degree of independence and dedication. In addition, the project work, the project plan, the scientific report, and the oral presentation should be of a high quality, and the time frame for the project should not have been exceeded by more than 20%.

### **Entry requirements**

For admission to the course, knowledge corresponding to 30 credits at second cycle in molecular biology of relevance for the degree project as well as a Degree of Bachelor (180 credits) is required. English B/6.

## Subcourses in MOBY10, Molecular Biology: One Year Master's Degree Project

Applies from V20

- 2001 Part 1 - Half time, 15,0 hp  
Grading scale: Fail, Pass
- 2002 Part 2 - Final examination, 15,0 hp  
Grading scale: Fail, Pass, Pass with distinction