

## **BIOR60, Biology: Genetic Analysis II, 7.5 credits**

*Biologi: Genetisk analys II, 7,5 högskolepoäng*

Second Cycle / Avancerad nivå

---

### **Details of approval**

The syllabus is an old version, approved by Study programmes board, Faculty of Science on 2008-06-11 and was valid from 2008-06-11 , autumn semester 2008.

### **General Information**

The course is part of the main fields of Biology and Molecular Biology at the Faculty of Science. The course is an optional second-cycle course for a degree of Bachelor or Master of Science in Biology. The course is also offered as a single subject course. The language of instruction is English.

*Language of instruction:* Swedish and English

The course is given in English.

#### *Main field of studies*

Biology

Biology

Molecular Biology

Molecular Biology

#### *Depth of study relative to the degree requirements*

A1F, Second cycle, has second-cycle course/s as entry requirements

A1F, Second cycle, has second-cycle course/s as entry requirements

A1F, Second cycle, has second-cycle course/s as entry requirements

A1F, Second cycle, has second-cycle course/s as entry requirements

### **Learning outcomes**

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

- be familiar with the use of mathematical models in genetics
- master statistical methods for genetic data analysis
- be practically trained in analysis of genetic data

- be trained in oral and written result presentation
- master some deductions from theoretical genetics

## Course content

- The evolution of DNA sequences
- the Maximum-Likelihood method and its use
- estimation of recombination frequencies and mapping functions
- statistical methods for quantitative genetics and QTL-mapping
- population genetics; especially the basics in coalescence theory
- design of evolutionary genetics models.

## Course design

The teaching consists of lectures, calculation exercises, laboratory sessions and own work. Participation in laboratory sessions and projects, and thereby other integrated teaching, is compulsory.

## Assessment

Examination consists of small examinations during the course and a written final examination. For students who have not passed the regular examination, an additional examination in close connection to this is offered.

*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, approved examination, approved laboratory reports, passed written assignments, passed project report, and participation in all compulsory components are required.

The final grade is decided through a joining of the results of the parts that are included in the examination.

## Entry requirements

For admission to course is required English 6 and 90 credits of scientific studies including knowledge equivalent to MOBA01 Cell Biology 15 credits, BIOA01 Genetics and Microbiology 15 credits, Chemistry 15 credits, and BIOR59 Genetic analysis I.

## Further information

The course may not be included in a degree together with BIO616 Genetics 15 credits.

## Subcourses in BIOR60, Biology: Genetic Analysis II

Applies from V09

0801 Genetic Analysis II, 7,5 hp  
Grading scale: Fail, Pass, Pass with distinction